



Rohnerville Road Fire Station

Public Circulation Draft Initial Study/Proposed Mitigated
Negative Declaration

Fortuna Fire Protection District

320 S. Fortuna Boulevard, Fortuna, CA 95540

January 2021



**Fortuna Volunteer
Fire Department**

Public Review Draft
Initial Study/Proposed Mitigated Negative Declaration
Fortuna Fire Protection District
Rohnerville Road Fire Station

Prepared for:

Fortuna Fire Protection District



320 S. Fortuna Boulevard
Fortuna, CA 95540

Prepared by:



GHD
718 Third Street
Eureka, CA 95501

January 2021

This page is intentionally left blank

Table of Contents

1.	Project Information	1-1
1.1	CEQA Requirements	1-1
1.2	Project Background	1-1
1.3	Surrounding Land Uses and Existing Setting	1-2
1.4	Project Description	1-2
1.5	Project Construction	1-5
1.6	Operation and Maintenance	1-6
1.7	Required Agency Approvals	1-7
1.8	Tribal Consultation	1-8
2.	Environmental Factors Potentially Affected	2-1
3.	Environmental Analysis	3-1
3.1	Aesthetics	3-1
3.2	Agriculture and Forest Resources	3-4
3.3	Air Quality	3-6
3.4	Biological Resources	3-13
3.5	Cultural Resources	3-22
3.6	Energy	3-24
3.7	Geology and Soils	3-27
3.8	Greenhouse Gas Emissions	3-31
3.9	Hazards and Hazardous Materials	3-35
3.10	Hydrology and Water Quality	3-40
3.11	Land Use and Planning	3-45
3.12	Mineral Resources	3-46
3.13	Noise	3-47
3.14	Population and Housing	3-50
3.15	Public Services	3-51
3.16	Recreation	3-52
3.17	Transportation	3-53
3.18	Tribal Cultural Resources	3-55
3.19	Utilities and Service Systems	3-57
3.20	Wildfire	3-59
3.21	Mandatory Findings of Significance	3-61
4.	References	4-1
5.	Report Preparers	5-1
5.1	LEAD AGENCY	5-1
5.2	GHD	5-1

5.3 Sub-consultants	5-1
---------------------------	-----

Table index

Table 3.3-1 Construction Regional Pollutant Emissions	3-10
Table 3.3-2 Operational Regional Pollutant Emissions (2021)	3-11
Table 3.8-1 Consistency Analysis between Project and Climate Change Scoping Plan	3-32
Table 3.13-1: Construction Equipment Reference Noise Levels as Measured at 50'	3-48

Image Index

Image 1 Fire Station Rendering – Front View	1-3
---	-----

Figure Index

Figure 1	Vicinity Map
Figure 2	Project Overview
Figure 3	Stormwater and Wetland Project Components

Appendix Index

Appendix A	CalEemod Air Quality Modeling Results
Appendix B	Wetland Delineation
Appendix C	Biological Database Search Results
Appendix D	Wetland Buffer Reduction Request

1. Project Information

Project Title	Rohnerville Road Fire Station
Lead Agency Name & Address	Fortuna Fire Protection District 320 S. Fortuna Blvd., Fortuna, CA 95540
Contact Person & Phone Number	Lon Winburn, Fire Chief 707-725-5021
Project Location	East side of Rohnerville Road north of Kestrel Street Fortuna, CA
Project Sponsor's Name & Address	City of Fortuna 621 11 th Street, Fortuna, CA 95540
General Plan Land Use Designation	Residential Single Family (Residential Low)
Zoning	R-1-6

1.1 CEQA Requirements

This project is subject to the requirements of the California Environmental Quality Act (CEQA). The lead agency is the City of Fortuna. The purpose of this Initial Study is to provide a basis for deciding whether to prepare an Environmental Impact Report, a Mitigated Negative Declaration or a Negative Declaration. This Initial Study is intended to satisfy the requirements of the California Environmental Quality Act, CEQA, (Public Resources Code, Div 13, Sec 21000-21177), and the State CEQA Guidelines (California Code of Regulations, Title 14, Sec 15000-15387). CEQA encourages lead agencies and applicants to modify their projects to avoid significant adverse impacts.

Section 15063(d) of the State CEQA Guidelines states the content requirements of an Initial Study as follows:

1. A description of the project including the location of the project;
2. An identification of the environmental setting;
3. An identification of environmental effects by use of a checklist, matrix, or other method, provided that entries on a checklist or other form are briefly explained to indicate that there is some evidence to support the entries;
4. A discussion of the ways to mitigate the significant effects identified, if any;
5. An examination of whether the project would be consistent with existing zoning, plans, and other applicable land use controls;
6. The name of the person or persons who prepared or participated in the Initial Study.

1.2 Project Background

Fortuna Fire Protection District (FFPD) provides emergency response for fire, rescue and

medical-aid requests throughout the communities of Fortuna, Fernbridge, Alton, Metropolitan and Hydesville, encompassing 26 square miles and serving a population of approximately 15,000 individuals. The FFPD is a Special District governed by a 5-member Board and utilizes a volunteer-based department to provide services.

Personnel currently consist of three full-time and, one part-time employee, and seventy six volunteers. The department utilizes various mutual and automatic aid agreements to provide response and maintain a Public Protection Classification rating of 4 through the Insurance Services Office (ISO).

The FFPD utilizes three fire stations located strategically based on response need and population density throughout the district to house the apparatus and equipment necessary to provide services. The Main Station located on Fortuna Boulevard serves as district headquarters and provides the living quarters for volunteer and resident shift programs. This station, built in 1999, is equipped to handle emergency response to a mixture of industrial, commercial and residential emergencies.

The fire station located in Hydesville on Highway 36 provides the bulk of service to the Hydesville community as well as supplementing the response to the remainder of the district. This station underwent a major remodel in recent years and is now suitable for long-term usage.

The fire station located in the Campton Heights area of Fortuna went into service in 1967 with the intent of providing volunteer response within that growing residential area as well as provide quick response service to the Rohnerville Airport. This fire station, while well maintained and in relatively good condition, is inadequate for offering the needed services and has become a hazard to volunteers responding to the station due to location and lack of available parking. The intent of this project is to relocate response services in the Campton Heights area to a new fire station on Rohnerville Road that would allow housing of today's fire apparatus and provide a safe location for volunteer response.

1.3 Surrounding Land Uses and Existing Setting

The project would be located on the east side of Rohnerville Road between Tony Drive and Bartlett Lane within the limits of the City of Fortuna. The FFPD has acquired this eight acre parcel on Rohnerville Road (APN 202-411-002). The parcel is now FFPD (public) property. The parcel is zoned Residential Single Family (R-1-6).

The existing access driveway is shared with a neighboring private residence via a formal access easement. After construction, the fire station would continue to share this access road. The driveway might also function as access to future development of vacant land to the east and north, although this is not likely as those areas are served by other roads. The site would be suitable to provide quick and efficient access for volunteers entering the site as well as ingress and egress of responding apparatus via Rohnerville Road.

1.4 Project Description

The proposed new fire station on Rohnerville Road (project) would provide quick response to the residential area of Campton Heights, Rohnerville Airport, downtown Fortuna and the Hydesville area and improve community safety. The project would have a footprint of approximately 41,000 square feet (0.94 acres), including the built facility, LID stormwater

dry pond feature, and surrounding pavement. Parking and surrounding pavement required for maneuvering of fire apparatus would include approximately 21,000 square feet of paved surface on the project site, including paving the existing gravel driveway (Figure 1 – Vicinity Map and Figure 2 – Project Overview). The total disturbance area for the project would be under 1 acre.

The fire station would include a single story apparatus garage with a two-story attached office and living quarters. The building footprint is approximately 5,000 square feet with a height of 30 feet on the 2-story section (Image 1 - Fire Station Rendering). Emergency response apparatuses could be parked inside the facility. The gross building area including covered porches is 6,680 square feet. The exterior would be painted to blend into the surrounding landscape.

An existing access driveway from Rohnerville Road would be widened and paved to support ingress and egress of the apparatus and associated response personnel and volunteers. The access driveway intersects Rohnerville Road along a straight stretch with adequate line of sight in both directions (e.g. no significant curves or other notable visual obstructions). Water, sewer, and electrical utilities are established along Rohnerville Road and would be extended to the new fire station within the existing access driveway. The access driveway is currently unpaved (gravel) but would be paved during project construction. The project's stormwater design would provide connectivity to the City of Fortuna's (City) existing stormwater infrastructure along the east side Rohnerville Road, avoiding impacts to existing on-site wetlands.



Image 1. Fire Station Rendering – Front View

The project includes the following project elements:

Improve site access – The existing site access would be paved. The improved access road would meet all necessary standards for both the City of Fortuna and the FFPD. The road would not be significantly regraded to result in major changes in slope. The road would be slightly realigned, widened and curbs would be added alongside the access road. The existing culvert underneath the access road that drains the on-site wetland would not be extended.

Site preparation – Project development will include vegetation removal, grading and control for storm water runoff.

Utility extensions – All necessary utilities including electrical power, City 6-inch water main, and City 6-inch sewer main are readily available to the parcel from the frontage of Rohnerville Road. These utility services would be extended to the new facility.

Construction of new building – The fire station would be designed to be compliant with City standards (Zoning Code, General Plan, and Public Improvement Standards) and California building code regulations, and any other applicable standards.

Construction of retaining wall, parking area, and circular road – The fire station would include an area for the movement of fire apparatus via a back-in design, as well as suitable parking for employees, volunteer response, and any additional use of the fire station. The driveway and parking area necessitate grading and concrete retaining wall construction to a depth/height of approximately 11 feet along the north and east and south boundary of the paved driveway and parking areas, and tapering down from approximately 4 feet to grade level along the rear south border of the parking lot at the rear of the building. Weep holes would be included in the design of the retaining wall to assist drainage. Additionally, a French drain behind the retaining wall would tie into the LID stormwater design for the project site to support controlled drainage and reduce the risk of slope failure or erosion.

Exterior lighting – Lighting for this project would consist of downcast directional lighting at the driveway entrance to the facility as well as parking area. A total of three lighting units are anticipated. The building would utilize recessed soffit, directional lighting around the perimeter which would provide security and safe access in and out of the building as well as limit glare impact.

Landscaping and LID stormwater retention/detention areas – The project would be designed according to the City of Fortuna's drainage and Low Impact Design (LID) requirements. As required, post development stormwater flow off the property for a 25-year, 24-hour storm would be restricted to be no more than pre-development flow by use of a retention pond or equivalent structure. This project would utilize the natural drainage of the parcel to construct a large LID stormwater retention dry pond between the fire station and the existing on-site wetland (Figure 4 – Stormwater and Wetland Project Components).

The LID stormwater detention area would be designated in the northwestern portion of the lot and adjacent to the parking and driveway (access road) entrance. This area is anticipated to be approximately 4,800 square feet in size with an average depth of 2 to 3 feet. This dry pond area would serve as the primary for drainage and would be constructed no closer than the 25 feet from the delineated wetland area to the south and west of the proposed development. The LID dry pond would store and reduce drainage off the property as well as provide "first flush" treatment of storm water prior to discharge into the City's stormwater drainage network. A drainage channel along the south side would be constructed to accept stormwater from the rear parking lot and structure, providing some additional water quality treatment before flowing to the detention pond area.

The dry pond would retain and pre-treat stormwater. The LID detention dry pond would then drain to the existing culvert beneath the access road, along the northern boundary of the on-site wetland. Improvements to the existing City stormwater infrastructure at Rohnerville Road are not proposed.

Required wetlands buffer setback – A wetlands delineation has been completed for the project site, and on-site wetland areas were identified (GHD 2018, Appendix B). The wetlands are located in the western area of the project site, between the proposed developed area and Rohnerville Road. No development in the wetland area is proposed. The 50-foot Wetlands Buffer Area identified by the Fortuna General Plan (Policy NCR-15) is proposed to be reduced to 25 feet from the edge of the wetland boundary, Fortuna General Plan policy NCR-15 allows a buffer reduction if supported by a biological report. A special study for site wetland was prepared that supports a 25-foot buffer for this wetland (GHD 2019, Appendix D). A portion of the reduced buffer wetland would be used to pre-treat and route stormwater to protect the adjacent wetland from potential water quality impacts (see LID stormwater retention/detention section, above, and Figure 3). The reduced buffer would be needed in order to better accommodate the topography of the lot, significantly reduce the amount of grading and retaining wall heights required, and allow needed space for truck pull-through or back in design for fire vehicles and approximately 13 parking spaces.

1.5 Project Construction

Construction Duration and Hours

Construction will occur between May and December 31, 2021. Construction would follow set operational schedules which would be Monday through Friday from 7:30 a.m. to 4:30 .pm. Allowable construction hours, pursuant to the Fortuna General Plan Policy HS-6, are 7:00 a.m. to 8:00 p.m., Monday through Saturday.

Construction Equipment

All staging of construction equipment and materials would be located on-site and out of any right of way. The staging area would be approximately 100 feet by 100 feet and would be located near the south east corner of the building site (Figure 2 – Project Overview).

Equipment anticipated to be utilized for construction would include an excavator, skid steer, loader, dump truck, compacter and water truck. The entire construction site and staging area would be fenced.

Top soil and vegetation within the building site would be cleared and trucked off site. Grading would be completed in accordance with construction documents. Excavation of excess material would be utilized to fill and level low areas of the construction site where possible with the remainder to be trucked off site.

Engineered fill material would be brought in for the building site. Base rock would also be imported for all paving areas. Imported materials would also include drain rock for water drainage.

The project is expected to produce approximately 800 cubic yards of native soil and earthen material to be exported from the site. All excess material that is removed from the construction site would be trucked to a licensed disposal site located on Eel River Drive in Fortuna. Depending on the contractor, the soil disposal location would be Crosswhite's at Drake Hill Road and US Highway 101 or the Mercer Fraser plant in Fortuna. Dust would be controlled by use of an on-site water truck as needed.

Traffic and Access Control

Rohnerville Road is a collector road within the City of Fortuna. There would be limited traffic control imposed for a short period (one day each) during utility installation and paving operations. Construction would occur off Rohnerville Road and would not impact traffic. The number of haul trips is estimated to be approximately eighty. Emergency access along Rohnerville Road would not be impeded.

Construction Dewatering

A soils investigation would be conducted for building foundation requirements and to determine groundwater conditions. The soils investigation, prepared for the building permit, will include recommendations for high groundwater dewatering if conditions warrant.

If needed during foundation excavation or trench excavation, temporary groundwater dewatering would be conducted to provide a dry work area. Dewatering would involve pumping water out of a trench or excavation. Groundwater would typically be pumped to Baker tanks (or other similar type of settling tank) or into a dewatering bag. Following the settling process provided by a tank or filter, the water would be used for dust control and compaction. Discharge water from Baker tanks would not be discharged into wetlands or any water bodies.

Wetland Improvements, Site Restoration, and Closure

Following construction, the contractor would demobilize and remove equipment, supplies, and construction wastes. The disturbed areas along the project alignment would be restored to pre-construction conditions or stabilized with a combination of grass seed (broadcast or hydroseed), straw mulch, rolled erosion control fabric, and other plantings/vegetation.

To offset encroachment into the existing 50 foot wetlands buffer, the following enhancements to the remaining wetlands buffer would be included:

1. Where California blackberry is 10 to 15 feet wide juxtaposed to the wetlands within the 25 foot buffer, leave in place. No further action is recommended for these areas.
2. Where the buffer is mowed up to on near the wetlands edge, plant wax myrtles (*Myrica californica*) five feet from wetlands edge, 20 feet on center up to 25 feet beyond and parallel to the proposed development. Fifteen feet in front of the wax myrtles (towards development), plant coyote brush (*Baccharis pilularis*) 10 feet on center up to 25 feet beyond and parallel to the proposed development.

In order to provide enhancement to wetlands, Himalayan blackberry (*Rubus armeniacus*) would be removed in the wetlands areas. The area infestation is located (up slope) near the culvert under the access road. Himalayan blackberry would be cut back approximately one (1) foot from the soil surface and then roots removed by hand. Removed material would be hauled off the site.

1.6 Operation and Maintenance

The fire station facility is intended to provide a location suitable for emergency response to

the area of Campton Heights and Rohnerville Airport in addition to supplementing response to other areas of the fire district. The anticipated call volume is expected to average approximately one call per 24 hours. Of those calls, approximately 75% would be code 3 (lights and sirens) responses (approximately 273 events with lights and sirens, annually). Sirens would not be turned on until the fire apparatus reaches Rohnerville Road, at the terminus of the access road.

The majority of traffic in and out of the facility would be volunteer response to fire/rescue calls for service. The number of personnel responding to the facility would vary based on call type; however, an average number of five personnel per call could be expected. As a result, approximately five vehicles would enter and leave the facility in that time period, in addition to fire apparatus ingress and egress. Additional traffic to and from the location would be limited to monthly meetings and drills, facility and apparatus maintenance, and occasional events.

Maintenance of the grounds and facility would generally be performed by fire department personnel and would occur during normal daytime hours. Grounds maintenance operations would not be outside of what would be normal in a residential setting. Equipment and vehicle maintenance on site would consist of only minor repairs and cleaning. Major repairs and annual preventative maintenance on apparatus and equipment would occur off-site. Washing of apparatus would occur in the parking area. Runoff from washing would drain to the LID detention area, where soaps and other potential contaminants would infiltrate, avoiding any release of hazardous substances into the storm water system or on-site wetlands.

There is an expectation of equipment operation noise during monthly apparatus checks at which time all powered equipment (chain saws, smoke ejectors, generators) is ran temporarily. In addition, in order to remain compliant with current standards and assure preparedness, one facility back-up generator (approximately 30 KW and a minimum of 50 horsepower (HP)) would be run on a weekly basis for a period of one hour.

The facility, once completed, would house a fixed propane fueled generator for emergency back-up power, which is a necessity for an emergency response facility. The generator would do a weekly auto run which would be timed for a weekday, middle of the day run time so as to have little to no impact on the surrounding area.

Permanent vehicles assigned to this facility would include two diesel powered fire apparatus and one gasoline powered utility vehicle. The majority of the responses from this facility would be ran by one of the diesel powered units which currently averages sixteen runs per month with an additional four runs requiring all apparatus to respond for a total of approximately twenty to thirty response runs per month average. Time of day for responses is based solely on need.

1.7 Required Agency Approvals

Required permits issued by the City would include:

- Conditional Use Permit
- Building Permit
- Grading Permit
- Air Quality Management District Permit (for back-up generator (s))

No other permits are anticipated.

1.8 Tribal Consultation

The City has received requests for notification of proposed projects from California Native American tribes pursuant to Public Resources Code Section 21080.3.1. Under Assembly Bill (AB) 52, notification letters were sent to local Native American tribes on April 1 2020. One tribe responded requesting implementation of inadvertent discovery protocols. Inadvertent discovery protocols have been included in the project (see Section 3.5 – Cultural Resources).

2. Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages. Where checked below, the topic with a potentially significant impact will be addressed in an environmental impact report:

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Agricultural & Forestry Resources | <input checked="" type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Air Quality | <input checked="" type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Utilities/Service Systems |
| <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Wildfire |
| <input checked="" type="checkbox"/> Geology/Soils | <input type="checkbox"/> Population/Housing | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION (To be completed by the Lead Agency)

On the basis of this initial evaluation:

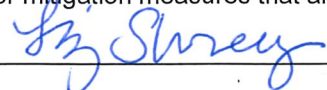
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION would be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there would not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION would be prepared.

☐ I find that the proposed MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect: (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Liz Shorey
Deputy Director of Community Development

1-12-2021

Date

This page is intentionally left blank

3. Environmental Analysis

3.1 Aesthetics

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?			✓	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public Views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			✓	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			✓	

The project would include a two story fire station located on an undeveloped lot north of Rohnerville Road (see Image 1– Fire Station Rendering). The fire station will be set back from the main road and screened by existing mature vegetation, including large willows. The project would be located in a low density residential neighborhood and would be visible from adjacent and nearby residences.

a) Have a substantial adverse effect on a scenic vista? (Less Than Significant)

The project site is located in a residential area but is presently undeveloped. The location of the future fire station has already been cleared and is vegetated with grasses and herbs. Surrounding trees and vegetation would not be removed, although several large shrubs and/or orchard trees would be removed from the mowed grassy area where the fire station would be constructed. Less than 1 acre of the 8-acre lot would be developed, with the remaining area left in its current condition.

The view from the project area includes neighboring residences; adjacent and nearby residences would also be able to view the two-story fire station once constructed. The gross building area including covered porches is 6,680 square feet. The fire station would partially shield the existing view of mature vegetation such as tall willows in the wetland

from nearby residences. The exterior would be painted natural colors (roof—sky blue, exterior walls—earth gray and tan, columns—stone red), to blend into the surrounding landscape and create a harmonious visual impact. Given that low-density residential construction is common adjacent and near the project site, any potential impact on a scenic vista would be less than significant.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (No Impact)

The project is not located on, near, or within view of a state scenic highway. No impact would result.

c) In non-urbanized areas, substantially degrade the existing visual character or quality of public view of the site and its surroundings? (Public Views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? (Less Than Significant)

City of Fortuna General Plan 2030

Applicable visual polices include those in the Fortuna General Plan 2030, Section 9, Community Development (City of Fortuna 2010). The City's design review guidelines apply visual standards to private and commercial development but do not include public development projects such as the proposed fire station. Applicable policies in the General Plan include:

CD-1.13 Environmental Conformity

The City shall require development project design to reflect and consider natural features, noise exposure of residents, visibility of structures, circulation, access, and the relationship of the project to surrounding uses. Residential densities, building intensities, and lot patterns should be determined by these and other factors.

Given the project would not remove natural features from the project site, select exterior paint colors and finishes specifically to blend in with the surrounding environment, and include a set back from Rohnerville Road buffered by existing mature vegetation, the potential impact to the visual character of the area would be less than significant.

The project would be located in an area zoned for low density residential development and a Condition Use permit would be sought for the project. The project would retain the low density character of the surrounding neighborhood and would be significantly offset from neighboring residences with open space. The low density character of the area would be retained. The building's architectural style is harmonious with and similar to the residential surroundings, with its sloped roofs, gabled ends, porch and columns, and mix of horizontal and vertical siding. The project would be consistent with the Community Development goals and policies in the General Plan 2030 as well as with objective CD-1.13, as limitations to circulation, access, and surrounding uses would not result. The potential impact as it relates to zoning and other regulations would also be less than significant.

- d) **Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (Less Than Significant)**

Fortuna General Plan 2030

The City's General Plan 2030 includes policies specifically related to exterior lighting and glare:

CD-1.14 Lighting

The City shall review lighting and landscaping plans to ensure that they are compatible with adjacent uses, respond to public safety concerns, and reduce light emissions into nighttime sky. The City shall also prohibit continuous all night lighting except for security purposes.

CD-1.20 Glare

The City shall require that new building exteriors be constructed with non-glare or low-glare materials and paints, and minimize the use of reflective glass in exterior facades.

Exterior lighting would consist of downcast directional lighting at the driveway entrance to the facility as well as parking area. A total of three lighting units are anticipated. The building would utilize recessed soffit, directional lighting around the perimeter, which would provide safe travel in and out of the building as well as limit glare impact. Given lighting would be designed to avoid light-related impacts to adjacent and nearby residences, minimize light pollution, and avoid glare consistent with applicant General Plan 2030 policies, the potential impact would be less than significant.

3.2 Agriculture and Forest Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓

The project would be located on property zoned for residential uses. The property is not suitable for agricultural uses. While portions of the undeveloped 8-acre parcel include trees, the property is not zoned or planned for uses related to forestlands or timber production. Aside from several large shrubs and/or orchard trees in the open mowed grass area, large trees would not be removed.

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (No Impact)

The project is located on a parcel zoned for residential uses. A small portion of the assessor parcel number (APN) nearest Rohnerville Road includes prime agricultural soils (soil type Ro5) (Humboldt County 2020). This portion of the parcel is located within the existing wetland and would not be disturbed as a result of project construction. No change would result. The portion of the parcel to include the fire station and associated development and grading does not include prime agricultural soils (Humboldt County 2020). Thus no impact would result.

b) Conflict with Agricultural Zoning or Williamson Act Contract? (No Impact)

The project is not located on property enrolled in a Williamson Act contract (Humboldt County 2020). No impact would result.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) (No Impact)

The project is located on property zoned for residential use. The project is not located on property zoned for forest or timberland. Trees or other forestland resources would not be removed as a result of the project. Several large shrubs and/or orchard trees within the existing mowed grass area would be removed but would not be considered forestland resources. No impact would result.

d) Result in the loss of forest land or conversion of forest land to non-forest use? (No Impact)

The project would not result in the removal of trees, loss of forest land, or conversion of forest land to other uses. Trees or other forest uses would not be removed as a result of constructing the fire station. Trees existing on the undeveloped acreage north of the proposed fire station would not be proposed for removal. No impact would result.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland, to non-agricultural use or conversion of forest land to non-forest use? (No Impact)

The project would not impact any lands zoned or used for agricultural or forest uses. A land use conversion away from agricultural or forest uses would not occur, and no impact would result.

3.3 Air Quality

	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporation	Less-Than-Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?		✓		
b) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?		✓		
c) Expose sensitive receptors to substantial pollutant concentrations?		✓		
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

The project is located within the North Coast Air Basin (Air Basin) which is managed by the North Coast Unified Air Quality Management District (NCUAQMD). The NCUAQMD monitors air quality, enforces local, State, and federal air quality regulations for counties within its jurisdiction, inventories and assesses the health risks of Toxic Air Contaminants (TACs), and adopts rules that limit pollution.

For construction emissions, the NCUAQMD has indicated that emissions are not considered regionally significant for projects whose construction would be relatively short in duration, lasting less than one year. For project construction lasting more than one year or involving above average construction intensity in volume of equipment or area disturbed, construction emissions may be compared to the stationary source thresholds (NCUAQMD 2019). Construction is anticipated to occur between May and December 31, 2021 (approximately eight months). Although total construction activity is anticipated to last less than one year, as a conservative approach to the analysis, emissions related to construction were calculated using the California Emissions Estimator Model (CalEEMod) version 2016.3.2 and are disclosed below. See Appendix A – Air Quality Modeling Results.

**a) Conflict with or obstruct implementation of the applicable air quality plan?
(Less Than Significant with Mitigation)**

This impact relates to consistency with an adopted attainment plan. Within the project vicinity, the NCUAQMD is responsible for monitoring and enforcing local, state, and federal air quality standards.

Humboldt County is designated 'attainment' for all National Ambient Air Quality Standards. With regard to the California Ambient Air Quality Standards, Humboldt County is designated attainment for all pollutants except PM₁₀. Humboldt County is designated as "non-attainment" for the state's PM₁₀ standard.

PM₁₀ refers to inhalable particulate matter with an aerodynamic diameter of less than 10 microns. PM₁₀ includes emission of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM₁₀ emissions include unpaved road dust, smoke from wood stoves, construction dust, open burning of vegetation, and airborne salts and other particulate matter naturally generated by ocean surf. Therefore, any use or activity that generates airborne particulate matter may be of concern to the NCUAQMD. The proposed project will create PM₁₀ emissions in part through vehicles coming and going to the project site and associated construction activity.

Rule 104, Section D – Fugitive Dust Emissions is used by the NCUAQMD to address non-attainment for PM₁₀. Pursuant to Rule 104 Section D, the handling, transporting, or open storage of materials in such a manner, which allows or may allow unnecessary amounts of particulate matter to become airborne, shall not be permitted. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to covering open bodied trucks when used for transporting materials likely to give rise to airborne dust and the use of water during the grading of roads or the clearing of land. During earth moving activities, fugitive dust (PM₁₀) would be generated. The amount of dust generated at any given time would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Unless controlled, fugitive dust emissions during construction of the fire station could be a significant impact, therefore, Mitigation Measure AIR-1 will be incorporated to comply with NCUAQMD's Rule 104 Section D.

Operation of the project would not include the handling, transporting or open storage of materials in which particulate matter may become airborne. Due to the absence of handling, transport or open storage of materials that would generate particulate matter, operation of the project is not expected to conflict with NCUAQMD's Rule 104 Section D. No impact from operation of the project would result.

Mitigation

Implementation of Mitigation Measures AIR-1 would reduce the potential impact related to PM₁₀ fugitive dust by requiring BMPs.

Mitigation Measure AIR-1: Best Management Practices to Reduce Air Pollution

The contractor shall implement the following BMPs during construction:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, active graded areas, excavations, and unpaved access roads) shall be watered two times per day in areas of active construction.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph, unless the unpaved road surface has been treated for dust suppression with water, rock, wood chip mulch, or other dust prevention measures.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes. Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The NCUAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

With implementation of Mitigation Measure AIR-1, the project would not conflict with applicable air plans. This impact would be reduced to a less than significant level with mitigation.

b) Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard? (Less Than Significant with Mitigation)

Humboldt County is designated nonattainment of the State's PM₁₀ standard but is designated attainment for all other state and federal standards. Potential impacts of concern will be exceedances of state or federal standards for PM₁₀. Localized PM₁₀ is of concern during construction because of the potential to emit fugitive dust during earth-disturbing activities.

Construction

Localized PM₁₀

The project would include clearing and grubbing, excavation, grading, asphalt paving, building construction, and landscaping activity. Generally, the most substantial air pollutant emissions would be dust generated from site clearing and grubbing, grading, and excavation. If uncontrolled, these emissions could lead to both health and nuisance impacts. Construction activities would also temporarily generate emissions of equipment

exhaust and other air contaminants. The project's potential impacts from equipment exhaust are assessed separately below.

The NCUAQMD does not have formally adopted thresholds of significance for fugitive, dust-related particulate matter emissions above and beyond Rule 104, Section D which does not provide quantitative standards. For the purposes of analysis, this document uses the Bay Area Air Quality Management District (BAAQMD) approach to determining significance for fugitive dust emissions from Project construction. The BAAQMD bases the determination of significance for fugitive dust on a consideration of the control measures to be implemented. If all appropriate emissions control measures recommended by BAAQMD are implemented for a project, then fugitive dust emissions during construction are not considered significant. BAAQMD recommends a specific set of "Basic Construction Measures" to reduce emissions of construction-generated PM₁₀ to less than significant. Without incorporation of these Basic Construction Measures, the project's construction-generated fugitive PM₁₀ (dust) would result in a potentially significant impact.

The Basic Construction Measure controls recommended by the BAAQMD are incorporated into Mitigation Measure AIR-1. These controls are consistent with NCUAQMD Rule 104 Section D, Fugitive Dust Emission and provide supplemental, additional control of fugitive dust emissions beyond that which would occur with Rule 104 Section D compliance alone. Therefore, with incorporation of Mitigation Measure AIR-1, the project would result in a less than significant impact for construction-period PM₁₀ generation, and would not violate or substantially contribute to an existing or projected air quality violation.

Construction Criteria Pollutants

As noted above, the NCUAQMD has indicated that emissions are not considered regionally significant for projects whose construction would be of relatively short duration, lasting less than one year. For project construction lasting more than one year or that involves above average construction intensity in volume of equipment or area disturbed, construction emissions may be compared to the stationary source thresholds.

The NCUAQMD does not have established CEQA significance criteria to determine the significance of impacts that may result from a project; however, the NCUAQMD does have criteria pollutant significance thresholds for new or modified stationary source projects proposed within the NCUAQMD's jurisdiction. NCUAQMD has indicated that it is appropriate for lead agencies to compare proposed construction emissions that last more than one year to its stationary source significance thresholds, which are:

- Nitrogen oxides – 40 tons per year,
- Reactive organic gases – 40 tons per year,
- PM₁₀ – 15 tons per year, and
- Carbon monoxide – 100 tons per year.

If an individual project's emission of a particular criteria pollutant is within the thresholds outlined above, the project's effects concerning that pollutant are considered to be less than significant.

The California Emissions Estimator Model (CalEEMod) version 2016.3.2 was used to estimate air pollutant emissions from project construction (Appendix A of this ISMND). Construction of the project is expected to begin in 2020 and be complete by the end of 2021. Site preparation, grading and leveling, and infrastructure improvements would occur

for approximately 60 days in 2020. Construction of the facility would occur in 2021 and take approximately nine months to complete.

CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with construction and operation from a variety of land uses. A fire station is not a typical land use identified within CalEEMod; therefore, the most-appropriate proxy land use of 'Single-Family Residential' was selected based on the project facility type and size, with the building size modified to be consistent with the project parameters. Additionally, modeling assumed 800 cubic yards of materials export during grading, and import of base rock and other materials. The construction equipment list was derived from the default equipment assumptions contained in the CalEEMod model for the land use entered, facility size, and import/export activity.

The emissions modeling included the activities included in Mitigation Measure AIR-1, such as watering the construction site daily, promptly replacing ground cover on disturbed areas, and cleaning track out off of paved roadways. Table 3.3-1 – Construction Regional Pollutant Emissions summarizes construction-related emissions. As shown in the table, the project's construction emissions are well below the NCUAQMD's stationary sources emission thresholds in any year of construction. Therefore, the project's construction emissions are considered to have a less than significant impact.

Table 3.3-1 Construction Regional Pollutant Emissions

Parameter (year)	Emissions (tons)			
	ROG	NOX	CO	PM10
Construction (2020)	0.04	0.44	0.25	0.13
Construction (2021)	0.29	1.38	1.31	0.07
NCUAQMD Stationary Source Thresholds	40	40	100	15

Operation

Following construction, operation of the project would not include any stationary sources of air emissions, with the exception of the infrequent use of a fuel-powered generator during electrical power outages and weekly 1-hour permit-required maintenance checks. The use of the generator would be infrequent; however, the generator was considered in this operational impact analysis.

The project would not result in an increase in operational trips (employee, response trips). Therefore, the operational analysis does not include emissions from mobile sources. Project operational emissions were estimated using CalEEMod version 2016.3.2 and include emergency back-up generator use. Emissions were modeled for year 2021. As shown in Table 3.3-2, the project's operational emissions are well below the NCUAQMD's stationary sources emission thresholds. Therefore, the project's operational emissions are considered to have a less than significant impact.

Table 3.3-2 Operational Regional Pollutant Emissions (2021)*

Parameter (year)	Emissions (tons)			
	ROG	NOX	CO	PM10
Project Operation (2021)	0.05	<0.01	0.04	<0.01
NCUAQMD Stationary Source Thresholds	40	40	100	15

*The same thresholds are applied for both construction and operation.

c) Expose sensitive receptors to substantial pollutant concentrations? (Less Than Significant with Mitigation)

Activities occurring near sensitive receptors should receive a higher level of preventative planning. Sensitive receptors include school-aged children (schools, daycare, playgrounds), the elderly (retirement community, nursing homes), the infirm (medical facilities/offices), and those who exercise outdoors regularly (public and private exercise facilities, parks). The nearest residence to the project site is less than 50 feet from the project boundary.

BAAQMD's Basic Construction Measures included in Mitigation Measure AIR-1 (BMPs to Reduce Air Pollution) minimize idling times for trucks and equipment to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]) and ensures construction equipment is maintained in accordance with manufacturer's specifications.

Project construction activities would occur in two phases. Phase one is estimated to take approximately 60 days and would be completed in early 2021, pending suitable weather. Phase 2 would be the actual construction of the facility and is estimated to take approximately nine months to complete. Phase 2 would begin after completion of Phase 1, with completion by the end of 2021. Project construction is not expected to include intensive or prolonged construction equipment use for a long duration. Due to the short duration (no one area of prolonged or intense construction activity), and the implementation of Mitigation Measure AIR-1 which would control fugitive dust, the project would not result in the exposure of sensitive receptors to substantial pollutant concentrations. Therefore, with implementation of Mitigation Measure AIR-1 the construction-related impact would be less than significant with mitigation.

Following construction, the project would not include any stationary sources of air emissions or new emissions that would result in substantial long-term operational emissions of criteria air pollutants that would substantially affect sensitive receptors. Monthly apparatus checks of all powered equipment (chain saws, smoke ejectors, generators) would occur. In addition, the facility would have a propane-fueled emergency back-up generator. In order to remain compliant with current standards and assure preparedness, the emergency backup generator would be run on a weekly basis for a period of one hour.

The backup generator would require a permit NCUAQMD. The NCUAQMD would verify the generator is either EPA or CARB certified, or achieves emission standards for emergency standby diesel generators in other ways, prior to authorizing installation. Due to the limited use of such equipment, and compliance with regulatory requirements, project operation would not expose nearby sensitive receptors to substantial levels of pollutants. The operation-related impact would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? (Less Than Significant)

The project would create limited exhaust fumes from gas and diesel powered equipment during construction. The likelihood of these odors and emissions reaching nearby receptors is influenced by atmospheric conditions, specifically wind direction. Due to the relative short-term nature of construction, distribution of activities, emissions or odors caused by construction, the project would not adversely affect a substantial amount of people. Therefore, a less than significant impact would result.

Following construction, operations not result in any major sources of odor or emissions, except for the infrequent use of powered equipment for monthly checks, and the propane-fueled emergency generator during 1-hour-per week checks or during electrical power outages, should it be needed. There would be a less than significant impact.

3.4 Biological Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				✓
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			✓	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				✓
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

Impact analysis in this section is based, in part, on a wetland delineation conducted on December 18, 2017 and January 3, 2018 and is available as Appendix B (GHD 2018). Impact analysis was also based on a California Natural Diversity Database (CNDDDB), California Native Plant Society (CNPS), and U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC) database searches for special status plant and wildlife species and evaluation of their likelihood to occur at the project location (Appendix C, GHD 2020). Impact analysis also included field observations resulting from an April 7, 2020 site visit by the project scientist, documented in the request and justification for wetland buffer reduction (Appendix D, GHD 2020b).

The fire station would be constructed on an 8-acre lot in a residential area. Construction

would be limited to approximately a one acre area on the western end of the lot, set back from Rohnerville Road. The delineated wetland, remaining vegetation, and natural habitat would otherwise be left undisturbed.

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (Less Than Significant with Mitigation)**

Existing natural habitat within project footprint is limited. The construction boundary would primarily occur within the footprint of a mowed grassy area and the existing access road. Several large shrubs and/or orchard trees would be removed. A delineated wetland surrounds the grading boundary to the west. The wetland, including large willows, other native tree species, and wetland botanical species would not be disturbed. Vegetation, including trees, to the east of the grading boundary would also not be disturbed by the project footprint. Residences border the project location to the north and do not provide habitat under existing conditions. The project site is located along Rohnerville Road and within the vicinity of a residential neighborhood; noise related to traffic and human occupation is common.

Special-status Plant Species

A formal field investigation for special-status plant species occurred on the April 7, 2020 site visit (GHD 2020b). The wetland delineation conducted for the project did include a botanical survey; special status plants were not noted (Appendix B, GHD 2018). Eight special status species with low or moderate potential to occur within the vicinity of the project were identified as a result of database searches including:

- Oregon coast paintbrush (*Castilleja litoralis*) – low potential
- Whitney's farewell-to-spring (*Clarkia amoena* ssp. *whitneyi*) – low potential
- Cascadia downingia (*Downingia wouldamettensis*) – moderate potential
- Howell's montia (*Montia howellii*) – low potential
- Bristle-stalked sedge (*Carex leptalea*) – low potential
- Lyngbye's sedge (*Carex lyngbyei*) – low potential
- Wolf's evening primrose *Oenothera wolfii* – low potential
- Maple-leaved checkerbloom – moderate potential (GHD 2020, Appendix C)

The construction boundary would be limited to an existing access road and a grassy open area that is routinely mowed for site maintenance purposes. Neither the existing access road nor the mowed grassy area would be suitable habitat for special-status plant species. Any special status botanical species occurring within the footprint of the delineated wetland would not be disturbed or impacted, as the wetland would be excluded from the limits of construction.

The 50 foot buffer surrounding the delineated wetland has mostly been mowed, although some area of the buffer have intact native vegetation. The project proposes to encroach up to 25 feet in some locations into the 50 foot wetlands buffer. (see Figure 3 - Stormwater and Wetland Project Components). A field investigation was conducted on April 7, 2020 to support the technical basis of the wetland buffer encroachment submitted

to the City of Fortuna for review, discussed in more detail below. The April 7, 2020 field investigation included an assessment of the potential for special-status plants to occur in the buffer and the project footprint and documented that most of the buffer is dominated with nonnative species similar to what is found on the project footprint. Most of the buffer currently mowed up to or near to the wetlands edge. Some of the proposed (reduced) 25 foot buffer consist of California blackberry (*Rubus ursinus*).

Few native plant species exist on the project site (proposed new facility and stormwater components). The project footprint contains mostly nonnative species. Dominant plant species consisted of oxeye daisy (*Leucanthemum vulgare*), velvet grass (*Holcus lanatus*), sweet vernal grass (*Anthoxanthum odoratum*), tall fescue (*Festuca arundinacea*), English daisy (*Bellis perennis*), ribwort plantain (*Plantago lanceolata*), and cat's ear (*Hypochaeris radicata*). Poison oak (*Toxicodendron diversilobum*) was observed as an herb and shrub within the project footprint. No special status plant species were observed.

Additionally, no special-status plants were observed within the buffer during the field investigation. Special-status plants and habitat suitable for special-status plants have not been observed within the grading boundary for the project. The potential impact would be less than significant.

Special-status Wildlife Species

Given the project site is located on a lot within a residential neighborhood and grading would be limited to an existing access road and a mowed grassy area (with the exception of the minor wetland buffer encroachment noted above), natural habitat at the project site (footprint) is limited. A formal field investigation for special-status wildlife and their habitat did not occur. However, a database search for wildlife species and evaluation of their likelihood to occur at the project location was completed (Appendix C, GHD 2020). Results indicated two special status wildlife species have a low potential to occur at or near the project site:

- Humboldt Mountain Beaver (*Aplodontia rufa humboldtiana*) – low potential
- North American (*Porcupine Erethizon dorsatum*) – low potential (GHD 2020, Appendix C)

The North American Porcupine is a state-listed special status species. North American Porcupines are primarily nocturnal, but can sometimes be seen during the day. They are approximately 27 inches in length with yellowish quills on the head, rump, and upper surfaces of the tail. Their range extends across mainland Canada, Alaska, and the western and northeastern United States. They use a wide variety of habitats, but are most common in montane conifer, Douglas fir, and alpine dwarf-shrub. Although there are records of North American Porcupines from the general project vicinity and they have a moderate potential to occur onsite, no impacts are expected to occur to this species. The species is highly mobile and, if present, is expected to leave the project area once construction activity commences. Their habitat would not be removed in association with this project, substantial foraging habitat suitable for this species is present in the surrounding area on the undeveloped portion of the 8-acre parcel east. As no impacts to this species are expected, the potential impact would be less than significant.

Suitable habitat for the Humboldt Mountain Beaver does not exist at the project site. Occurrence would be unlikely but not impossible (GHD 2020, Appendix C). Their habitat would not be removed in association with this project. As no impacts to this species are

expected, the potential impact would be less than significant.

Passerines and Raptors

A formal field investigation for special-status birds and their habitat did not occur. However, a database search for evaluation of their likelihood to occur at the project site was completed (GHD 2020, Appendix C). The database search indicated the following bird species or their habitat have the potential to occur at the project site:

- Cooper's Hawk (*Accipiter cooperi*) – moderate potential
- Sharp-Shinned Hawk (*Accipiter striatus*) – moderate potential
- Tricolored Blackbird (*Agelaius tricolor*) – low potential
- Grasshopper Sparrow (*Ammodramus savannarum*) – low potential
- Golden Eagle (*Aquila chrysaetos*) – low potential
- Great Egret (*Ardea alba*) – low potential
- Great Blue Heron (*Ardea Herodias*) – moderate potential
- Snowy Egret (*Haliaeetus leucocephalus*) – low potential
- Bald Eagle (*Haliaeetus leucocephalus*) – low potential
- Black-Crowned Night Heron (*Nycticorax nycticorax*) – low potential
- Osprey (*Pandion haliaetus*) – low potential
- Bank Swallow (*Riparia riparia*) – low potential (GHD 2020, Appendix C).

Only minor tree removal is planned. However, if nesting passerines or raptors were present in trees at the project site, construction noise and/or tree removals would have the potential to impact the species. The impact is considered significant. Mitigation Measure BIO-1 would ensure any impacts to passerines and raptors, including migratory and nesting birds, would be less than significant.

Mitigation

Mitigation Measure BIO-1 would reduce the impact of the project on nesting passerines or raptors to less-than-significant levels by requiring pre-construction surveys by qualified biologists prior to work in applicable habitats, and measures to avoid take of species.

Mitigation Measure BIO-1: Protect Special Status, Migratory, and Nesting Birds

Ground disturbance and vegetation clearing shall be conducted, if possible, during the fall and/or winter months and outside of the avian nesting season (March 15 – August 15) to avoid any direct effects to special status and protected birds. If ground disturbance cannot be confined to work outside of the nesting season, a qualified ornithologist shall conduct pre-construction surveys within the vicinity of the project area, to check for nesting activity of native birds and to evaluate the site for presence of raptors and special status bird species. The ornithologist shall conduct at minimum a one day pre-construction survey within the 7 - day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the breeding season, a qualified ornithologist shall conduct a supplemental avian pre-construction survey before project work is reinitiated.

If active nests are detected within the construction footprint or within 500 feet of construction activities, the ornithologist shall flag a buffer around each nest. Construction activities shall avoid nest sites until the ornithologist determines that the young have fledged or nesting activity has ceased. If nests are documented outside of the construction (disturbance) footprint, but within 500 feet of the construction area, buffers would be implemented as needed. In general, the buffer size for common species would be determined on a case-by-case basis in consultation with the CDFW and, if applicable, with USFWS. Buffer sizes would take into account factors such as (1) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; (2) distance and amount of vegetation or other screening between the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds.

If active nests are detected during the survey, the qualified ornithologist shall monitor all nests at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified ornithologist, disturb nesting activities (e.g., excessive noise), shall be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified ornithologist shall immediately implement adaptive measures to reduce disturbance. These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed or nesting activity has ceased, placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, and/or reorienting and/or relocating construction equipment to minimize noise at noise-sensitive receptors.

With the implementation of Mitigation Measure BIO-1, potential impacts to special status, migratory, and nesting birds would be less than significant.

Bats

As indicated by the database searches, four special status bat species have the potential to be present at or near the project site, including:

- Pallid Bat (*Antrozous pallidus*) – low potential
- Townsend's Big-eared Bat (*Corynorhinus townsendii*) – moderate potential
- Hoary Bat (*Lasiurus cinereus*) – moderate potential
- Yuma myotis (*Myotis yumanensis*) – moderate potential (GHD 2020, Appendix C).

Habitat for bats (tree cavities, loose bark, forest, etc.) is present near the project site. Vegetation and structures near the project site may provide habitat to a variety of bat species. Construction of the project may adversely impact special-status bat species through the removal or modification of vegetation or structures and due to ground disturbance. The impact is considered significant. Mitigation Measure BIO-2 has been incorporated into the project to ensure potential impacts to special status bats would be less than significant.

Mitigation

Mitigation Measure BIO-2 would reduce the impact of the project on special status bats to less-than-significant levels by requiring pre-construction surveys by qualified biologists prior to work in applicable habitats, and measures to avoid take of species.

Mitigation Measure BIO-2: Protect Special Status Bats

A qualified bat biologist shall conduct habitat surveys for special-status bats. Survey methodology should include visual examination of suitable habitat areas for signs of bat use and may utilize ultrasonic detectors to determine if special status bat species utilize the vicinity. Trees within 300 feet of construction activities will be examined. If habitat exists, species presence and site use patterns should be documented, including roost sites. Bat presence in the project may vary seasonally and annually. Surveys should be conducted in a manner to detect the presence of hibernating or torpid bats, reproductive colonies and/or migratory stop-over roosts. If no bat utilization or roosts are found, then no further study or action is required. If bats are found to utilize the project vicinity, or presence is assumed, a bat specialist should be engaged to advise the best method to prevent impact. This may include, but will not be limited to:

- Consultation with the California Department of Fish and Wildlife to determine appropriate measures for protecting bats with young if present, and for implementing measures to exclude non-breeding bat colonies during construction process.
- Phased removal of trees where selected limbs and branches not containing cavities are removed on the first day, with the remainder of the tree removed on the second day.

The implementation of Mitigation Measures BIO-2 would protect against potential project impacts to special status bats, sufficiently reducing the potential effect to be less than significant.

Special-status Amphibian and Reptile Species

Northern Red-legged Frogs (*Rana aurora*) are a State Species of Concern and occur along the west coast of North America from British Columbia to California and were evaluated in Appendix C. The geographic range split between the Northern and California Red-legged Frog species occurs just south of Elk Creek in Mendocino County where both species overlap. Northern Red-legged Frogs are typically found near freshwater sources (e.g., wetlands, ponds, streams, etc.). However, they can range widely and inhabit damp places far from water. Northern Red-legged Frogs reproduce in water from December to February in Humboldt County, with some breeding occurring as late as March. Preferred egg laying locations are in “vegetated shallows with little water flow in permanent wetlands and temporary pools.” Northern Red-legged Frogs are relatively common in and near coastal portions of Humboldt County and recent records have documented the species near the project site. This being the case, Northern Red-legged Frogs have a high chance of occurring within the project site given the existing wetland habitat. Therefore, the potential impact on Northern Red-legged frogs is considered significant.

Western Pond Turtles (pond turtles) (*Emys marmorata*) are a State Species of Concern and occur in a variety of permanent and semi-permanent freshwater aquatic habitats

including lakes, rivers, ponds, creeks, and marshes and were also assessed in Appendix C. Pond turtles are known to be present in the general vicinity and may occur in or near the existing wetland, although their presence would be unlikely and have a low potential of occurrence given the lack of riverine habitat within the vicinity of the project site. Breeding can occur on loose soils on south or west facing slopes so a few pond turtles may venture away from the river into the project area. Pond turtles have been documented nesting up to 0.5 kilometers from water. Thus, Western Pond Turtles have a low chance of occurring within the project area although presence would likely be occasional, seasonal, and temporary. The potential impact to individual Western Pond Turtle is considered significant.

Mitigation

Mitigation Measure BIO-3 would reduce the impact of the project on special status amphibians and reptiles to less-than-significant levels by requiring pre-construction surveys by qualified biologists prior to work in applicable habitats, and measures to avoid take of species.

Mitigation Measure BIO-3: Protect Special Status Amphibians and Reptiles

No more than one week prior to commencement of ground disturbance within 50 feet of suitable Northern Red-legged Frog or Western Pond Turtle habitat, a qualified biologist shall perform a pre-construction survey and shall relocate any individuals of Northern Red-legged Frog or Western Pond Turtle or egg masses of Northern Red-legged Frog that occur within the work impact zone to nearby suitable habitat.

In the event that a Northern Red-legged Frog or Western Pond Turtle is observed in an active construction zone, the contractor shall halt construction activities in the area where observed and the frogs or turtles shall be moved to a safe location in similar habitat outside of the construction zone.

With the implementation of Mitigation Measure BIO-3, potential impacts to special status amphibians and reptiles would be less than significant.

b,c) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service, including wetlands? (Less Than Significant)

The project is not located near a riparian corridor or riparian environment; thus no impact to riparian habitat would occur. Wetlands are present at the site, and a formal wetland delineation has occurred (Appendix B, GHD 2018). No other environmentally sensitive habitat has been observed at the project site.

The existing wetland is protected by a 50 foot buffer, per the City of Fortuna General Plan 2030 Policy NCR-2.6. Policy NCR-2.6 also allows for limited encroachment into the 50 foot buffer if a biological study is performed by a qualified biologist and approved by the City of Fortuna. To support the request for a reduced buffer of 25 feet, a biologist study was performed by a qualified biologist to ensure an adverse effect to the onsite wetland would not occur (Appendix D, GHD 2020b).

To minimize the height of the cut slope to the east of the proposed fire station and associated erosion and slope failure risk, the siting of the fire station would variably encroach up to 25 feet into the 50 foot wetland buffer in some locations (see Figure 3 -

Stormwater and Wetland Project Components). As a result of the need to encroach into the established wetland buffer, a biological study and request for approval was submitted to the City of Fortuna (GHD 2020b). Approval of the buffer encroachment by the City would be required prior to construction of the fire station. The request included the following improvements to enhance the condition of the wetland buffer and wetland itself:

1. Where California blackberry is 10 to 15 feet wide juxtaposed to the wetlands within the 25 foot buffer, leave in place. No further action is recommended for these areas.
2. Where the buffer is mowed up to on near the wetlands edge, plant wax myrtles (*Myrica californica*) five feet from wetlands edge, 20 feet on center up to 25 feet beyond and parallel to the proposed development. Fifteen feet in front of the wax myrtles (towards development), plant coyote brush (*Baccharis pilularis*) 10 feet on center up to 25 feet beyond and parallel to the proposed development.

In order to provide enhancement to wetlands, Himalayan blackberry (*Rubus armeniacus*) would be removed in the wetlands areas. The area infestation is located (up slope) near the culvert under the access road. Himalayan blackberry should be cut back approximately one (1) foot from the soil surface and then roots removed by hand. Removed material would be transported off the site.

The project's stormwater LID stormwater retention area (see Figure 3 - Stormwater and Wetland Project Components) would be designed according to the City of Fortuna's drainage and LID requirements. As required, post development stormwater flow off the property for a 25 year, 24 hour storm would be restricted to be no more than pre-development flow by use of a retention pond or equivalent structure. This project would utilize the natural drainage of the parcel to provide connectivity to the current drainage City infrastructure via the existing culvert under the access road. As such, the on-site delineated wetland would not directly receive stormwater resulting from the proposed fire station and surround impervious pavement; the wetland would be protected from the site's stormwater and associated potential impacts to water quality.

No temporary or permanent loss of the delineated wetland would occur, as construction would be entirely excluded from the footprint of the wetland. Encroachment into the existing 50 foot wetland buffer would only occur subsequent to review and approval by the City of Fortuna. Stormwater from the fire station would drain into the planned LID stormwater retention area to protect the on-site wetland. Thus, the potential impact would be less than significant.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? (No Impact)

Aquatic habitat is not located on or near the project site. Thus no impact to resident or migratory fish would result. The project is located in a developed residential neighborhood which includes numerous fences and roads. The project would not add additional roads or fencing to the neighborhood that could impede the migration of wildlife above existing conditions. Once built, wildlife passing through the project site would be able to move around the fire station and would not be excluded from undeveloped areas of the 8-acre parcel or other nearby habitats. No impact would result.

- e) **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (No Impact)**

Fortuna General Plan 2030

Policies regarding biological resources within the City of Fortuna are established in the General Plan 2030 and based upon Goal NCR-2.

Goal NCR-2

To protect and maintain, or relocate through mitigation, existing sensitive habitats and species, including riparian corridors, wetlands, and Environmental Sensitive Habitat Areas (ESHA).

As established in Section 3.4 (d), riparian habitat is not present at the location of the proposed fire station. Wetlands are present and would be avoided during construction. Other types of ESHA have not been observed. As the project would protect and maintain these habitats, no conflict with the General Plan 2030 would occur.

Additionally, the City of Fortuna does not have an applicable tree preservation policy, and removal of large trees is not planned. Several large shrubs and/or orchard trees would be removed only. Thus, a conflict with a tree preservation policy would also not occur.

Given the project would not conflict with the General Plan 2030 or any other local policy or ordinance, no impact would result.

- f) **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (No Impact)**

There are no adopted Habitat Conservation, Community Conservation, or approval local, regional, or state habitat conservation plans that apply to the project. No impact would result.

3.5 Cultural Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?				✓
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		✓		
c) Disturb any human remains, including those interred outside of formal cemeteries?		✓		

Impact assessment for this section is based on the Historic Properties Identification Report (HPIR) conducted for the project, which included a field survey of the property on January 31, 2020 (DZC 2020).

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5? (No Impact)

The project site does not include any built structures. Thus there is no potential for the presence of any built historical resource that could potentially be impacted by the project. No impact would result.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (Less Than Significant with Mitigation)

The completed HPIR was consistent with the requirements of the City of Fortuna General Plan 2030 as outlined in Chapter 5 - Natural and Cultural Resources; Archaeological, Cultural, and Historical Resources, as the investigation provided for the survey, identification, and treatment of cultural resources within the Area of Potential Effect (APE) (DZC 2020). No resources were identified within the APE (DZC 2020). The HPIR concluded that there were no cultural, tribal, or historic resources within the APE, as defined by CEQA, and recommended there would be no effect or changes to any historic resources or unique archaeological resources from this project.

In order to provide protection for archaeological resources that may be inadvertently discovered during the course of construction, Mitigation Measure CR-1 would be implemented. With the implementation of Mitigation Measure CR-1, the potential impact would be less than significant.

Mitigation

Implementation of Mitigation Measure CR-1 would reduce the potential impact to archaeological resources by requiring procedures that shall be taken in the event of inadvertent discovery

Mitigation Measure CR-1: Implementation of Inadvertent Discovery Protocols

If buried archaeological resources are discovered during project implementation all work should be halted within 50 feet of the find and City officials, a professional archaeologist, and tribal representatives would be contacted immediately to evaluate the find.

Implementation of Mitigation Measure CR-1 would reduce potential impacts related to inadvertent discovery of cultural resources to be less than significant.

c) Disturb any human remains, including those interred outside of formal cemeteries? (Less Than Significant with Mitigation)

While the HPIR determined archaeological resources were not likely to be present (DZC 2020), inadvertent discovery of human remains may still occur. In the event human remains are encountered during construction, Mitigation Measure CR-2 would be implemented to ensure any potential impact would be less than significant.

Mitigation

Implementation of Mitigation Measure CR-2 would reduce the potential impact to archaeological resources or human remains by requiring procedures that shall be taken in the event of inadvertent discovery of human remains.

Mitigation Measure CR-2: Minimize Impacts to Unknown Archaeological Resources or Human Remains if Encountered

If human remains are discovered during project implementation, all work shall be halted and the permitting agency, Humboldt County shall be contacted immediately. The County shall contact the County Coroner immediately and the Coroner would evaluate the find to determine the subsequent course of action, including notification of tribal representatives.

Implementation of Mitigation Measure CR-2 would reduce potential impacts related to inadvertent discovery of human remains to be less than significant.

3.6 Energy

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			✓	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				✓

a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? (Less Than Significant)

Temporary energy use in connection with project construction would entail consumption of diesel fuel and gasoline by construction equipment and by the transportation of earth moving equipment, construction materials, supplies, and construction personnel. Given the short construction period and implementation of State regulations regarding vehicle emission and fuels standards, such as the Low Carbon Fuel Standard and anti-idling regulations, energy use related to construction would not be wasteful or inefficient.

Operationally, the project would relocate existing fire station operations, including existing emergency response trips, from existing fire stations to the project site. Additionally, the project would not increase the number of personnel employed by the FFPD. No new emergency response trips would be generated beyond what would otherwise occur.

The new facility would use energy through consumption of electricity and natural gas. There also would be a small amount of fuel used for the emergency backup generator; however, the emergency backup generator use would not be conducted in a manner that would result in wasteful, inefficient, or unnecessary consumption of energy.

As detailed in Section 3.8 (Greenhouse Gas Emissions), the project would comply with the Green Building Strategy of the California Energy Code, which includes requirements for energy efficiency features and water conservation features. Implementation of water conservation features reduce energy consumption associated with the treatment and transport of water. Additionally, the project building would use electricity from PG&E, which complies California's Renewable Portfolio Standard and requires an increasing percentage of the utility's energy to come from renewable energy sources. Therefore, the project facilities would not result in wasteful, inefficient, or unnecessary consumption of energy.

Impacts related to energy use during construction and operation of the project would therefore be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (No Impact)

State of California Energy Action Plan

In 2003, the three key energy agencies in California—the California Energy Commission (CEC), the California Power Authority (CPA), and the California Public Utilities Commission (CPUC)—jointly adopted an Energy Action Plan (EAP) that listed goals for California’s energy future and set forth a commitment to achieve these goals through specific actions. In 2005, the CPUC and the CEC jointly prepared the EAP II to identify further actions necessary to meet California’s future energy needs. To the extent that efficiency, demand response, renewable resources, and distributed generation are unable to satisfy increasing energy and capacity needs, the EAP II supports the use of clean and efficient fossil-fired generation. The plan recognizes that concurrent improvements are required to the bulk electricity transmission grid and distribution facility infrastructure to support growing demand centers and the interconnection of new generation, both on the utility and customer side of the meter.

Senate Bill 1389

Senate Bill (SB) 1389, the California Integrated Energy Policy, was adopted in August 2002 and requires the CEC to prepare an Integrated Energy Policy Report (IEPR) for electricity, natural gas, and transportation fuels. The IEPR contains an analysis of the policies and actions that are necessary to ensure that the state has adequate energy resources—including a range of alternative energy resources—to meet its needs. The IEPR also includes recommendations to reduce energy demand and to improve the state’s energy infrastructure.

City of Fortuna

The City of Fortuna General Plan 2030 contains the following applicable renewable energy or energy efficiency policies related to the project:

Policy NCR-6.1 Site Design Standards

The City shall strive to incorporate energy-efficient construction techniques and materials.

Policy NCR-6.2 New Development Requirements

The City shall encourage new development to pre-wire for solar/wind and plumbed for hot water panel installation.

As detailed in Section 3.8 (Greenhouse Gas Emissions), the project would comply with the Green Building Standards (Title 24) of the California Energy Code, which includes requirements for energy efficiency features. Additionally, the project would comply with California Title 24 unless exemptions apply, which requires new buildings to be “solar ready.” Therefore, the project would not conflict with relevant policies of the City’s General Plan.

The plans listed above contain broad policy and regulatory initiatives, which are not always applicable at the project level, particularly with infrastructure projects. They require action at the State and municipal level. Implementation of the project would not conflict with or obstruct the implementation of any of the policies and actions described above. The

project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. There would be no impact.

3.7 Geology and Soils

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?				✓
ii) Strong seismic ground shaking?			✓	
iii) Seismic related ground failure, including liquefaction?				✓
iv) Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?			✓	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on, or off, site landslide, lateral spreading, subsidence, liquefaction or collapse?				✓
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				✓
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?			✓	
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		✓		

The project would be located on a gently sloping site. The building pad for the fire station would be graded to be flat, which would require a cut slope approximately up to approximately 11 feet in height along the eastern edge of the developed area. Soil disturbance would be limited to site grading and preparations required for the fire station foundation, development of the LID detention basin, and other site drainage design features. Trenching would also be needed to bring existing utilities from Rohnerville Road up the existing access road to the proposed fire station.

a, i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. (No Impact)

The project site is not located within an active Alquist-Priolo fault mapped by the California Geological Survey (DOC 2020). The project would have no impact with regard to the rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map. The nearest fault zone is the Hydesville Fault Zone, which includes the Little Salmon Fault Trace (approximately 2 miles from the project site) and the Goose Lake Fault Trace (approximately 1.4 miles from the project site) (DOC 2020). No impact related to fault rupture would result.

a, ii) Strong seismic ground shaking? (Less Than Significant)

The project is situated within a seismically active area close to several seismic sources capable of generating moderate to strong ground motions. Because the project is located within a seismically active area, the probability that strong ground shaking associated with large magnitude earthquakes would occur during the design life of the fire station is high. The fire station would be constructed to California Building Code standards, which account for earthquake resiliency. Additionally, the fire station would constitute vital community infrastructure in the event of a significant earthquake, as first responders would rely on the fire station in the event of a natural disaster. Project implementation would not increase risk of strong seismic ground shaking or exposure to strong seismic ground shaking above existing conditions. Therefore, the impact to people and structures from strong seismic ground shaking would be less than significant.

a.iii, a.iv, c, d) Liquefaction, landslides, or otherwise unstable soils? (No Impact)

The project is not located in a mapped liquefaction hazard zone (Humboldt PBD 2015). Liquefaction is a phenomenon involving loss of soil strength, and resulting in fluid mobility through the soil. Liquefaction typically occurs when loose, uniformly-sized, saturated sands or silts are subjected to repeated shaking in areas where the groundwater is less than 50 feet below ground surface. In addition to the necessary soil and groundwater conditions, the ground acceleration must be high enough, and the duration of the shaking must be sufficient, for liquefaction to occur.

Project implementation would not increase risk of liquefaction or exposure to liquefaction above existing conditions and no impact would occur. Steep slopes and hillslopes are not present. Thus within the project footprint, landslides within or near the project are unlikely to occur, and the potential for landslide occurrence is not increased by the project. No impact would result.

b) Result in substantial soil erosion or the loss of topsoil? (Less Than Significant)

Construction activities, including trenching and operation of heavy machinery would disturb soil and, therefore, have the potential to cause erosion. Erosion and sediment control provisions prescribed in the City of Fortuna Municipal Code and the California Building Code would be required as part of the project. BMPs may include: silt fences, straw wattles, soil stabilization controls, site watering for controlling dust, and sediment detention basins. BMPs are designed to ensure potential water quantity impacts at a less than significant level during and post construction. Therefore, the potential soil erosion

impact would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? (Less Than Significant)

The fire station would generate wastewater that would be connected to the City of Fortuna's municipal sewer utility system. The wastewater generated by the fire station would be within the capacity of existing waste water treatment operations and would not require an expansion of service. On-site septic or other alternative means of wastewater disposal would not occur. The impact would be less than significant.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (Less Than Significant with Mitigation)

Paleontological resources are the remains or traces of prehistoric animals and plants. Paleontological resources, which include fossil remains and geologic sites with fossil-bearing strata are non-renewable and scarce and are a sensitive resource afforded protection under environmental legislation in California. Under California PRC § 5097.5, unauthorized disturbance or removal of a fossil locality or remains on public land is a misdemeanor. State law also requires reasonable mitigation of adverse environmental impacts that result from development of public land and affect paleontological resources (PRC § 30244).

It is unlikely that project construction would impact potentially significant paleontological resources because most of the project occurs in relatively newly deposited alluvium. However, the possibility of encountering a paleontological resource during construction cannot be completely discounted, therefore, the impact related to the potential disturbance or damage of previously undiscovered paleontological resources, if present, is considered potentially significant.

Mitigation

Mitigation Measure GEO-1 would reduce the impact of construction activities on potentially unknown paleontological resources to a less-than-significant level by addressing discovery of unanticipated buried resources and preserving and/or recording those resources consistent with appropriate laws and requirements.

Mitigation Measure GEO-1: Inadvertent Discovery of Paleontological Resources

In the event that fossils are encountered during construction (i.e., bones, teeth, or unusually abundant and well-preserved invertebrates or plants), construction activities shall be diverted away from the discovery within 50 feet of the find, and a professional paleontologist shall be notified to document the discovery as needed, to evaluate the potential resource, and to assess the nature and importance of the find. Based on the scientific value or uniqueness of the find, the paleontologist may record the find and allow work to continue, or recommend salvage and recovery of the material, if it is determined that the find cannot be avoided. The paleontologist shall make recommendations for any necessary treatment that is consistent with currently accepted scientific practices. Any fossils collected from the area shall then be deposited in an accredited and

permanent scientific institution where they would be properly curated and preserved.

Implementation of Mitigation Measure GEO-1 would reduce this impact to a less-than-significant level for both construction and operation because a plan to address discovery of unanticipated paleontological resources and to preserve and/or record those resources consistent with appropriate laws and requirements would be implemented.

3.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			✓	

The NCUAQMD has not adopted regulations regarding the evaluation of GHG emissions in a CEQA document, and has not established CEQA significance criteria to determine the significance of impacts with regard to GHGs. Pacific Gas & Electric provides energy to the project area.

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (Less Than Significant)

The local NCUAQMD has not adopted regulations regarding the evaluation of GHG emissions in a CEQA document, and has not established CEQA significance criteria to determine the significance of impacts with regard to GHGs (J. Davis. pers. comm. 2019). The NCUAQMD recommends considering the GHG emission CEQA standards from the BAAQMD (J. Davis pers. comm. 2019). For project construction, BAAQMD does not have quantitative GHG emission thresholds (BAAQMD 2017). Rather, the BAAQMD states that a lead agency should disclose GHG emission information and make a determination on the significance in relation to meeting AB 32 GHG reduction goals.

In order to assess the potential impact of construction-generated emissions, the construction GHG emissions were annualized over an assumed 30-year project lifespan and added to operational emissions. Based on CalEEMod modeling (attached as Appendix A), project construction activities would result in a temporary increase in GHG emissions, including exhaust emissions from on-road trucks, worker commute vehicles, and off-road heavy-duty equipment. Construction would require clearing, earthmoving, and delivery equipment, as used for similar projects, and which have been accounted for in the State's emission inventory and reduction strategy for both on and off-road vehicles. Construction emissions were estimated using CalEEMod version 2016.3.2 and were estimated to be approximately 185 MTCO₂e from all construction activities. The project's construction emissions equal 6.2 MTCO₂e per year when annualized over the assumed 30-year lifespan of the project. Emissions during construction would not be a considerable contribution to the cumulative greenhouse gas impact, given that construction would be temporary, of short duration, and would not require a large fleet of earthmoving equipment and soil-off hauling beyond the normal equipment and activities related to such projects. Therefore, the project's construction-related emissions would be less than significant.

Project operational emissions were also estimated using CalEEMod version 2016.3.2. Because the proposed project is relocating calls from an existing facility, the project would

not result in an increase in operational trips (employee, response trips) above existing conditions. Therefore, the operational analysis does not include emissions from mobile sources. The project's operation were estimated to be 3.4 MTCO₂e per year, which is lower than the 1,100 MTCO₂e per year threshold established by the BAAQMD. As such, the project would not result in substantial long-term operational emissions of GHGs. Therefore, the project would generate a less than significant impact.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (Less Than Significant)

The project is evaluated for consistency with the CARB *2017 Climate Change Scoping Plan*. As discussed in the Regulatory setting above, the 2017 Scoping Plan provides California's climate policy portfolio and recommended strategies to put the state on a path to achieve the 2030 target. The scenario includes ongoing and statutorily required programs, continuing the Cap-and-Trade Program, and high-level objectives and goals to reduce GHGs across multiple economic sectors. Existing programs, also known as "known commitments," identified by the 2017 Scoping Plan include: SB 350, the LCFS, CARB's Mobile Source Strategy, Senate Bill 1383 for short-lived climate pollutants and California's Sustainable Freight Action Plan. The high-level objective and goals recommendations cover the energy, transportation, industry, water, waste management, agriculture, and natural and working lands, and are to be implemented by a variety of state agencies.

Project construction would cause a temporary increase in GHGs, however as discussed above Project emissions would not exceed the identified emission thresholds. Project construction is analyzed for consistency with the *2017 Climate Change Scoping Plan* in Table 3.8-1.

Table 3.8-1 Consistency Analysis between Project and Climate Change Scoping Plan

Scoping Plan Reduction Measures	Consistency/Applicability Determination
California Cap-and-Trade Program Linked to Western Climate Initiative. Implement a broad-based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.	Consistent. This is a statewide measure that cannot be implemented by the project or lead agency. PG&E obtains 39 percent of its power supply from renewable sources such as solar, wind, and geothermal, in conformance with various regulations (PG&E 2020). The project would utilize PG&E power.

Scoping Plan Reduction Measures	Consistency/Applicability Determination
California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	Consistent. This is a statewide measure that cannot be implemented by the project or lead agency. However, the standards would be applicable to the light-duty vehicles that would access the project site.
Energy Efficiency. Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	Consistent. This is a measure for the state to increase its energy efficiency standards in new buildings. The project would be required to build to the latest standards and would increase its energy efficiency through compliance.
Renewable Portfolio Standard. Achieve 50 percent renewable energy mix statewide by 2030. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas	Consistent. This is a statewide measure that cannot be implemented by the project or lead agency. PG&E obtains 39 percent of its power supply from renewable sources such as solar and geothermal, consistent with various regulations. The Project would utilize PG&E as a utility provider, which meets this standard.
Low Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	Consistent. This is a statewide measure that cannot be implemented by the project or lead agency. The standard would be applicable to the fuel used by vehicles that would access the project site.
Regional Transportation-Related Greenhouse Gas Targets. Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.	Not applicable. This is a statewide measure calling for the development of GHG emission reduction targets.
Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	Not applicable. This is a statewide measure that cannot be implemented by the project or lead agency.
Goods Movement. Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	Not applicable. The project does not propose any changes to modes of transportation of goods.
Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California's existing solar programs.	Consistent. This measure is intended to increase solar power throughout California, which is being done by various utility companies and solar programs. The project would comply with Title 24 unless exemptions apply, which requires new buildings to be "solar ready."
Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	Consistent. This is a statewide measure that cannot be implemented by the project or lead agency. However, the standards would be applicable to the medium and heavy-duty vehicles that would access the project site.

Scoping Plan Reduction Measures	Consistency/Applicability Determination
Industrial Emissions. Require assessment of large industrial sources to determine whether individual sources within a facility can cost- effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	Not applicable. This measure would apply to the direct GHG emissions at major industrial facilities. The project is not industrial.
High Speed Rail. Support implementation of a high-speed rail system.	Not applicable. This is a statewide measure that cannot be implemented by the project or lead agency.
Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	Consistent. The project would comply with the California Energy Code and thus include the required energy efficiency features.
High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	Consistent. This measure is applicable to the high global warming potential gases such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF6) found in air conditioning and commercial refrigerators. The project's air conditioning system would utilize equipment that complies with this measure.
Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	Consistent. The project does not include a landfill. The project would reduce waste with implementation of state mandated recycling and reuse mandates.
Sustainable Forests. Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	Not Applicable. The project would not include tree removal or areas for reforestation.
Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	Consistent. This is a measure for State and local agencies. However, the project would adhere to California Green Building Standards Code regulation, and would retain the runoff sourced from the 95th percentile of rainfall which would replenish the groundwater aquifer.
Agriculture. In the near-term, encourage investment in manure digesters and at the five- year Scoping Plan update determine if the program should be made mandatory by 2020.	Not applicable. The project does not include agricultural production.

Source of Scoping Plan Reduction Measures: CARB 2008, CARB 2017

3.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		✓		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			✓	

This section evaluates the potential impacts related to hazards and hazardous materials during construction and operation of the project.

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (Less Than Significant Impact)

Construction of the project would include the transport and use of common hazardous materials inherent to the construction process, including petroleum products for

construction equipment and vehicles, paints, concrete curing compounds, and solvents for construction of project improvements. These materials are commonly used during construction, are not acutely hazardous, and would be used in relatively small quantities.

Caltrans and the California Highway Patrol (CHP) regulate the transportation of hazardous materials and wastes, including container types and packaging requirements, as well as licensing and training for truck operators, chemical handlers, and hazardous waste haulers. The California Division of Occupational Safety and Health (Cal-OSHA) also enforces hazard communication program regulations which contain worker safety training and hazard information requirements, such as procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees.

Best management practices addressing materials management would be required, including proper material delivery and storage, spill prevention and control, and management of concrete and other wastes.

Because the FFPD and its contractors would be required to comply with existing and future hazardous materials laws and regulations and applicable best management practices addressing the transport, storage, use, and disposal of hazardous materials, the potential to create a significant hazard to the public or the environment during construction of the project would be less than significant.

Following construction, operation of the project would require ongoing emergency response and include the use of emergency response vehicles and associated equipment, which requires diesel and other hazardous mechanical fluids which could be released to the environment during a traffic accident or similar unexpected event. Operational impacts would otherwise not occur. In the event of an accidental spill of hazardous materials from an emergency response vehicle, the potential impact would be less than significant.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (Less Than Significant with Mitigation)

The project would utilize heavy machinery to perform some construction-related tasks including grading, building construction, excavation, and transportation of materials. There is always the possibility when equipment is operating that an accident could occur and fuel could be released onto the soil. Equipment on site during construction would be required to have emergency spill cleanup kits immediately accessible in the case of any fuel or oil spills. Equipment would not be refueled near any perennial wetland. If equipment must be washed, it would be washed off-site at the contractor's equipment storage facility. The potential impact would be less than significant.

Mitigation

Implementation of Mitigation Measure HAZ-1 would require protective measures to ensure hazardous materials do not inadvertently impact waters or water quality.

Mitigation Measure HAZ-1: Protection of Waters from Hazardous Materials

Equipment on site during construction would be required to have emergency spill cleanup kits immediately accessible in the case of any fuel or oil spills. The kit

would be specific to oil and fuel spills and would include kitty litter, absorbent pads, absorbent booms, a spark free flash light, a spark free shovel, and a broom. The kit would be contained in a drum or similar container. Equipment would not be refueled near open Waters or any perennial wetland. If equipment must be washed, it would be washed off-site at the contractor's equipment storage facility.

With the incorporation of Mitigation Measure HAZ-1, the potential impact to water quality would be less than significant.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (No Impact)

There are no existing or proposed schools within one-quarter mile of the project site. The nearest schools are Redwood Preparatory Charter located 0.6 miles away and Norman G. Ambrosini Elementary located 1.1 miles away. No impact would result.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (No Impact)

EnviroStar

A review of the California Department of Toxic Substances Control (DTC) EnviroStar database (DTSC 2020) indicated there is one active site within the vicinity of the proposed fire station. The site is the Fortuna Community Health Center #60002942 located at 3750 Roherville Road and is active as of January 1, 2020. The Fortuna Community Health Center is a site in EnviroStar because DTC has a requirement to review Phase I for sites receiving financing from Calmortgage. DTC has not yet received any information on the site, and a review of the site by DTC has yet to occur. Although the facility is listed in EnviroStar because it is a Calmortgage site, the site is not necessarily contaminated (Trearse pers. comm. 2020). The Fortuna Community Health Center is located 1.2 miles away from the project site. Given the distance between the Fortuna Community Health Center and the proposed fire station as well as the possibility that the Fortuna Community Health Center is not contaminated, no impact would result.

GeoTracker

The California GeoTracker database was also reviewed for relevant sites in proximity to the proposed fire station (State Water Resources Control Board 2020). Two sites are in the GeoTracker database are within the vicinity of the project, noted below. Additional GeoTracker sites within Fortuna, California are present but are not within the vicinity of the proposed fire station and would not result in an impact.

Rohnerville Gas (Facility ID 12-000-000585)

Rohnerville Gas station (3663 Roherville Road) is located 0.15 miles from the project site and is listed as a permitted underground storage tank. No impact would result.

Reveles Living Trust (T0602300167)

Reveles Living Trust (1503 Main Street) is located 0.35 miles from the project site and is listed as a closed leaking underground storage tank site. The cleanup status is complete. No impact would result.

Cortese List - CalEPA

In addition to EnviroStar and GeoTracker databases, additional Cortese List resources managed by the California Environmental Protection Agency (CalEPA) include:

- A list of solid waste disposal sites identified by Water Board with waste constituents above hazardous waste levels outside the waste management unit. There are no sites located within the City of Fortuna on the list of solid waste disposal sites (CalEPA 2020).
- A list of “active” CDO and CAO from Water Board. The list includes six sites in Fortuna, California. None of the sites are within the vicinity of the project site (CalEPA 2020).
- A list of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTC. There are no listed hazardous waste facilities within the City of Fortuna on the list (CalEPA 2020).

Given there are no Cortese List sites within the vicinity of the proposed fire station, no impact would result.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? (No Impact)**

Rohnerville Airport is located less than one mile from the project site. The unattended airstrip is publicly owned by Humboldt County. The airstrip is infrequently used by small craft airplanes. Three aircraft are based on the field (AirNav 2020). Noise from these infrequent small craft airplanes would not affect workers at the project site. No impact would result.

- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (No Impact)**

The City does not have an independent emergency response plan. However, the City does have hazardous material response plans associated with the regulatory requirements for their wastewater treatment, water treatment plant facilities and operations, and an emergency response plan that establishes chain-of-command and response procedures between the emergency services, public works, City staff and board, and other essential departments and outside organizations. The proposed project does not conflict with these plans. Additionally, the project would not increase public use, significantly increase risk of hazard occurrence, or construct facilities that may post a hazard to people or the environment. No impact would occur.

- g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (Less than Significant)**

The California Department of Forestry and Fire Protection (CAL FIRE) is required by law

to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These Fire Hazard Severity Zones (FHSZ) influence how people construct buildings and protect property to reduce risk associated with wildland fires. The project is located in a high fire hazard severity zone (Humboldt County 2020).

The project site is primarily located in a local responsibility area (LRA) meaning an area where local governments have financial responsibility for wildland fire protection (Humboldt County 2020). However, the project is located 400 feet from the nearest State Responsibility Area (SRA).

It is possible fire ignition could occur during construction (e.g. related to heavy machinery usage). The project would not otherwise increase exposure to wildfire above existing conditions. See Section 3.20 - Wildfire of this IS/MND for further discussion. The purpose of the project is to improve emergency fire response capabilities for the City of Fortuna and surrounding communities. The impact would be less than significant.

3.10 Hydrology and Water Quality

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		✓		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				✓
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial erosion or siltation on- or off-site?			✓	
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			✓	
iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?		✓		
iv) Impede or redirect flood flows?				✓
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓

The project area and 8-acre parcel does not include a stream or river, and a stream or river is not located within the vicinity of the project. A seep occurs on the parcel, located outside the project footprint, that runs through the wetlands, flows into a culvert and then in to the City's stormwater system.

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality? (Less Than Significant with Mitigation)

Surfaces waters on or near the project area do not include a stream or river. However, the

project area does include a delineated wetland. A 25-foot wetland buffer would be maintained, as allowed by Fortuna General Plan policy NCR-15, and in conjunction with a biological report supporting the 25-foot setback (see Appendix D). The wetland would be avoided and protected during construction with the implementation of Mitigation Measure HWQ-1 to ensure any potential impact would be less than significant.

Additionally, water sourced from dewatering activities would be pumped into Baker tanks (or similar) or dewatering bags and used for dust control purposes. Water sourced from dewatering would not be illegally discharged to wetlands or cause polluted runoff. Thus any impacts to the wetland from dewatering would be less than significant.

Mitigation

Mitigation Measure HWQ-1 would prevent impacts to water quality related to soil erosion and other pollutants that could result from construction. The potential violations to water quality standards related to soil erosion and hazardous materials would be less than significant with the incorporation of Mitigation Measure HWQ-1 protecting against water quality impacts related to sedimentation, erosion, and hazardous materials.

Mitigation Measure HWQ-1: Implement Best Management Practices to Protect Water Quality

The following representative Best Management Practices would be implemented to protect water quality during construction to avoid impacts to water quality of the on-site delineated wetland:

- All contractors that would be performing demolition, construction, grading, operations or other work that could cause increased water pollution conditions at the site (e.g., dispersal of soils) shall receive training regarding the environmental sensitivity of the site and need to minimize impacts. Contractors also shall be trained in implementation of stormwater BMPs for protection of water quality.
- The Contractor would implement BMPs during construction including the following BMPs from the current California Stormwater BMP Handbook for Construction: EC-1: Scheduling; EC-2: Preservation of Existing Vegetation; NS-2: Dewatering Operations; NS-9: Vehicle Equipment and Fueling; NS-10: Vehicle & Equipment Maintenance; WM-2: Material Use; and WM-4: Spill Prevention and Control;
- Contractors would be responsible for minimizing erosion and preventing the transport of sediment to sensitive areas;
- Sufficient erosion control supplies would be maintained on site at all times, available for prompt use in areas susceptible to erosion during rain events;
- Disturbance of existing vegetation would be minimized to only that necessary to complete the work;
- The contractor would make adequate preparations, including training and providing equipment, to contain oil and/or other hazardous materials spills;

- Dewatering operations would be conducted where needed from the work location and stored or disposed of appropriately;
- Vehicle and equipment maintenance should be performed off-site whenever practical;
- Contractor shall ensure that the site is prepared with BMPs prior to the onset of any storm predicted to receive 0.5 inches or more of rain over 24 hours; and
- All erosion and sediment control measures shall be maintained in accordance to their respective BMP fact sheet until disturbed areas are stabilized.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (No Impact)

The project is located in groundwater basin 1-010 (Eel River Valley) and is not listed as a basin in Critical Conditions of Overdraft (DWR 2016). Basin 1-010 is a medium priority basin (DWR 2020). The project would increase impervious surface by paving the area around the new fire station for parking, ingress, egress, and fire apparatus storage and maintenance. However, the impervious surface would drain to a LID stormwater retention feature, and groundwater recharge to the site would not be altered as a result of the small project footprint (less than 1 acre). Similarly, the project would not decrease groundwater supplies or interfere with groundwater management. During construction, isolated and short-duration groundwater dewatering may occur as needed. Dewatering would be small in scale and limited to shallow groundwater only. No impact would result.

c, i) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site? (Less Than Significant)

The project site is gently sloped and drains east to west, with the lowest elevations nearest Rohnerville Road at the western boundary of the parcel. Project construction would not significantly alter existing topography in manner that would result in a change of the existing drainage pattern or contribute to substantial erosion or siltation on- or off-site. An LID stormwater retention basin would be constructed to capture drainage and would also serve to buffer the on-site wetland from potential water quality impacts. Fine sediments would also be captured and settle out into the stormwater retention basin. Stormwater from the site would then be routed to an existing culvert under the access road, with connectivity to the City of Fortuna's stormwater network at Rohnerville Road. The potential impact would be less than significant.

c, ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? (Less Than Significant)

The 8-acre parcel, inclusive of the grading boundary, is currently unpaved and pervious. There is no stream, creek, river, or similar tributary located on or near the project site. All surface water on the site would result from precipitation (stormwater) or the natural spring located to the northeast of the proposed fire station site. The project is not located in a mapped FEMA flood hazard zone (Humboldt County 2020).

With the construction of the fire station and associated surrounding pavement for access, parking, ingress, and egress, approximately 21,000 square feet (0.5 acres) would be converted to impervious surface (approximately 6% of the 8-acre parcel). With the inclusion of the LID stormwater retention feature, treatment of post-development stormwater flow off the property for a 25-year, 24 hour storm would be restricted to be no more than pre-development flow. The LID stormwater retention dry pond would be located between the fire station and the existing on-site wetland (Figure 3 – Stormwater and Wetland Project Components).

The LID feature would store and reduce drainage off the property as well as provide “first flush” treatment of storm water prior to discharge into the City’s stormwater drainage network. A drainage channel along the south side would be constructed to accept stormwater from the rear parking lot and structure, providing some additional water quality treatment before flowing to the detention basin.

The dry pond would retain and pre-treat stormwater. The LID detention dry pond would then drain to the existing culvert beneath the access road, along the northern boundary of the on-site wetland. With implementation of the LID stormwater design, surface runoff would not result in on- or off-site flooding and any potential impact would be less than significant.

c, iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff? (Less Than Significant with Mitigation)

As discussed above in Section 3.10 (c) (ii), the project’s planned LID stormwater drainage system would meet the City’s requirement for supporting a post-development stormwater flow off the property for a 25-year, 24 hour storm, which would be restricted to be no more than pre-development flow. Aside from stormwater runoff, there would be no other source of operational pollutants. With the construction of the planned LID stormwater design features, operational sources of polluted run-off would be reduced to be less than significant.

Polluted runoff could potentially result from construction. However, with the implementation of Mitigation Measures HWQ-1 and HAZ-1, potential for release of pollutants to the on-site Waters (wetlands) or off-site would be reduced to be less than significant.

c, iv) Impede or redirect flood flows? (Less Than Significant)

The project is not located in a FEMA 100-year or 500-year flood zone (Humboldt County 2020). There is not a tributary on or near the project site that could contribute to flooding. Under existing conditions, the project site does not experience flood flows. All surface waters would be limited to stormwater flow during precipitation events and would be attenuated by the project’s planned LID stormwater design features and discharged to the City’s stormwater system. Any potential impact would be less than significant.

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? (No Impact)

The project is not located in a mapped tsunami or seiche zone (Humboldt County 2020). The project is also not located in a mapped FEMA 100-year or 500-year flood zone (Humboldt County 2020). Given the project is not located in a flood, tsunami, or seiche hazard zone, and that these hazardous flood events do not occur at or near the project

site, no impact would result.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (No Impact)?

The relevant water quality control plan is the NCRWQCB Basin Plan, which establishes thresholds for key water resource protection objectives for both surface waters and groundwater. Waters on the project site are limited to the on-site wetland, which would not be impacted during construction or operation of the project. The project would not utilize or otherwise impact any groundwater resources. A conflict with the Basin Plan would therefore not occur. No impact would result.

3.11 Land Use and Planning

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?				✓
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			✓	

The project site is located on an 8-acre parcel currently zoned for residential development and includes an access easement on the neighboring parcel. To achieve consistency with the City of Fortuna's zoning requirements, the FFPD would obtain a Conditional Use Permit for the fire station (see Section 1.7 – Required Agency Approvals).

a) Physically divide an established community? (No Impact)

The fire station would not create a physical barrier that would divide the community or local neighborhood. The fire station would be set back from Rohnerville Road and normal traffic (vehicular, bicycle, and pedestrian) on the local roadway would not be restricted to limit community mobility. No impact would result.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (Less Than Significant)

The project site is currently zoned Residential Single Family (R-1-6) by the City of Fortuna and is surrounded by other residences. The project would not preclude access to any neighboring parcels or future residential development near the planned fire station. The project would also be compatible with public (water, sewer, and stormwater) and private (electrical) services in the vicinity and would not preclude other uses in the vicinity, presently or in the future. To avoid a conflict with the City of Fortuna's zoning policies and regulations, the FFPD would obtain a Conditional Use Permit for the planned fire station and comply with all resulting permit conditions. Any resulting impact would be less than significant.

3.12 Mineral Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			✓	
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			✓	

This section evaluates the potential impacts related to mineral resources associated with the project. There are no additional mineral resources in the project area.

a, b) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state, or a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (Less Than Significant)

The project would not be developing mineral resources. As a result of site grading, approximately 800 cubic yards of native soil and earthen material would be hauled off site for legal re-use by the contractor. Base rock and other materials would be imported to the site. Removal of the excess excavated native soil from a single area (less than 1 acre) and use of imported base rock would not result in a detrimental loss of a mineral resource. The project does not require a substantial amount of any mineral resource for construction, although some mineral resources (primarily aggregate and rock) may be needed for construction. Any potential impact would be less than significant.

3.13 Noise

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
b) Result in generation of excessive groundborne vibration or noise levels?			✓	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓

Current noise conditions on the eastern project area consist of local traffic on Rohnerville Road. Background noise is generated by nearby residences. Current conditions at the project site do not generate noise, as the parcel is undeveloped. The evaluated operational noise corridor related to the project is larger than the project area due to the use of emergency sirens along Rohnerville Road.

a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (Less Than Significant Impact)

Construction of the proposed project would temporarily increase noise in the immediate vicinity of the project site. The temporary noise increases would result from use of construction equipment for the project, as well as from increased traffic as construction workers commute to and from the project site.

Sensitive noise receptors adjacent to and near the project include residential housing. There is not a school within close proximity to the project. The General Plan 2030 Noise Element estimates roadway noise, such as Rohnerville Road, to be 60 dBA L_{dn}. The General Plan Noise Element does not include a station noise source located near the project site.

The project would generate temporary noise during construction. Noise levels would be

consistent with the reference noise levels in Table 3.13-1 below.

Table 3.13-1: Construction Equipment Reference Noise Levels as Measured at 50'

Equipment	Noise Level (dB ¹)	Equipment	Noise Level (dB)
Drill rig truck	84	Jackhammer	85
Horizontal Boring Hydraulic Jack	80	Large Generator	82
Front end loader or Backhoe	80	Paver or Roller	85
Excavator	85	Dump truck	84

Source: Federal Highway Administration, 2006.

The nearest residence is located on the shared access road and is located approximately 100 feet from the proposed fire station. Additional housing is located near the entrance of the existing access road along Rohnerville Road at a distance of approximately 200 feet from the proposed fire station. Housing located south of the proposed fire station on Kestrel Street is approximately 300 feet away.

Sound from a point source is known to attenuate at a rate of -6 dB for each doubling of distance. For example, a noise level of 84 dB Leq as measured at 50 feet from the noise source would attenuate to 78 dB Leq at 100 feet from the source and to 72 dB Leq at 200 feet from the source to the receptor. Based on the reference noise levels in Table 3.13-1, the noise levels generated by construction equipment at the project site may reach a maximum of approximately 85 dB Leq at 50 feet during site excavation and construction.

Noise Ordinance Compatibility

City Fortuna

The City of Fortuna does not currently have a noise ordinance applicable to construction or operational use, and the City's existing Zoning Ordinance does not currently address noise. Construction Noise Compatibility Standards as established in the General Plan 2030 apply to new subdivisions, public utility districts (PUDs), and other large developments. The proposed project would not be considered a large development because the project area is less than one acre, limited to a single building, and does not require expansion of streets or utilities. Thus the construction noise compatibility standards would not apply. To prevent noise disturbance to the community, General Plan 2030 Noise Element Policy HS-6 limits construction activity to the hours between 7 a.m. and 8 p.m. Monday through Saturday, except for emergencies or other permitted circumstances. The project would adhere to this policy. The project would be fully permitted by the City of Fortuna under a Conditional Use Permit and would comply with terms of approved permits, including those that specifically address noise limitations. The project would not conflict with the City's noise policies.

Noise and Land Use Compatibility

Construction

The project site would experience temporary increases in noise due to construction activities. However, these would occur during daytime hours only in accordance with

¹ "dB" is a weighted decibel measurement for assessing hearing risk and, therefore, is used by most regulatory compliance.

Policy HS-6. The duration of construction would span a year, although different types of construction activities would be occurring across the one-year period, resulting in variable types and levels of construction-related noise. The potential impact would be less than significant.

Operation

Operational noise would include the use of emergency sirens on fire apparatus leaving the site and traveling north or south on Rohnerville Road, which is considered to be the noise corridor for the project. The anticipated call volume is expected to average approximately one call per 24 hours. Of those calls, approximately 75% would be code 3 (lights and sirens) responses (approximately 273 events with lights and sirens, annually). Sirens would not be turned on until the fire apparatus reaches Rohnerville Road, at the terminus of the access road. City-wide, the call volume would not result in additional sirens. Calls would be relocated from an existing station elsewhere in Fortuna to the proposed fire station on Rohnerville Road. While the source of the siren noise would change to the location of the proposed fire station, the amount or frequency of noise from sirens within the community would not change as a result of the project. A pole siren would not be installed.

Additional operational noise would result from a facility back-up generator (approximately 30 KW), which would be run on a weekly basis for a period of one hour. The back-up generator would be housed inside the fire station, which would serve to buffer exterior noise. This operation is a timed operation and is performed during daytime hours

Given no additional siren-related noise would result (relocated use of sirens only) and noise from the occasional use of the back-up generator would be buffered by its interior location, the potential operational impact would be less than significant.

b) Result in generation of excessive groundborne vibration or noise levels? (Less Than Significant Impact)

Earth moving and earth compacting activities using heavy machinery would create groundborne vibrations and noise that may be noticeable on a temporary basis during construction activities at nearby residences. Commercial and industrial uses are not located in the vicinity and thus would not be effected. Noticeable groundborne vibrations and noise would be limited to normal daytime hours. The proposed project would comply with Fortuna General Plan Policy HS-6, which requires limiting construction activity to specified daytime hours and regulate vibration sources. Additional groundborne vibrations beyond baseline conditions are not anticipated as a result of operational activities, and the potential impact would be less than significant.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (No Impact)

As discussed in Section 3.9 (e), publicly-owned Rohnerville Airport is located less than one mile from the project site. The airstrip is used infrequently by small craft airplanes only. Noise from these infrequent small craft airplanes would not affect workers at the project site, and vice versa. No impact would result.

3.14 Population and Housing

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				✓
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?			✓	

This section evaluated the project's potential effect on population and housing. According to the US Census Bureau, the 2017 population of Fortuna was 12,191 (US Census 2020).

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (No Impact)

The fire station would not be growth inducing and would not propose or result in new homes or businesses directly or indirectly. New roads or other off-site infrastructure would not be constructed. No impact would result.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (Less Than Significant)

The fire station would be located on an 8-parcel that is presently zoned for low density residential development that is now owned by the City of Fortuna. At minimum, 1 house could be located on the parcel where the fire station is proposed. It may also be otherwise feasible for the 8-acre lot to be sub-divided into multiple single family residences, similar to nearby subdivisions in the vicinity. Development of the fire station on the western end of the 8-acre parcel would not preclude future development of the remaining portion of the parcel for additional new housing. No existing housing would be demolished or lost as a result of the fire station; thus, there would be no need for replacement housing. The potential impact would be less than significant.

3.15 Public Services

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				✓
Fire Protection?				✓
Police protection?				✓
Schools?				✓
Parks?				✓
Other public facilities?				✓

The FFPD provides emergency response for fire, rescue and medical-aid requests throughout the communities of Fortuna, Fernbridge, Alton, Metropolitan and Hydesville, encompassing 26 square miles and serving a population of approximately 15,000 individuals. The project proposed to build a new fire station on Rohnerville Road. The project would relocate response services in the Campton Heights area to a new fire station on Rohnerville Road that would allow housing of today's fire apparatus and provide a safe location for volunteer response.

- a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for public services? (No Impact)**

The project would improve existing fire protection response by constructing a new fire station, improving the existing service ratio, response time, and other performance objectives specific to the FFPD. The fire station would not increase the need for additional police protection. As the fire station is not growth inducing, the need for additional school, parks, or other public facilities would not increase. No impact would result.

3.16 Recreation

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				✓
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?				✓

The project is not located near an established recreational facility and does not include recreational project elements.

- a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (No Impact)**

The fire station does not include the use of existing parks or recreational facilities; thus use of such facilities would not increase or accelerate. No impact would result.

- b) Include or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? (No Impact)**

The fire station would not result in the required construction or expansion of recreation facilities. No impact would result.

3.17 Transportation

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?				✓
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?				✓
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			✓	
d) Result in inadequate emergency access?				✓

The fire station would be accessed from Rohnerville Road via an existing driveway. No modification of the public road network is proposed.

a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? (No Impact)

The project would not involve any modification to existing roads in the vicinity of the fire station. Because no streets would be modified, there is no conflict with a circulation-related program plan, ordinance, or policy of the City of Fortuna. Construction traffic would be limited to earthwork and ingress/egress of heavy equipment and related support vehicles. Due to the minimal construction traffic, traffic control on Rohnerville Road would not be necessary. Approximately 80 dump truck haul trips are anticipated to support off-site disposal and re-use of excess native soil and earth material; these trips would not occur concurrently. No impact would result.

b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)? (No Impact)

The provisions included in Section 15034.3 become applicable statewide until July 1, 2020. In the updated Guidelines Section 15064.3, subdivision (b) lists the criteria for analyzing transportation impacts from proposed projects. According to the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA, projects that generate or attract fewer than 110 trips per day generally may be assumed to have a less than significant transportation impact (OPR 2018). Given the fire station would be a relatively small facility (less than 1 acre of development), construction-related traffic would never exceed the 110-day trips per day threshold. Additionally, the project would relocate existing emergency response trips from existing fire stations. Within the City of Fortuna and surrounding service communities, no new emergency response trips would be generated beyond what would otherwise occur under

existing conditions. Therefore, both the construction and operational impact would be less than significant.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (Less Than Significant)

The existing access road to the fire station intersects Rohnerville Road at a right angle (90 degrees). The reach of Rohnerville Road to the north and south of the fire station access road is straight and free of visual obstructions. Sidewalks exist on both sides of Rohnerville Road to support pedestrian safety. A major intersection is not located near the project site. Within the vicinity of the project site, Rohnerville Road has good visibility; thus, emergency response apparatuses would be able to ingress and egress without creating a new hazard. The impact would be less than significant.

e) Result in inadequate emergency access? (No Impact)

Through traffic on Rohnerville Road would not be impeded during construction or operational of the project. Lane closures, even temporarily, would not occur. Thus, emergency access via Rohnerville Road would not be restricted. The access road to the fire station construction site proper would also remain unimpeded during construction of the facility without impediment to emergency access at the project site. Operationally, the fire station would be source of any emergency response; therefore operational emergency access would not be an issue. No impact would result.

3.18 Tribal Cultural Resources

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe,				
i) Listed or eligible for listing in the California Register of Historic Resources, or in a local register of historic resources as defined in Public Resources Code section 5020.1(k)?			✓	
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1? In applying the criteria set forth in subdivision (c) of the Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.			✓	

a,i, a.ii) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.? (Less Than Significant)?

CEQA requires lead agencies to determine if a proposed project would have a significant effect on tribal cultural resources. The CEQA Guidelines define tribal cultural resources as: (1) a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe that is listed or eligible for listing on the California Register of Historical Resources, or on a local register of historical resources as defined in

Public Resources Code Section 5020.1(k); or (2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant according to the historical register criteria in Public Resources Code Section 5024.1(c), and considering the significance of the resource to a California Native American tribe.

The HPRI concluded that there were no cultural, tribal, or historic resources within the APE, as defined by CEQA, and recommended there would be no effect or changes to any historic resources, unique archaeological resources, or tribal cultural resources resulting from this project (DZC 2020).

Additionally, under Assembly Bill (AB) 52, notification letters were sent to local Native American tribes on April 1 2020. One tribe responded, requesting inadvertent discovery protocol. Inadvertent discovery protocols were included in Mitigation Measures CR-1 and Mitigation Measure CR-2 (see Section 3.5 – Cultural Resources). Responses from the tribe did not indicate tribal historic resources were known or suspected to be present at or near the project area. As tribal cultural resources were not identified in the HPRI or through tribal consultation as likely to be present, the potential impact would be less than significant.

3.19 Utilities and Service Systems

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				✓
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				✓
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?			✓	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				✓

- a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? (No Impact)**

All utilities are present along Rohnerville Road and would be extended to the site via the access road. Utility requirements for the fire station, including electrical, telecommunication, water, and sewer, are within the existing capacity of service providers. Utilities would not need to be relocated or expanded as a result of the project. No impact would result.

- b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? (No Impact)**

During construction, City water supplies could potentially be used for dust control and other activities. Construction-related water demands would be short-term and minimal in volume. Following construction, the project would not directly or indirectly induce population growth and would not result in an increased demand for water. Therefore, no new entitlements or facilities would be required. No impact would occur.

- c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? (No Impact)**

The project would not directly or indirectly induce population growth and would not increase the amount of wastewater generated. Wastewater generated at the fire station would be within the existing capacity of the Fortuna wastewater treatment plan. A need to expand wastewater facilities would not result from the project. No impact would occur.

- d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? (Less Than Significant)**

Construction of the project would result in a temporary increase in solid waste disposal needs associated with demolition and construction wastes. Construction wastes would include, but not be limited to, excavated soils, construction waste resulting from the treatment upgrades at the WWTP including demolition of the compost storage, cleared trees/vegetation/top soils from the percolation fields and access road. Construction waste with no practical reuse or that cannot be salvaged or recycled would be legally disposed of at a local transfer station. Active permitted in-County transfer stations include the Humboldt Waste Management Authority facilities in Eureka or Samoa, California and the Recology Eel River Transfer Station in Fortuna, California. Solid waste generated by the project would represent a small fraction of the daily permitted tonnage of these facilities. This would be a less than significant impact on landfill capacity with the implementation of federal, state, and local statutes and regulations related to solid waste. Therefore, the project's construction-related solid waste disposal needs would be sufficiently accommodated by existing landfills, and the impact would be less than significant. Following construction, project operation would not generate significant additional solid waste. No operational impact would occur.

- e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (No Impact)**

No applicable federal solid waste regulations would apply to the project. At the State level, the Integrated Waste Management Act mandates a reduction of waste being disposed and establishes an integrated framework for program implementation, solid waste planning, and solid waste facility and landfill compliance. The project would not conflict with or impede implementation of such programs. Following construction, project operation would not generate additional solid waste. Therefore, no constructional or operational impact would occur.

3.20 Wildfire

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				✓
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			✓	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				✓
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes?			✓	

The project site is primarily located in a local responsibility area (LRA) meaning an area where local governments have financial responsibility for wildland fire protection (Humboldt County 2020). However, the project is located 400 feet from the nearest State Responsibility Area (SRA).

a) Substantially impair an adopted emergency response plan or emergency evacuation plan? (No Impact)

The City of Fortuna does not have an adopted emergency response plan or evacuation plan. However, by constructing a new fire station and improving emergency response capabilities within the City of Fortuna and surrounding communities, emergency response and/or the need for emergency evacuation would benefit from the project. No detrimental impact would result.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? (Less Than Significant)

The fire station would be located on the western end of an 8-acre gently sloping parcel. The undeveloped eastern portion of the parcel (approximately 6 to 7 acres) is vegetated with trees, shrubs, and grasses and could be susceptible to wildfire during project construction or operation, as a result of accidental ignition. There would be no pollutants located on the undeveloped eastern portion of the parcel; thus none would be released.

The area around the new fire station would be paved for parking and ingress/egress of fire apparatuses, maintaining a defensible space in the event of a wildfire. While not likely, if the fire station itself were to be lost to wildfire during or after construction, hazardous materials such as diesel and other mechanical fluids in the fire apparatuses could be discharged into the environment. Within the context of the larger environmental impact of a wildfire spanning the project vicinity, the resulting impact of hazardous materials released from the fire station would be less than significant.

- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (No Impact)**

Development of the fire station would not result in a need to expand infrastructure to the project site or within the vicinity of the project. New roads for fire defense, expanded water sources, new power lines, or the development of other utilities would not be required. No impact would result.

- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes? (Less Than Significant)**

The fire station would be located on the downslope portion of the 8-acre parcel, which is the gently sloping portion of the parcel. Steeper slopes are located above (east of) the fire station footprint. There is generally no visible mass wasting or landslides on the parcel. The parcel does not include natural drainages (e.g., streams or gullies) that would result in a greater risk of post-fire impacts related to flooding, runoff, slope instability, or changes in drainage. A potential wildfire would be quickly extinguished due to the presence of the fire station and enhanced fire defense capabilities. It would be unlikely the parcel would succumb to wildfire as a result, protecting the integrity of the steeper upslope area from potential post-fire impacts. The potential impact would be less than significant.

3.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less-than-Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		✓		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?				✓
c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?			✓	

- a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (Less Than Significant with Mitigation)**

As evaluated in this IS/MND, the project would not substantially degrade the quality of the environment; substantially reduce the habitat of a fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory

Mitigation measures are listed herein to reduce impacts related to Air Quality, Biological Resources, Cultural Resources, Geology, Hazards and Hazardous Materials, and Hydrology. With implementation of the required mitigation measures, impacts would be less than significant.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? (No Impact)**

Cumulative impacts are defined as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (CEQA Guidelines § 15355). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Efforts to identify cumulative projects included contact with the City of Fortuna to request information on known recent, current, or planned projects within the vicinity of the proposed fire station. Based on such efforts, one project was identified approximately 0.3 miles north of the proposed fire station that would need to be considered for cumulative impacts. The identified project is a culvert replacement project along Jamison Creek near the intersection of Rohnerville Road and Kenwood Drive. The Jamison Creek project will improve fish passage conditions upstream of the road crossing and would follow all permit requirements and BMPs. The Jamison Creek project would also reduce the risk of future culvert failure and associated sediment inputs into the Eel River tributary. The Jamison Creek project would restore conditions in Jamison Creek and result in a positive environmental benefit.

The culvert replacement project on Jamison Creek is hydrologically separate from the proposed fire station (distinct sub-watersheds); thus no cumulative impact related to hydrology or water quality would result. Biological resources are also separate, as both projects are located in an urban setting and not linked by a common habitat corridor. Inadvertent discovery protocols would be implemented for both projects, as they relate to cultural, paleontological, and tribal historic resources. No cumulative impact would result from the two projects.

No additional development projects are planned in the southern portion of the City of Fortuna (generally south of Kenwood Drive).

- c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly? (Less Than Significant)**

The project has been planned and designed to avoid significant environmental impacts. As discussed in the analysis throughout Section 3 of this IS/MND, the project would not have environmental effects that would cause substantial adverse direct or indirect effects on human beings. The impact would be less than significant.

4. References

- AirNav.com. 2020. <https://www.airnav.com/airport/KFOT>. Information for Rohnerville Airport (KFOT). Accessed on March 25, 2020.
- Bay Area Air Quality Management District (BAAQMD). 2017. California Environmental Quality Act Air Quality Guidelines.
- California Air Resources Board. 2008. Climate Change Scoping Plan. December.
- California Air Resources Board. 2017. California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target. https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf
- California Department of Conservation (DOC). 2020. EQ Zapp: California Earthquake Hazards Zone Application Web Mapping Tool. Available online: <https://maps.conservation.ca.gov/cgs/EQZApp/app/> Accessed on March 24, 2020
- California Department of Toxic Substances Control. 2020. EnviroStor database. Accessed on March 25, 2020.
- California Environmental Protection Agency (CalEPA). 2020. Cortese List Data Resources. Available online: <https://calepa.ca.gov/sitecleanup/corteselist/> Accessed on March 25, 2020.
- California Department of Water Resources (DWR). 2016. California's Groundwater Working Toward Sustainability, Bulletin 118 Interim Update 2016. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/B118-Interim-Update-2016_ay_19.pdf
- California Department of Water Resources (DWR). 2020. Groundwater Exchange Online Data Mapper. Available online: <https://groundwaterexchange.org/> Accessed on March 26, 2020.
- City of Fortuna. 2010. Fortuna General Plan 2030. Available online: <http://friendlyfortuna.com/DocumentCenter/Home/View/538>
- Davis, J. 2019. North Coast Unified Air Quality Management District. Personal Communication.
- DZC Archaeology & Cultural Resource Management, LLC (DZC). 2020. Historic Property Identification Report for the Fortuna Fire Prevention District Rohnerville Fire Station, Assessors Parcel Number 202-411-002, Humboldt County, California.
- GHD. 2018. Fortuna Volunteer Fire Department Proposed Project Wetland Delineation Report. Prepared for the Fortuna Fire Protection District.
- GHD. 2020. CNDDDB wildlife database search and likelihood. Prepared for the Fortuna Fire Protection District.
- GHD. 2020b. Request and justification for wetland buffer reduction. Submitted to the City of Fortuna, April 2020.
- Humboldt County. 2020. WebGIS Portal. Available online: <https://humboldtgov.org/1357/Web-GIS> Accessed on March 23, 2020.
- Humboldt County Planning and Building Department (Humboldt PBD). 2015. Liquefaction Hazard Zones: Humboldt County, California, 2015. Humboldt County Planning and Building Department. Available at: <https://purl.stanford.edu/nk595pg0743>

North Coast Unified Air Quality Management District (NCUAQMD). 2020. Environmental Review Guidelines. Available online:
<http://www.ncuaqmd.org/index.php?page=aqplanning.ceqa#T3>. Accessed April 3, 2020.

Office of Planning and Research. 2018. Technical Advisory on Evaluating Transportation Impacts in CEQA.

Pacific Gas and Electric (PG&E). 2020. Renewable Energy. Website:
https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page?WT.mc_id=Vanity_cleanenergy. Accessed March 31, 2020

Trearse, T. 2020. Personal communication. Email from Tami Trearse at Brownfields and Environmental Restoration Program, Department of Toxic Substances Control regarding the status of the Fortuna Community Health Center on Envirostar, Dated March 25, 2020.

U.S. Census. 2020. Fortuna population statistic queried April 1, 2020.

5. Report Preparers

5.1 LEAD AGENCY

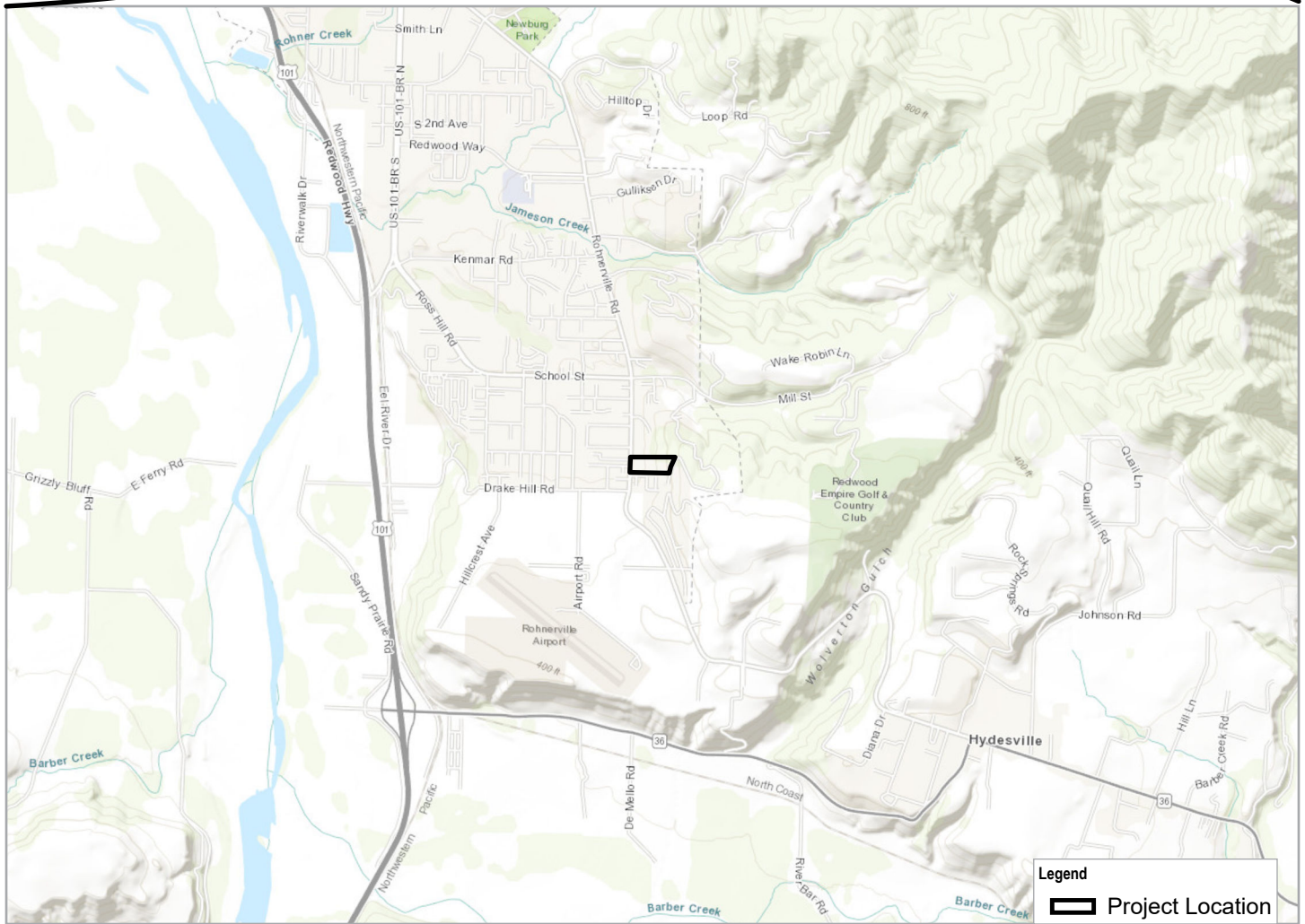
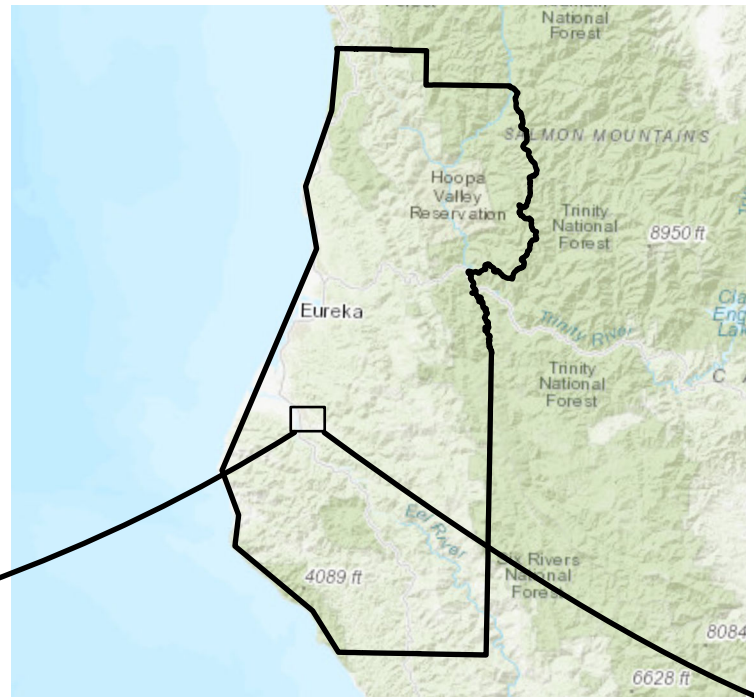
Liz Shorey

5.2 GHD

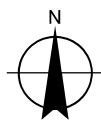
Andrea Hilton
Misha Schwarz
Chryss Meier

5.3 Sub-consultants

DZC Archaeology and Cultural Resource Management



Paper Size ANSI A
0 1,000 2,000 3,000 4,000
Feet



Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California I FIPS 0401 Feet

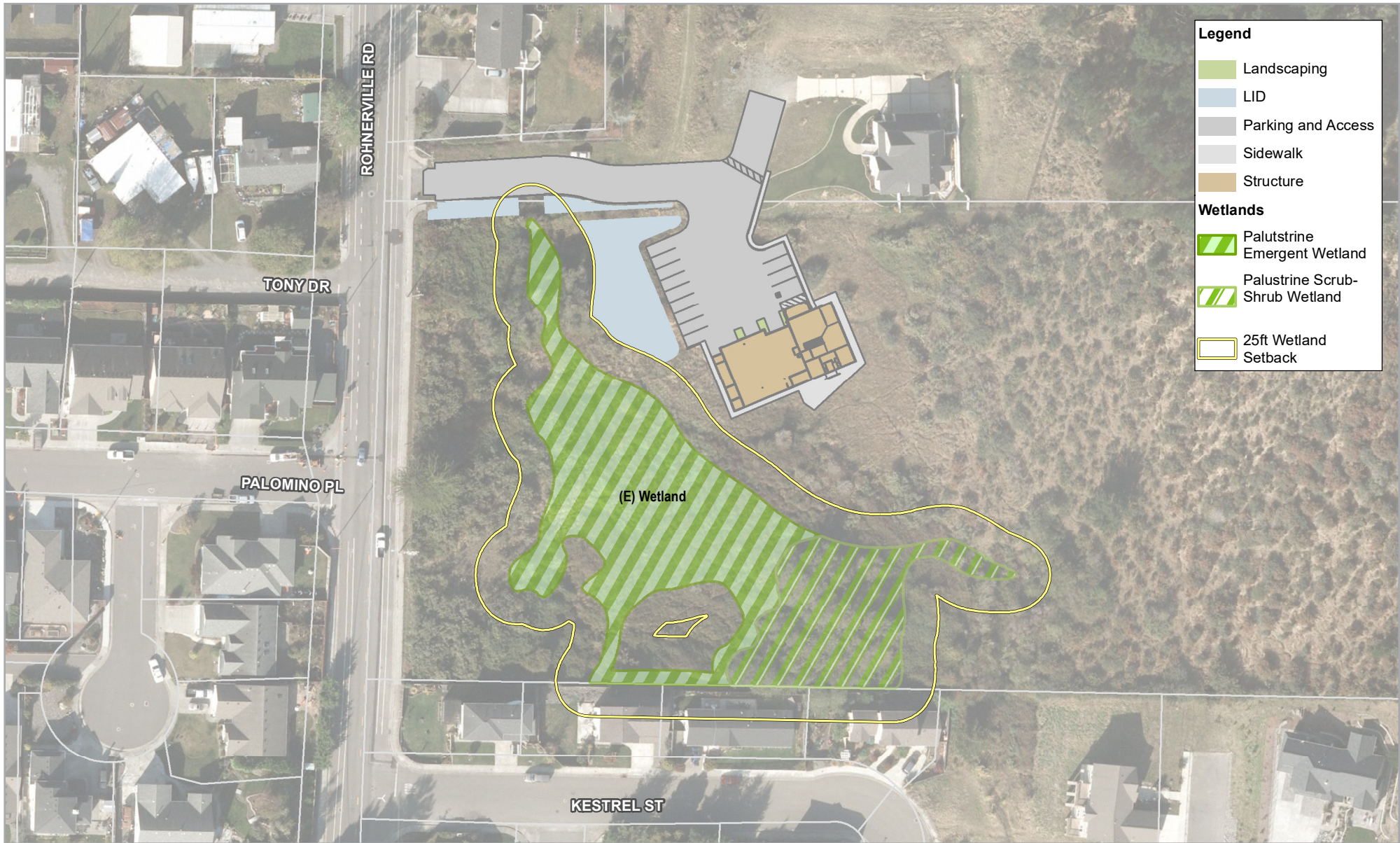


**Fortuna Fire Protection District
Rohnerville Road Fire Station Project**

Project No. 11205111
Revision No. -
Date Apr 2020

Vicinity Map

FIGURE 1



Legend

- Landscaping
- LID
- Parking and Access
- Sidewalk
- Structure

Wetlands

- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- 25ft Wetland Setback

Paper Size ANSI A
 0 20 40 60 80 100
 Feet

Map Projection: Lambert Conformal Conic
 Horizontal Datum: North American 1983
 Grid: NAD 1983 StatePlane California I FIPS 0401 Feet



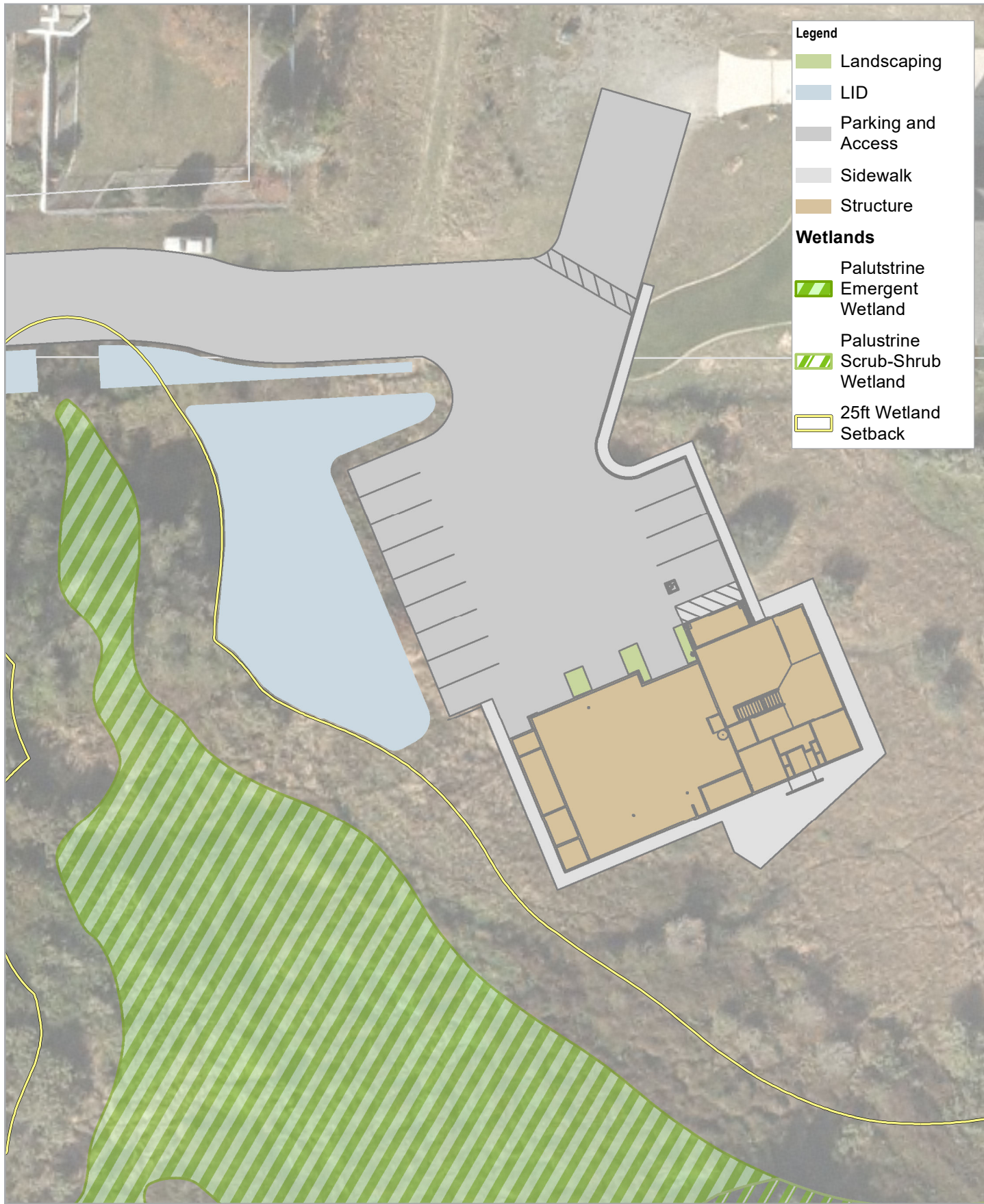
Fortuna Volunteer Fire Department
 CEQA

Project No. 11205111
 Revision No. F
 Date 10/14/2020

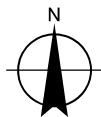
Site Plan

FIGURE 2

Data source: Aerial: City of Fortuna GIS; parcel boundaries: Humboldt County GIS. Created by: jclark2



Paper Size ANSI A
0 10 20 30 40
Feet



Fortuna Volunteer Fire Department
CEQA

Project No. 11205111
Revision No. E
Date Oct 2020

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California 1 FIPS 0401 Feet

Stormwater and Wetland
Project Components

FIGURE 3

Data source: . Created by: jdark2

Appendices

This page is intentionally left blank

Appendix A

Air Quality Modeling Results

Rohnerville Road Fire Station, FFPD - Humboldt County, Annual

Rohnerville Road Fire Station, FFPD Humboldt County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	1.00	Dwelling Unit	1.00	6,680.00	3

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	103
Climate Zone	1			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	309.97	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 Intensity Factor Adjusted to PG&E 5-yr Avg 2014-2018 (CRIS Data)

Land Use - Appx 1-acre grading, 6,680sf bldg (porches incl.)

Construction Phase - Durations Adjusted, Phase 1 (P1) total 60 days, Phase 2 (P2) total 9 months

Trips and VMT - Default Worker Trips

Grading - 800 cy export, 1,100 tons rock/etc. Import (846 CY) No Phasing of Import/Export

Vehicle Trips - Assumes no new operational trips attributable to the Project

Woodstoves - No Woodstoves or Wood-burning Fireplaces

Stationary Sources - Emergency Generators and Fire Pumps - est. 30 kW engine, equivalent to 40.25 hp. 1h testing per week, 52 weeks per year

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	100.00	200.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblFireplaces	NumberGas	0.55	0.00
tblFireplaces	NumberWood	0.35	0.00
tblGrading	MaterialExported	0.00	800.00
tblGrading	MaterialImported	0.00	846.00
tblLandUse	LandUseSquareFeet	1,800.00	6,680.00
tblLandUse	LotAcreage	0.32	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	309.97
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerDay	0.00	1.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	52.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	9.52	0.00
tblWoodstoves	NumberCatalytic	0.05	0.00
tblWoodstoves	NumberNoncatalytic	0.05	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0402	0.4385	0.2471	5.4000e-004	0.1067	0.0193	0.1260	0.0537	0.0177	0.0715	0.0000	47.8203	47.8203	0.0126	0.0000	48.1347
2021	0.2879	1.3789	1.3081	2.2300e-003	0.0000	0.0694	0.0694	0.0000	0.0670	0.0670	0.0000	184.1009	184.1009	0.0326	0.0000	184.9155
Maximum	0.2879	1.3789	1.3081	2.2300e-003	0.1067	0.0694	0.1260	0.0537	0.0670	0.0715	0.0000	184.1009	184.1009	0.0326	0.0000	184.9155

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0368	9.0000e-005	7.4300e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0121	0.0121	1.0000e-005	0.0000	0.0124
Energy	7.0000e-005	5.6000e-004	2.4000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	1.8666	1.8666	1.3000e-004	4.0000e-005	1.8803
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0114	1.1000e-003	0.0298	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.6629	0.6629	1.3900e-003	0.0000	0.6976
Waste						0.0000	0.0000		0.0000	0.0000	0.2680	0.0000	0.2680	0.0158	0.0000	0.6638
Water						0.0000	0.0000		0.0000	0.0000	0.0207	0.0698	0.0905	2.1300e-003	5.0000e-005	0.1590
Total	0.0483	1.7500e-003	0.0375	0.0000	0.0000	1.5000e-004	1.5000e-004	0.0000	1.5000e-004	1.5000e-004	0.2886	2.6114	2.9001	0.0195	9.0000e-005	3.4132

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	P1_1_Site Preparation	Site Preparation	4/24/2020	5/7/2020	5	10	
2	P1_2_Grading	Grading	5/8/2020	6/18/2020	5	30	
3	P1_3_Paving	Paving	6/19/2020	7/16/2020	5	20	
4	P2_1_Building Construction	Building Construction	3/1/2021	12/3/2021	5	200	
5	P2_2_Architectural Coating	Architectural Coating	11/1/2021	11/26/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 13,527; Residential Outdoor: 4,509; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
P1_1_Site Preparation	Graders	1	8.00	187	0.41
P1_1_Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
P1_1_Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
P1_2_Grading	Graders	1	6.00	187	0.41
P1_2_Grading	Rubber Tired Dozers	1	6.00	247	0.40
P1_2_Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
P1_3_Paving	Cement and Mortar Mixers	1	6.00	9	0.56
P1_3_Paving	Pavers	1	6.00	130	0.42
P1_3_Paving	Paving Equipment	1	8.00	132	0.36
P1_3_Paving	Rollers	1	7.00	80	0.38
P1_3_Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
P2_1_Building Construction	Cranes	1	6.00	231	0.29

P2_1_Building Construction	Forklifts	1	6.00	89	0.20
P2_1_Building Construction	Generator Sets	1	8.00	84	0.74
P2_1_Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
P2_1_Building Construction	Welders	3	8.00	46	0.45
P2_2_Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
P1_1_Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
P1_2_Grading	3	8.00	0.00	206.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
P1_3_Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
P2_1_Building Construction	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
P2_2_Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 P1_1_Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0290	0.0000	0.0290	0.0148	0.0000	0.0148	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1500e-003	0.0917	0.0386	9.0000e-005		4.1000e-003	4.1000e-003		3.7800e-003	3.7800e-003	0.0000	7.5633	7.5633	2.4500e-003	0.0000	7.6244
Total	8.1500e-003	0.0917	0.0386	9.0000e-005	0.0290	4.1000e-003	0.0331	0.0148	3.7800e-003	0.0186	0.0000	7.5633	7.5633	2.4500e-003	0.0000	7.6244

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	3.0000e-004	2.4100e-003	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2854	0.2854	2.0000e-005	0.0000	0.2859
Total	3.3000e-004	3.0000e-004	2.4100e-003	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	9.0000e-005	0.0000	0.2854	0.2854	2.0000e-005	0.0000	0.2859

3.3 P1_2_Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0738	0.0000	0.0738	0.0379	0.0000	0.0379	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0203	0.2263	0.0968	2.1000e-004		0.0103	0.0103		9.4400e-003	9.4400e-003	0.0000	18.5844	18.5844	6.0100e-003	0.0000	18.7347
Total	0.0203	0.2263	0.0968	2.1000e-004	0.0738	0.0103	0.0841	0.0379	9.4400e-003	0.0473	0.0000	18.5844	18.5844	6.0100e-003	0.0000	18.7347

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.8000e-004	0.0338	5.5400e-003	8.0000e-005	1.6900e-003	1.6000e-004	1.8500e-003	4.7000e-004	1.5000e-004	6.2000e-004	0.0000	7.8379	7.8379	2.4000e-004	0.0000	7.8439
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	8.9000e-004	7.2200e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.6000e-004	0.0000	0.8562	0.8562	6.0000e-005	0.0000	0.8577
Total	1.9600e-003	0.0347	0.0128	9.0000e-005	2.6200e-003	1.7000e-004	2.7800e-003	7.2000e-004	1.6000e-004	8.8000e-004	0.0000	8.6941	8.6941	3.0000e-004	0.0000	8.7016

3.4 P1_3_Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.4000e-003	0.0845	0.0888	1.4000e-004		4.7000e-003	4.7000e-003		4.3300e-003	4.3300e-003	0.0000	11.7657	11.7657	3.7300e-003	0.0000	11.8589
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.4000e-003	0.0845	0.0888	1.4000e-004		4.7000e-003	4.7000e-003		4.3300e-003	4.3300e-003	0.0000	11.7657	11.7657	3.7300e-003	0.0000	11.8589

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0700e-003	9.6000e-004	7.8300e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9275	0.9275	7.0000e-005	0.0000	0.9292
Total	1.0700e-003	9.6000e-004	7.8300e-003	1.0000e-005	1.0000e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.9275	0.9275	7.0000e-005	0.0000	0.9292

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1813	1.3636	1.2899	2.2000e-003		0.0684	0.0684		0.0661	0.0661	0.0000	181.5476	181.5476	0.0324	0.0000	182.3579
Total	0.1813	1.3636	1.2899	2.2000e-003		0.0684	0.0684		0.0661	0.0661	0.0000	181.5476	181.5476	0.0324	0.0000	182.3579

Unmitigated Construction Off-Site

[illegible]

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1045					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	0.1067	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576

Unmitigated Construction Off-Site

[illegible]

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.489041	0.045286	0.209606	0.134980	0.040724	0.006674	0.014654	0.046205	0.003398	0.001529	0.005553	0.001505	0.000846

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.2200	1.2200	1.1000e-004	2.0000e-005	1.2299
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1.2200	1.2200	1.1000e-004	2.0000e-005	1.2299
NaturalGas Mitigated	7.0000e-005	5.6000e-004	2.4000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.6466	0.6466	1.0000e-005	1.0000e-005	0.6504
NaturalGas Unmitigated	7.0000e-005	5.6000e-004	2.4000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.6466	0.6466	1.0000e-005	1.0000e-005	0.6504

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	12116.5	7.0000e-005	5.6000e-004	2.4000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.6466	0.6466	1.0000e-005	1.0000e-005	0.6504
Total		7.0000e-005	5.6000e-004	2.4000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.6466	0.6466	1.0000e-005	1.0000e-005	0.6504

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	8677.22	1.2200	1.1000e-004	2.0000e-005	1.2299
Total		1.2200	1.1000e-004	2.0000e-005	1.2299

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0368	9.0000e-005	7.4300e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0121	0.0121	1.0000e-005	0.0000	0.0124
Unmitigated	0.0368	9.0000e-005	7.4300e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0121	0.0121	1.0000e-005	0.0000	0.0124

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0105					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0261					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.2000e-004	9.0000e-005	7.4300e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0121	0.0121	1.0000e-005	0.0000	0.0124
Total	0.0368	9.0000e-005	7.4300e-003	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0121	0.0121	1.0000e-005	0.0000	0.0124

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0905	2.1300e-003	5.0000e-005	0.1590
Unmitigated	0.0905	2.1300e-003	5.0000e-005	0.1590

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	0.065154 / 0.0410754	0.0905	2.1300e-003	5.0000e-005	0.1590
Total		0.0905	2.1300e-003	5.0000e-005	0.1590

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2680	0.0158	0.0000	0.6638
Unmitigated	0.2680	0.0158	0.0000	0.6638

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	1.32	0.2680	0.0158	0.0000	0.6638
Total		0.2680	0.0158	0.0000	0.6638

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	1	52	50	0.73	CNG

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - CNG (6,500 HP)	0.0114	1.1000e-003	0.0298	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.6629	0.6629	1.3900e-003	0.0000	0.6976
Total	0.0114	1.1000e-003	0.0298	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.6629	0.6629	1.3900e-003	0.0000	0.6976

11.0 Vegetation

Appendix B

Wetland Delineation



Fortuna Volunteer Fire Department

Fortuna Volunteer Fire Department Proposed Project

Wetland Delineation Report

January 2018

Table of contents

Table of contents i

1. Introduction..... 1

 1.1 Project location 1

2. Methodology..... 1

 2.1 Wetland delineation approach 1

 2.2 Botanical methodology..... 2

 2.3 Soils methodology..... 2

 2.4 Hydrology methodology 2

 2.5 Wetland determination 3

3. Results 3

4. Conclusions..... 4

5. Special Terms and Conditions 4

 5.1 Purpose of this Report 4

 5.1 Scope and Limitations..... 4

6. References 5

Attachments

- Appendix A – Figures
- Appendix B – Data Sheets

1. Introduction

On behalf of the Fortuna Volunteer Fire Department (FVFD), GHD prepared this wetland delineation report, and accompanying appendices (figure and data sheets), in support of the proposed fire station (project site). This report supports the project's environmental documentation process, permitting, and construction planning as deemed appropriate. The project site is located in the unincorporated community of Rhonerville, in Humboldt County, California. This report is subject to, and must be read in conjunction with, the limitations set out in Section 5 Special Terms and Conditions and the assumptions and qualifications contained throughout the Report.

The wetland delineation fieldwork was conducted on December 18, 2017 and January 3, 2018 at the request of the Fortuna Volunteer Fire Department. The delineation was conducted within the Project Study Boundary (PSB), which is the property identified by APN-202-411-02, as shown on Figure 1. The extent of wetland-type vegetation, hydric soils, and wetland hydrology (based on three-parameter approach) were evaluated per the U.S. Army Corps of Engineers (USACE) protocol and wetland definition. The wetland delineation determined that one area with wetland vegetation, hydric soils, and wetland hydrology is present in association with the topographically lower, western portion of the parcel. The wetland appears to be associated with a spring surfacing on the up-gradient end of the delineated area. A figure presenting the results of this investigation is provided in Appendix A. Data sheets documenting conditions observed during the investigation are included in Appendix B.

1.1 Project location

The project site is located east of Rhonerville Road, just north of the intersection of Rhonerville Road and Drake Hill Road, in Rhonerville California. No creeks are associated with the project and the project is not within the Coastal Zone. The project site is currently undeveloped private property, with residential structures immediately adjacent to the south of the property. There is an unnamed spring on the eastern, up-gradient side of the delineated wetland (Figure 1).

2. Methodology

2.1 Wetland delineation approach

Prior to conducting a site visit, the 2004 wetland delineation report prepared by Winzler and Kelly (now GHD) was reviewed (Winzler and Kelly 2004). Due to the amount of time that had elapsed since the previous delineation, and the probable change in site conditions, a field visit was necessary to update the wetland boundaries.

The 2004 wetland delineation was surveyed in a relative coordinate system without information on the location of the control point, or point of origin. Without the control point data, the CAD drawing was rubber-sheeted in ESRI ArcMap Geographic Information System (GIS) to a best fit of the surveyed property boundary to the Humboldt County GIS parcel dataset. As the 2004 survey was not a boundary survey, the property lines were askew in comparison to the GIS parcel data. Therefore, it was not possible to completely align the 2004 dataset. The 2004 delineation data set was transferred to ArcPad (GIS) software, running on a Motion F5v Tablet connected to a Trimble GeoPro 6H receiver so the relative boundaries of the previously delineated wetland could be referenced in the field.

The wetland delineation used USACE criteria from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region* (USACE 2010). To define a wetland, the USACE requires that all three parameters (vegetation, soil, and hydrology) show wetland attributes. The current standard forms provided by the USACE (2010) were used for botany/soils/hydrology data collection.

The wetland delineation was conducted by a wetland delineation team consisting of a GHD botanist and soil scientist. The delineated wetland boundaries were reviewed in the field by a GHD senior Certified Professional Wetland and Certified Professional Soil Scientist. Vegetation and soil data were collected at transects across the upland/wetland boundary with two plots (upland/wetland) per transect. The naming convention used on data sheets to designate upland or wetland plots associated with a transect was –U or –W, respectively. Intermediate plots were placed without collection of data as appropriate (based on wetland vegetation and verification of soil conditions).

2.2 Botanical methodology

Vegetation data collection consisted of listing the dominant species in the herbaceous, shrub, and tree layer within a standard sized plot depending on layer. The species listed for each plot were classified as to whether or not they were wetland or upland indicators, using the standard reference for plant wetlands indicators: *State of California 2016 Wetland Plant List* (Lichvar et al. 2016). Plants were classified based on the probability that they would be found in wetlands (USACE 1987), ranging from Obligate (almost always in wetlands) [OBL], Facultative/wet (67% to 99% in wetlands) [FACW], Facultative (34% to 66% in wetlands) [FAC], Facultative/up (1% to 33% in wetlands) [FACU], or Uplands (less than 1% in wetlands) [UP]. Plants not listed in the manual were considered to be in the upland category (Lichvar et al. 2016).

2.3 Soils methodology

The *Regional Supplement to the Corps of Engineers Wetland Delineation Manual* (USACE 2010) procedures were combined with the Natural Resources Conservation Service's (NRCS) definition of hydric soils presented in *Field Indicators of Hydric Soils in the United States* (USDA/NRCS 2016). Soil pits were dug to an approximate depth of 18 inches. Data on soil color, texture and redoximorphic features were collected. Any observed mottling (iron concentrations) was noted, and care was taken to distinguish chromas of 1 and 2 indicative of an iron-depleted soil within 12 inches of the soil surface (USACE 2010; USDA/NRCS 2016).

Colors were described for the entire depth of the test pit and colors were determined on moist natural soil aggregate (ped) surfaces, which had not been crushed, using the Munsell Color Chart (COLOR, M. 2000). Soils with low chromas were verified as being hydric or upland with *Field Indicators of Hydric Soils in the United States* (Version 8.0, 2016).

2.4 Hydrology methodology

The delineation was performed during the early winter of the wet-weather season. December 2017 was dry with little to no recent rainfall prior to the December 18, 2017 field visit. Standing water was not present in wetland test pits, however direct evidence of ground water was present, as saturation was observed within wetland test pits. One primary indicator, or two secondary indicators, were identified to meet the wetland hydrology parameter per USACE criteria.

2.5 Wetland determination

The wetland boundary was evaluated using the USACE (three-parameter) methodology. The wetland determination was made with an emphasis on hydrology, redoximorphic soil features (hydric soils), and the dominance of wetland vegetation. Wetland plots exhibited a predominance of facultative (FAC) or wetter vegetation and upland plots exhibited predominance of facultative-up (FACU) or drier vegetation. The wetland boundary was determined and mapped, based on the locations of the upland and wetland plots within each transect and intermediate points.

The horizontal location of each transect point (including intermediate points) along the delineated wetland/upland boundary was collected with a GeoPro Trimble global positioning system (GPS) receiver with sub-meter accuracy, connected to a Motion F5v Tablet running ArcPad geographic information system (GIS) software. The GPS points were post-processed and connected using ArcGIS for map preparation.

3. Results

The PSB consists of two types of presumed USACE jurisdictional wetlands that were classified using Cowardin nomenclature from *Classification of Wetlands and Deepwater Habitats of the United States* (Federal Geographic Data Committee 2013), Palustrine Emergent Persistent wetlands and Palustrine Emergent Scrub-Shrub wetlands. Figure 1 in Appendix A shows the results of the wetland delineation. In summary, a total of 0.91 acres of three parameter wetlands (USACE) were mapped within the PSB.

The Palustrine Emergent Persistent wetlands consist primarily of an herbaceous layer (though vegetation had been mowed affecting shrub cover in some areas on the western side). The dominant shrub in the Palustrine Emergent Scrub-Shrub wetlands were willows. Hydrophytic vegetation was dominant within all wetland areas, and no upland plots contained a predominance of hydrophytic species (see data sheets in Appendix B).

Soils in delineated wetlands were found to be generally silty loam in texture. Wetland soils exhibited redoximorphic features typically found in hydric soils including low chromas with redoximorphic (iron concentrations) at or above 10 inches from the soil surface. Representative wetland (hydric) soils had matrix color ranges 10YR 3/2, 10YR 3/1, 10YR 2/1, with iron concentrations of 2.5 YR 2.5/1 and 2.5 Y 2.5/1. The hydric soil indicator observed included redox dark surface (F6).

Representative upland soils were silty loam in the surface with occasional sandy loam in the subsurface. Upland soil colors were low chroma due to organic matter. Low chroma values included: 2.5Y 2.5/1, 10YR 3/2, or 10YR 2/1 with either no redoximorphic features observed, or very small percentages ($\leq 2\%$) of redox features observed and thus the soils did not meet field indicators for hydric soils. Instances of low chroma in upland soils (absent redoximorphic features) are assumed to be due to A horizon influence (organic matter).

The delineation was performed in early winter of the 2017-2018 wet weather season, and the month of December was abnormally dry. No water was observed in test pits, however saturation, a primary indicator of hydrology was observed within 12" of the soil surface. Secondary indicators of hydrology observed were drainage patterns and a pass on the FAC-neutral test. The spring that is contiguous to and upslope of the wetland was mapped to represent hydrologic conditions at the site.

4. Conclusions

The wetland delineation completed in winter 2017 for the proposed project site determined the extent of wetlands based on wetland-type vegetation, hydric soils, and wetland hydrology (three-parameter approach). The area of investigation was determined to consist of two types of three-parameter wetlands. The wetland delineation results are provided in map format in Appendix A. The field data sheets from the delineation area are included in Appendix B.

5. Special Terms and Conditions

5.1 Purpose of this Report

This report has been prepared by GHD for Fortuna Volunteer Fire Department (FVFD) and may only be used and relied on by FVFD for the purpose agreed between GHD and the FVFD as set out in the original scope and contract for work effort reported herein. GHD Inc. is not liable for any action arising out of the reliance of any third party on the information contained within this report. GHD otherwise disclaims responsibility to any person other than Fortuna Volunteer Fire Department arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

5.1 Scope and Limitations

This report does not authorize any individuals to develop, fill or alter the wetlands delineated. Verification of the delineation by jurisdictional agencies is necessary prior to the use of this report for planning and development purposes. A USACE agency stamped delineation map and jurisdictional approval letter is required to signify confirmation of delineation results. In situations where a field investigation determines that no jurisdictional wetlands occur, jurisdictional concurrence with these findings is recommended.

To achieve the delineation objectives stated in this report, conclusions of the delineation were based on the information available during the period of the investigation, which took place on December 18, 2017 and January 3, 2018. The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed by the date of preparation of the report. Site conditions may change after the date of this report. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions. GHD is also not responsible for updating this report if the site conditions change, unless contracted to do so.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

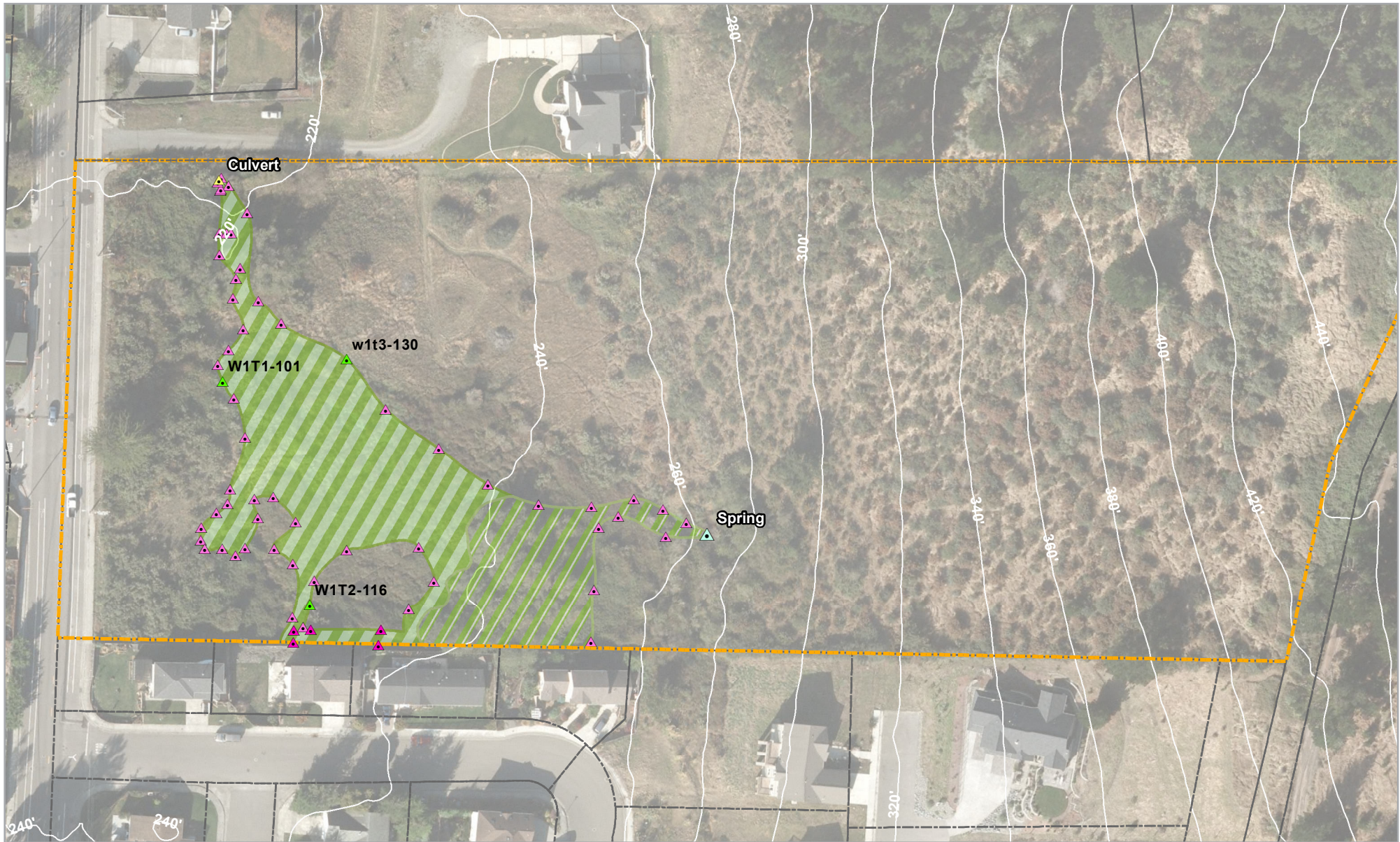
The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points. Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of buildings, services and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.

6. References

- COLOR, M., 2000. *Munsell Soil Color Charts*. Year 2000 revised washable edition. GretagMacbeth
- Federal Geographic Data Committee, 2013. *Classification of Wetlands and Deepwater Habitats of the United States*. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC.
<http://fws.gov/wetlands/Documents/Wetlands-and-Deepwater-Habitats-Classification-chart.pdf>
- Lichvar, et.al., 2016. *The National Wetland Plant List: 2016 wetland ratings*. United States Army Corps of Engineers. [http://acwc.sdp.sirsi.net/client/search/asset:asset?t:ac=\\$N/1012381](http://acwc.sdp.sirsi.net/client/search/asset:asset?t:ac=$N/1012381)
- USACE, 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*. U.S. Army Corps of Engineers.
- USACE, 1987. *Wetlands Delineation Manual*, Tech. Rep 4-87-1. Waterways Experiment Station, United States Department of the Army Corps of Engineers (USACE).
- USDA/NRCS, 2016. *Field Indicators of Hydric Soils in the United States, Version 8.0*. L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds). United States Department of Agriculture (USDA) and Natural Resources Conservation Service (NRCS) in cooperation with the National Technical Committee for Hydric Soils.
- USDA, 1995. *Changes in Hydric Soils of the United States*, Federal Register, Vol. 60, No. 37, United States Department of Agriculture (USDA), February 24, 1995.
- Winzler and Kelly, 2004. O'Day Wetlands Delineation at Assessor Parcel Number (APN) 202-411-02, Rhonerville, California.

Appendices

Appendix A – Figure



- Approx Parcel Boundaries
- APN: 202-411-002
- Palustrine Emergent Wetland

- Palustrine Scrub-Shrub Wetland
- Intermediate Field Data Point

- USACE wetland transect point
- Spring
- Culvert

Paper Size ANSI A
 0 20 40 60 80 100
 Feet
 Map Projection: Lambert Conformal Conic
 Horizontal Datum: North American 1983
 Grid: NAD 1983 StatePlane California I FIPS 0401 Feet



**Fortuna Volunteer Fire Department
 Update Wetland Report**

Project No. 11151286
 Revision No. A
 Date 1/4/2018

Wetland Delineation

FIGURE 2

Appendix B – Data Sheets

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

Project/Site: Fortuna VFD City/County: Rohnerville Sampling Date: 12/18/17
 Applicant/Owner: Fortuna VFD State: CA Sampling Point: W1T1-101W
 Investigator(s): A.L., M.T. Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): concave Slope (%): 5%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u>	No _____	
Wetland Hydrology Present?	Yes <u>X</u>	No _____	

Remarks: Mowed vegetation makes it difficult to estimate cover of the Rubus and Rosa species. Herbaceous plot larger for the wetland plot since

VEGETATION – Use scientific names of plants. there are so many mowed Rubus and Rosa canes

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: <u>that herbs are sparse</u> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Baccharis pilularis</u>	<u>5</u>	<u>X</u>	<u>UPL</u>	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 = _____
2. <u>Rubus ursinus</u>	<u>15</u>	<u>X</u>	<u>FACU</u>	
3. <u>Rosa nutkana</u>	<u>5</u>	<u>X</u>	<u>FAC</u>	
4. <u>Rubus armeniacus</u>	<u>10</u>	<u>X</u>	<u>FAC</u>	
5. _____	_____	_____	_____	
			<u>35</u> = Total Cover	<u>17.5</u>
Herb Stratum (Plot size: _____)				
1. <u>Ceanothus maritimus</u>	<u>15</u>	<u>X</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0' 4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants' Problematic Hydrophytic Vegetation' (Explain) 'Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Oenanthe sarmentosa</u>	<u>5</u>	<u>X</u>	<u>OBL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
			<u>20</u> = Total Cover	<u>10</u>
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
			= Total Cover	
% Bare Ground in Herb Stratum _____				
Remarks: <u>Herbaceous plot is 10'x5' rectangle with wetland soil pit in center. Shrub plot is 5m radius on wetland side of soil pit.</u>				

SOIL

Sampling Point WITI-101W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 1/1 Mottled	100			C	M		
2-6	10YR 3/1	100			C	M		
6-12	10YR 3/1	95%	2.5Y 4/2	5%	C	M		

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> F6 Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: NA

Depth (inches): NA

Hydric Soil Present? Yes ☒ No ☐

Remarks: depleted matrix

HYDROLOGY

Wetland Hydrology Indicators:

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

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): <u> </u>	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Depth (inches): <u>9"</u>	

(Includes capillary fringe)

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

Remarks: Hydric soil present with depleted matrix

located 12" (on center) from transect pt (center)

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

Project/Site: Fortuna VFD City/County: Rohnerville Sampling Date: 12/18/17
 Applicant/Owner: Fortuna VFD State: CA Sampling Point: WITI-1014
 Investigator(s): A.L., M.T. Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 5%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	

Remarks: Vegetation is mowed. In shrub layer there are many blackberry sprouts. Mowing complicates discerning Rubus ursinus shoots from Rubus armeniacus.

VEGETATION – Use scientific names of plants. Shrub cover would be much greater if not mowed.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: <u>5m</u> upland sides) 1. <u>Sambucus racemosa</u> <u>5</u> <u>FACU</u> 2. <u>Rubus ursinus</u> <u>35</u> <u>X</u> <u>FACU</u> 3. <u>Rubus armeniacus</u> <u>10</u> <u>FAC</u> 4. <u>Baccharis pilularis</u> <u>5</u> <u>UPL</u> 5. _____				
_____ = Total Cover <u>55</u>				
Herb Stratum (Plot size: <u>5'x4'</u>) 1. <u>Dipsacus Fullonum</u> <u>3</u> <u>FAC</u> 2. <u>Canium maculatum</u> <u>30</u> <u>X</u> <u>FAC</u> 3. <u>Urtica dioica</u> <u>7</u> <u>FAC</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____				
_____ = Total Cover <u>40</u>				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ _____ = Total Cover <u>95</u>				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0' ___ 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.
% Bare Ground in Herb Stratum _____				

Remarks: Herbaceous plot is 5'x4' rectangular plot with soil test pit inside. Shrub plot is 5m radius on upland sides of soil test pit only.

SOIL

FURNACE VOLUNTARY FIRE DEPT

Sampling Point: WIT-101U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4"	10YR 3/2	100			C	M	Silt/Loam	
4-12"	2.5Y 2.5/1	98%	10YR 3/2	2	C	M	Silt/Loam	
12-16"	10YR 2/1	100			C	M	Silt/Loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators 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)

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

Secondary Indicators (2 or more required)

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

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____

(Includes capillary fringe)

Wetland Hydrology Present? Yes _____ No ☒

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

NA

Remarks:

LOW CHANNEL DUE TO ORGANIC MATTER INFLUENCE & SURFACE LAYERS

"PLANT PLOT WITH <2% REDOX @ 4-12" IN SOIL DEPTH.

- LOCATED 3' FROM TRANSECT, FT FROM PLOT

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

Project/Site: Fortuna VFD City/County: Rohnerville Sampling Date: 12/18/17
 Applicant/Owner: Fortuna VFD State: CA Sampling Point: 411T2-116W
 Investigator(s): A.L., M.T. Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Minor Swale Local relief (concave, convex, none): Concave Slope (%): ~2%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks: <u>Vegetation is mowed making ID of grass difficult. Mowing also lessens cover of RUBUS + ROSNUT. kept as own stratum since mowing</u>					

VEGETATION – Use scientific names of plants. reduces cover so much + cover just over 5%

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>66.6%</u> (A/B)
4. _____	_____	_____	_____		
			= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)					
1. <u>Rosa nutkana</u>	<u>4</u>	<u>X</u>	<u>FAC</u>	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 = _____	
2. <u>Rubus ursinus</u>	<u>3</u>	<u>X</u>	<u>FACU</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
			= Total Cover		
Herb Stratum (Plot size: _____)					
1. <u>Oenothera sarmentosa</u>	<u>37</u>	<u>X</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0' 4 - Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) 5 - Wetland Non-Vascular Plants' Problematic Hydrophytic Vegetation' (Explain) 'Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Anthoxanthum odoratum</u>	<u>45</u>	<u>X</u>	<u>FACU</u>		
3. <u>Trifolium effusum</u>	<u>5</u>		<u>FACW</u>		
4. <u>Epilobium ciliatum</u>	<u>2</u>		<u>FACW</u>		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
			= Total Cover		
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____	
2. _____	_____	_____	_____		
			= Total Cover		
% Bare Ground in Herb Stratum _____					

Remarks: Herbaceous stratum sampled in rectangular plot 5'x4' centered on wetland soil pit - shrub stratum sampled in 3m radius around soil pit.

SOIL

Sampling Point: WIT2-116W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 2/2	95%	2.5Y 2.5/1	5	C	M		Redox Features
5-12	10YR 2/1	60	2.5Y 2.5/1	40	C	M		
12-16	2.5Y 2.5/1	60	5Y 2.5/1	40	C	M		

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

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

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 2 cm Muck (A10) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) | <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Matrix (F3) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input checked="" type="checkbox"/> Redox Dark Surface (F6) | <input checked="" type="checkbox"/> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. <u>YES.</u> |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Redox Depressions (F8) | |

Restrictive Layer (if present):

Type: None

Depth (inches): _____

Hydric Soil Present? Yes ✓ No _____

Remarks:

Indicators of hydric vegetation confirm wetland soil

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

- | | | |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) | <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Drift Deposits (B3) | <input checked="" type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A) | <input type="checkbox"/> Raised Ant Mounds (D6) (LRR A) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> Frost-Heave Hummocks (D7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | | |

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____Water Table Present? Yes _____ No ✓ Depth (inches): _____Saturation Present? Yes ✓ No _____ Depth (inches): 8Wetland Hydrology Present? Yes ✓ No _____

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

Area not captured in previous survey.

Remarks:

Hydric soil ~ wetland hydrology.84" from TRANSECT POINT

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

Project/Site: Fortuna VFD City/County: Rohnerville Sampling Date: 12/18/17
 Applicant/Owner: Fortuna VFD State: CA Sampling Point: W1T2-116U
 Investigator(s): A.L., M.T. Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Upslope of minor swale Local relief (concave, convex, none): _____ Slope (%): ~5%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: <u>Mowed veg. Complicates grass ID and cover of Rubus + Rose. Rubus ursinus lumped with herb layer since cover</u>		

VEGETATION – Use scientific names of plants. is <5%

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0' 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.
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Oenanthe sarmentosa</u>	<u>5</u>		<u>OBL</u>	
2. <u>Anthoxanthum odoratum</u>	<u>45</u>	<u>X</u>	<u>FACU</u>	
3. <u>Taraxacum officinale</u>	<u>10</u>		<u>FACW</u>	
4. <u>Dipsacis fullanum</u>	<u>2</u>		<u>FAC</u>	
5. <u>Rumex crispus</u>	<u>2</u>		<u>FAC</u>	
6. <u>Rubus ursinus</u>	<u>2</u>		<u>FACU</u>	
7. <u>Dactylis glomerata</u>	<u>30</u>	<u>X</u>	<u>FACU</u>	
8. <u>Geranium molle</u>	<u>2</u>		<u>UPL</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>98</u> = Total Cover <u>49</u>				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Remarks: Herbaceous plot is rectangular 5' x 4' with soil pit in center
Shrub plot is 5m radius in upland direction S.

Sampling Point: W1T2-116U

HYDROLOGY

US Army Corps of Engineers

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

Project/Site: Fortuna VFD City/County: Rohnerville Sampling Date: 12/18/17
 Applicant/Owner: Fortuna VFD State: CA Sampling Point: 101T3-130W
 Investigator(s): A.L., M.T. Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes <u>X</u>	No _____
Hydric Soil Present?	Yes <u>X</u>	No _____			
Wetland Hydrology Present?	Yes <u>X</u>	No _____			
Remarks:					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>80%</u> (A/B)														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Prevalence Index worksheet: <table border="0"> <tr> <td>Total % Cover of:</td> <td>Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> </table>	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) _____
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) _____																	
Sapling/Shrub Stratum (Plot size: _____)																		
1. <u>Rubus ursinus</u>	<u>35</u>	<u>X</u>	<u>FACU</u>															
2. <u>Rosa nutkana</u>	<u>20</u>	<u>X</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>55</u> = Total Cover <u>27.5</u>																		
Herb Stratum (Plot size: _____)																		
1. <u>Geranthea serotoma</u>	<u>25</u>	<u>X</u>	<u>OBL</u>															
2. <u>Juncus effusus</u>	<u>40</u>	<u>X</u>	<u>FACW</u>															
3. <u>Habenaria longipes</u>	<u>25</u>	<u>X</u>	<u>FAC</u>															
4. <u>Dipsacus fullanum</u>	<u>5</u>	_____	_____															
5. <u>Urtica dioica</u>	<u>3</u>	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>98</u> = Total Cover <u>49</u>																		
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
_____ = Total Cover _____																		
% Bare Ground in Herb Stratum _____																		

Remarks: Herbaceous plot is a rectangle 5'x4' with wetland soil pit inside veg plot. Shrub stratum measured in 5m radius plot on wetland side

SOIL

Sampling Point: W1T3-130W

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	2.5YR 2/2	100			C	M	Silt/LM	- organic roots / matter
2-6	10YR 2/1	90	2.5YR 2/1	10	C	M	Silt/LM	
6-14	5-1 2/1	100			C	M	Silt/LM	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: NA

Depth (inches): NA

Hydric Soil Present? Yes ☒ No ☐

Remarks:

located - from transect point 8' from transect point.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Shallow Aquitard (D3)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> 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): 8

Wetland Hydrology Present? Yes ☒ No ☐

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

Remarks:

Redox features evident @ 4" below surface, saturation present @ 8" below surface

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

Project/Site: Fortuna VFD City/County: Rohnerville Sampling Date: 12/18/17
 Applicant/Owner: Fortuna VFD State: CA Sampling Point: W1T3S1304
 Investigator(s): AL., N.T. Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): _____ Local relief (concave, convex, none): _____ Slope (%): 2%
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: <u>Mowed grass complicates grass ID, appears to be Mostly Dactylis glomerata. Trifolium + Acmispson could not be ID because</u>		

VEGETATION – Use scientific names of plants.

veg. material only.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>none</u>				
2. _____				
3. _____				
4. _____				
= Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: _____) 1. <u>none</u> 2. _____ 3. _____ 4. _____ 5. _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Helminthotheca echioides</u> <u>20</u> <u>X</u> <u>FAC</u> 2. <u>Dactylis glomerata</u> <u>70</u> <u>X</u> <u>FACU</u> 3. <u>Trifolium sp.</u> <u>3</u> 4. <u>Geranium molle</u> <u>2</u> 5. <u>Acmispson sp.</u> <u>2</u> 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ <u>97</u> = Total Cover <u>48.5</u>				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ = Total Cover				
% Bare Ground in Herb Stratum _____				

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: Herbaceous vegetation plot is 5'x4'. Shrub plot radius of 5m on upland side but no shrubs occur.

SOIL

Sampling Point: W173-130U

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

Depth (inches)	Matrix		Redox Features		Type ¹	Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-5	10YR 3/2	100			C	M	Silt/loam	
5-10	10YR 3/1	95	2.5Y 2.5/1	5	C	M		✓ MEET HYDRIC SOIL INDICATOR
10-14	7.5YR 7/1	100			C	M		DARK LAYER

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

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

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if present):

Type: NA
Depth (inches): NAHydric Soil Present? Yes ☒ No ☒

Remarks:

LOW CHLOROPHYLL DUE TO ORGANIC MATTER FROM VEGETATION INFLUENCE, MINOR REDOX, BELOW 5% THRESHOLD FOR HYDRIC CLASSIFICATION. NO VISIBLE MOISTURE.

Soil DOES NOT MEET PRIMARY INDICATORS (USDA/NRCS) CRITERIA.

HYDROLOGY

Wetland Hydrology Indicators:

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

Secondary Indicators (2 or more required)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☐ No ☒ Depth (inches):

Saturation Present? Yes ☐ No ☒ Depth (inches):

(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

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

NA

Remarks:

PIT LOCATED ~ 6' FROM TRANSECT POINT. UPLAND VEGETATION @ PROXIMATE LOCATION!

GHD

718 Third Street
Eureka, California 95501

T: 707.443.8326 F: 707.444.8330 E: info@ghd.com

© GHD 2018

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorized use of this document in any form whatsoever is prohibited.

\\ghdnet\ghd\US\Eureka\Projects\111\11151286 FVFD-Update Wetland Report\04-Technical Work\02 DelineationWetland
Delineation FVFD_DEC 2017

Appendix C

Biological Database Results



Table 1.1 Potential for Special Status Species or Sensitive Habitats to Occur in the Project Study Boundary (PSB)

Scientific Name	Common Name	FedList	CalList	GRank ²	SRank ²	RPlantRank ²	Other Status	Habitat Requirements ¹	Potential to Occur in the Project Area and PSB
<i>Mammals</i>									
<i>Antrozous pallidus</i>	Pallid Bat	None	None	G5	S3	n/a	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low Potential. The Project Area does not provide xeric habitat preferred by this species. The closest records of this species are from a specimen collected in Ferndale in 1924 (CDFW 2020b) and Humboldt Redwoods State Park (CBI 2020). No suitable roosting substrate exists in the Project Area, but marginal foraging habitat may exist within the greater PSB. This species has low potential to occur.
<i>Aplodontia rufa humboldtiana</i>	Humboldt Mountain Beaver	None	None	G5TNR	SNR	n/a		Coast Range in southwestern Del Norte County and northwestern Humboldt County. Variety of coastal habitats, including coastal scrub, riparian forests, typically with open canopy and thickly vegetated understory.	Low Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna 2020). Suitable habitat does not exist within the Project Area but may be present within the greater PSB. Occurrence would be unlikely but not impossible. The species



									has low potential to occur.
<i>Arborimus pomo</i>	Sonoma Tree Vole	None	None	G3	S3	n/a	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	North coast fog belt from Oregon border to Sonoma County. 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.	No Potential. Closest occurrence record is from coniferous forest habitat along Bear River Ridge (Ferndale) (CDFW 2020b). No suitable habitat exists within the Project Area or greater PSB and this species has no potential to occur.
<i>Corynorhinus townsendii</i>	Townsend's Big-Eared Bat	None	None	G3G4	S2	n/a	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Moderate Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Closest occurrence records are from Humboldt Redwoods State Park (CBI 2020). No roosting habitat exists within the Project Area, but suitable roosting and foraging habitat may be present within the greater PSB.
<i>Erethizon dorsatum</i>	North American Porcupine	None	None	G5	S3	n/a	IUCN_LC-Least Concern	Forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges. Wide variety of coniferous and mixed woodland habitat.	Low Potential. Closest occurrence record from Blue Slide (Rio Dell) (CDFW 2020b). No suitable large patches of riparian forest/coniferous forest or woodland habitat are present in the Project



									Area. The species has low potential to occur.
<i>Lasiurus cinereus</i>	Hoary Bat	None	None	G5	S4	n/a	IUCN_LC- Least Concern WBWG_M- Medium Priority	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Moderate Potential. The closest records of this species are from a specimen collected in Ferndale in 1934 (CDFW 2020b) and Humboldt Redwoods State Park (CBI 2020). No roosting habitat exists within the Project Area, however this species may roost in trees within the greater PSB. Foraging habitat for the species could be present in the Project Area. The species has moderate potential to occur
<i>Martes caurina humboldtensis</i>	Humboldt Marten	None	E	G5T1	S1	n/a	CDFW_SSC- Species of Special Concern USFS_S- Sensitive	Occurs only in the coastal redwood zone from the Oregon border south to Sonoma County. Associated with late-successional coniferous forests, prefer forests with low, overhead cover.	No Potential. There are no recent records of this species south of the Klamath River. Current populations are only known from coastal redwood forests in Del Norte and northern Humboldt County (CDFW 2018b). No suitable habitat exists within the Project Area or greater PSB. The species has no potential to occur.
<i>Myotis yumanensis</i>	Yuma Myotis	None	None	G5	S4	n/a	BLM_S- Sensitive	Optimal habitats are open forests and	Moderate Potential. Closest occurrence



							IUCN_LC- Least Concern WBWG_LM- Low-Medium Priority	woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.	records are from Bayside (CBI 2020). Habitat in the Project Area is likely marginal, but the greater PSB likely provides suitable roosting and foraging habitat. The species has a moderate potential to occur.
<i>Pekania pennanti</i>	Fisher - West Coast DPS	None	T	G5T2T3 Q	S2S3	n/a	BLM_S- Sensitive CDFW_SSC- Species of Special Concern USFS_S- Sensitive	Intermediate to large- tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest.	No Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). No suitable habitat (coniferous forest) is present within the Project Area or greater PSB. This species has no potential to occur.
Birds									
<i>Accipiter cooperii</i>	Cooper's Hawk	None	None	G5	S4	n/a	CDFW_WL- Watch List IUCN_LC- Least Concern	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood- plains; also, live oaks.	Moderate Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Closest eBird occurrence is from the Redwood Empire golf course, approximately 0.5 miles to the northeast (eBird 2020). Suitable nesting, foraging, and wintering habitat is present within the Project Area and greater PSB. This



									species has moderate potential to occur throughout the year.
<i>Accipiter striatus</i>	Sharp-Shinned Hawk	None	None	G5	S4	n/a	CDFW_WL-Watch List IUCN_LC-Least Concern	Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes with plucking perches are critical requirements. Nests usually within 275 ft of water.	Moderate Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Closest eBird occurrence is from the Fortuna Riverwalk. Species does breed in the county in areas of coniferous forest, but is more commonly a winter visitor (Hunter et al. 2005). Species is unlikely to breed at the project site but has moderate potential to forage and winter in the Project Area and greater PSB.
<i>Agelaius tricolor</i>	Tricolored Blackbird	None	T	G2G3	S1S2	n/a	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	Highly colonial species, most numerous in Central Valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Low-Potential. A historic nesting colony existed approximately 1.25 miles west of the project area along Highway 101 in a patch of blackberry/coyote bush. However, this colony has not been detected since 1996/97 and is believed to be extirpated (CDFW 2020b, eBird 2020). No nesting or roosting habitat for this species (cattail or bulrush marshes, or tritiale



									fields) (Beedy et al. 2017) is present in the Project Area and winter foraging habitat would be marginal (more suitable foraging habitat at feedlots in the county). The species has low potential to occur in the Project Area or greater PSB.
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	None	None	G5	S3	n/a	CDFW_SSC- Species of Special Concern IUCN_LC- Least Concern	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	Low Potential. The closest recent record is from the Rohnerville airport, approximately 1 mile to the south (eBird 2020). Species breeds in lightly grazed grasslands in rural areas (Hunter et al. 2005). The Project Area and greater PSB would only serve as marginal breeding and foraging habitat and this species has low potential to occur.
<i>Aquila chrysaetos</i>	Golden Eagle	None	None	G5	S3	n/a	BLM_S- Sensitive CDF_S- Sensitive CDFW_FP- Fully Protected CDFW_WL- Watch List IUCN_LC- Least Concern USFWS_BCC- Birds of	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Low Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Closest eBird record is from Ferndale, approximately 5.5 miles to the west (eBird 2020). The Project Area and greater PSB do not contain suitable breeding or foraging habitat and this species



							Conservation Concern		has a low potential to occur.
<i>Ardea alba</i>	Great Egret	None	None	G5	S4	n/a	CDF_S-Sensitive IUCN_LC-Least Concern	Colonial nester in large trees. Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	Low Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Closest eBird records are from the Fortuna Riverwalk (eBird 2020). The Project Area and greater PSB would only provide marginal foraging habitat for the species (no breeding habitat is present). The species has low potential to occur.
<i>Ardea herodias</i>	Great Blue Heron	None	None	G5	S4	n/a	CDF_S-Sensitive IUCN_LC-Least Concern	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 Potential. Closest records from the Fortuna Riverwalk (eBird 2020). The species is unlikely to breed in the Project Area or greater PSB. However, the species has a moderate potential to forage in the Project Area and greater PSB.
<i>Brachyramphus marmoratus</i>	Marbled Murrelet	T	E	G3G4	S1	n/a	CDF_S-Sensitive IUCN_EN-Endangered NABCI_RWL-Red Watch List	Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up	No Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). No suitable breeding or foraging habitat (coniferous



								to six miles inland, often in Douglas-fir.	forest, and marine bays) is present in the Project Area or greater PSB. The species has no potential to occur.
<i>Charadrius nivosus nivosus</i>	Western Snowy Plover	T	None	G3T3	S2S3	n/a	CDFW_SSC-Species of Special Concern NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	Sandy beaches, salt pond levees & shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	No Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Closest records are from the Worswick gravel bars along the Eel River (eBird 2020). No suitable breeding or foraging habitat (gravel bars, beaches, levees) are present within the Project Area or greater PSB and the subspecies has no potential to occur.
<i>Charadrius montanus</i>	Mountain Plover	None	None	G3	S2S3	n/a	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	Short grasslands, freshly plowed fields, newly sprouting grain fields, & sometimes sod farms. Short vegetation, bare ground, and flat topography. Prefers grazed areas and areas with burrowing rodents.	No Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Species does not breed in Humboldt County and is only a very rare visitor during the winter. Closest occurrence records are clustered along the coast at the mouth of the Eel River and limited to the winter (eBird 2020). No high quality habitat is present in the Project Area or greater



									PSB and the species has no potential to occur.
<i>Coccyzus americanus occidentalis</i>	Western Yellow-billed Cuckoo	T	E	G5T2T3	S1	n/a	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	No Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Closest eBird record from 2005 at Sandy Prairie along the Eel River, approximately 3.5 miles to the northwest. No suitable nesting or foraging habitat (riparian forests) is present in the Project Area or greater PSB and the subspecies has no potential to occur.
<i>Coturnicops noveboracensis</i>	Yellow Rail	None	None	G4	S1S2	n/a	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	No Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Most recent record (extremely rare incidental) was from a cat-caught individual near the Blue Ox in Eureka (eBird 2020). No suitable breeding or foraging habitat (marsh) is present in the Project Area or greater PSB.
<i>Haliaeetus leucocephalus</i>	Snowy Egret	None	None	G5	S4	n/a	IUCN_LC-Least Concern	Colonial nester, with nest sites situated in protected beds of	Low Potential. No CNDDDB occurrence records within the



								<p>dense tules. Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.</p>	<p>project quadrangle (Fortuna) (CDFW 2020b). Species occurrences primarily clustered around Humboldt Bay and the Eel River delta. However, species also forages in inland pastures (eBird 2020). No suitable breeding habitat for this species occurs in the Project Area or greater PSB and foraging habitat would be considered marginal. This species has low potential to occur.</p>
<i>Haliaeetus leucocephalus</i>	Bald Eagle	D	E	G5	S3	n/a	<p>BLM_S-Sensitive CDF_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern</p>	<p>Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.</p>	<p>Low Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Closest records are from the Fortuna Riverwalk (eBird 2020). No suitable breeding or foraging habitat is present in the Project Area. However, foraging habitat may be present in the greater PSB. The species has low potential to occur.</p>
<i>Nycticorax nycticorax</i>	Black-Crowned Night Heron	None	None	G5	S4	n/a	<p>IUCN_LC-Least Concern</p>	<p>Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake</p>	<p>Low Potential. Closest records are from the Fortuna Riverwalk (eBird 2020). No suitable breeding or foraging habitat is</p>



								margins, mud-bordered bays, marshy spots.	present in the Project Area. However, foraging habitat may be present in the greater PSB. This species has low potential to occur.
<i>Pandion haliaetus</i>	Osprey	None	None	G5	S4	n/a	CDF_S-Sensitive CDFW_WL-Watch List IUCN_LC-Least Concern	Ocean shore, bays, freshwater lakes, and larger streams. Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	Low Potential. No CNDDDB occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Closest records are along the Eel River (eBird 2020). No suitable breeding or foraging habitat is present in the Project Area. However, foraging habitat may be present in the greater PSB. This species has low potential to occur.
<i>Phoebastria albatrus</i>	Short-tailed Albatross	E	None	G1	S1	n/a	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable NABCI_RWL-Red Watch List	Islands with bare ground/grass surrounded by cliffs. Nests consist of large scoops lined with grass in open, grassy areas. Forages at upwellings in the ocean (BirdLife International 2020).	No Potential. Species is extremely rare along the west coast of the U.S. (non-breeding season only). Only breeds on offshore islands in Japan and recently Midway atoll (BirdLife International 2020). The species has no potential to occur in the Project Area or greater PSB.
<i>Riparia riparia</i>	Bank Swallow	None	T	G5	S2	n/a	BLM_S-Sensitive IUCN_LC-Least Concern	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical	Low Potential. Closest nesting records from the confluence of the Van Duzen and Eel River, above Fernbridge, and



								banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	below Cock Robbin Island above the confluence with the Salt River (CDFW 2020b, eBird 2020). No suitable breeding habitat is present in the Project Area. However, the species may forage in the Project Area or greater PSB.
Reptiles									
Western Pond Turtle	<i>Emys marmorata</i>	None	None	G3G4	S3	n/a	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 feet elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Low Potential. Closest CNDDDB records is from along the Van Duzen River. Species may venture up to 0.3 mi from water to upland habitat in order to nest (CDFW 2020b). The Project Area and greater PSB would be considered marginal habitat. This species has low potential to occur.
Amphibians									
Pacific Tailed Frog	<i>Ascaphus truei</i>	None	None	G4	S3S4	n/a	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	Occurs in montane hardwood-conifer, redwood, Douglas-fir & ponderosa pine habitats. Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.	No Potential. No occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Species requires high gradient streams and high velocity waters in coniferous forest (Nafis 2020). This habitat is not present in either the Project Area or the



									greater PSB and the species has no potential to occur.
Northern Red-legged Frog	<i>Rana aurora</i>	None	None	G4	S3	n/a	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	Humid forests, woodlands, grasslands, and streamsides in northwestern 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.	High Potential. Closest occurrence from approximately 2 miles south along Barber Creek (CDFW 2020b). Species is relatively common along the north coast and known to disperse more than 0.2 miles from breeding ponds/wetlands to moist vegetation (e.g., riparian) and mesic forests (AmphibiaWeb 2020). As the Project Area contains wetlands, the species has high potential to occur, breed, and disperse through the Project Area and greater PSB.
Foothill Yellow-legged Frog	<i>Rana boylei</i>	None	None (North Coast Clade; other clades listed)	G3	S3	n/a	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis (CDFW 2020).	No Potential. Closest occurrence from approximately 0.75 miles to the south near the Rohnerville airport (CDFW 2020b). No suitable habitat (e.g., aquatic or riparian) for this species is present in the Project Area or greater PSB. Foothill Yellow-legged Frogs may use upland habitat adjacent to streams (CDFW 2018a), however, most frogs are



									found within an average distance of 71.3 meters of water in urban settings (Cook 2012). As streams, rivers, or creeks are present within 0.25 miles of the Project Area, this species has no potential to occur.
Southern Torrent Salamander	<i>Rhyacotriton variegatus</i>	None	None	G3G4	S2S3	n/a	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	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 rocks within trickling water.	No Potential. No occurrence records within the project quadrangle (Fortuna) (CDFW 2020b). Species requires high gradient streams and high velocity waters in coniferous forest (Nafis 2020). This habitat is not present in either the Project Area or the greater PSB and the species has no potential to occur.
Fish									
The National Marine Fisheries Service (NMFS) California Species List tools were not queried for this project as no aquatic habitat (other than wetlands) occurs onsite or within 0.25 miles of the project site. For this reason, strictly aquatic freshwater (fish) and marine species were not included in this table.									
Mollusks									
As no aquatic habitat (other than wetlands) occurs onsite or within 0.25 miles of the project site. For this reason, freshwater mollusks were not included in this table.									
Insects									
<i>Bombus caliginosus</i>	Obscure Bumble Bee	None	None	G4?	S1S2	n/a	IUCN_VU-Vulnerable	Coastal areas from Santa Barbara county to north to Washington state. Food plant genera include <i>Baccharis</i> , <i>Cirsium</i> ,	Moderate Potential. The Project Area and greater PSB fall within the current range Of the species (Hatfield et al. 2014) and the Project



								Lupinus, Lotus, <i>Grindelia</i> , and <i>Phacelia</i> .	Area and PSB may include several of the species food plants. The species has moderate potential to occur.
<i>Bombus occidentalis</i>	Western Bumble Bee	None	C	G2G3	S1	n/a	USFS_S-Sensitive XERCES_IM-Imperiled	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Low Potential. Although the Project Area falls within the species pre-2002 range (according to ICUN Redlist), the range has contracted significantly in the last decade and now only includes the intermountain west and cascade regions of the US (Hatfield et al. 2015).
<i>Dicots</i>									
<i>Abronia umbellata</i> var. <i>breviflora</i>	pink sand-verbena	None	None	G4G5T2	S2	1B.1	BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	Coastal dunes and coastal strand. Foredunes and interdunes with sparse cover. <i>A. umbellata</i> var. <i>breviflora</i> is usually the plant closest to the ocean. 0-75 m.	No Potential. Coastal dunes are not present.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	coastal marsh milk-vetch	None	None	G2T2	S2	1B.2	BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden SB_UCBG-UC Botanical	Coastal dunes, marshes, and swamps, coastal scrub. Mesic sites in dunes or along streams or coastal salt marshes. 0-155 m.	No Potential. Neither coastal dunes nor coastal scrub near salt marsh occur.



							Garden at Berkeley		
<i>Cardamine angulata</i>	seaside bittercress	None	None	G4G5	S3	2B.1		North coast coniferous forest, lower montane coniferous forest. Wet areas, streambanks. 5-515 m.	No Potential. Neither lower montane coniferous forest nor north coast coniferous forest are present.
<i>Castilleja ambigua</i> var. <i>humboldtensis</i>	Humboldt Bay owl's-clover	None	None	G4T2	S2	1B.2	BLM_S-Sensitive	Marshes and swamps. In coastal saltmarsh with <i>Spartina</i> , <i>Distichlis</i> , <i>Salicornia</i> , <i>Jaumea</i> . 0-20 m.	No Potential. No salt marsh habitat nor marsh or swamp habitat is present.
<i>Castilleja litoralis</i>	Oregon coast paintbrush	None	None	G3	S3	2B.2		Coastal bluff scrub, coastal dunes, coastal scrub. Sandy sites. 5-255 m.	Low Potential. No coastal bluff scrub or coastal dune habitat is present. Scrub-shrub vegetation is present, but Project Area is probably too far inland for this species
<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Point Reyes salty bird's-beak	None	None	G4?T2	S2	1B.2	BLM_S-Sensitive	Coastal salt marsh. Usually in coastal salt marsh with <i>Salicornia</i> , <i>Distichlis</i> , <i>Jaumea</i> , <i>Spartina</i> , etc. 0-115 m.	No Potential. No coastal salt marsh habitat is present.
<i>Clarkia amoena</i> ssp. <i>whitneyi</i>	Whitney's farewell-to-spring	None	None	G5T1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	Coastal bluff scrub, coastal scrub. 5-125 m.	Low Potential. No coastal bluff scrub is present. Scrub-shrub vegetation is not present. There is a 1955 CNDDDB occurrence mapped 1.5 miles west of Fortuna.
<i>Downingia willamettensis</i>	Cascade downingia	None	None	G4	S2	2B.2		Cismontane woodland, valley and foothill grasslands, vernal pools. Lake margins. 15-1110 m. Localized	Moderate potential. There is a CNDDDB records (3/5 mile accuracy, although record is from 1923) near Fortuna (CDFW



								on dunes and coastal strand. 1-25 m.	2020b). Woodland and foothill grassland is present in the Project Area.
<i>Erysimum menziesii</i>	Menzies' wallflower	E	E	G1	S1	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	Coastal dunes. Localized on dunes and coastal strand. 1-25 m.	No Potential. Coastal dunes are not present.
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	None	None	G5T3	S2	1B.2		Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland. 5-1345 m.	Low Potential. There is a CNDDDB records from the vicinity of Alton in 1927 (CDFW 2020b). No chaparral, coastal bluff scrub, coastal prairie, is present. Some or valley or foothill grassland is present.
<i>Gilia millefoliata</i>	dark-eyed gilia	None	None	G2	S2	1B.2	BLM_S-Sensitive	Coastal dunes. 1-60 m.	No Potential. Coastal dunes are not present.
<i>Hesperervax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	None	None	G4T3	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, coastal dunes, coastal prairie. Sandy bluffs and flats. 0-640 m.	No Potential. Coastal dunes, coastal bluff scrub, and coastal prairie are not present.
<i>Layia carnosa</i>	beach layia	E	E	G2	S2	1B.1	SB_RSABG-Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	Coastal dunes, coastal scrub. On sparsely vegetated, semi-stabilized dunes, usually behind foredunes. 3-30 m.	No Potential. No coastal dunes are present.
<i>Montia howellii</i>	Howell's montia	None	None	G3G4	S2	2B.2		Meadows and seeps, north coast coniferous forest, vernal pools. Vernal wet sites; often	Moderate Potential. There is a recent CNDDDB record from approximately 2 miles



								on compacted soil. 10-1215 m.	south of Ferndale (CDFW 2020b). North coast coniferous forest is not present. Wetlands with compacted soils are present.
<i>Oenothera wolfii</i>	Wolf's evening-primrose	None	None	G2	S1	1B.1	BLM_S-Sensitive SB_BerrySB-Berry Seed Bank	Coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest. Sandy substrates; usually mesic sites. 0-125 m.	Low Potential. Coastal bluff scrub, coastal dunes, and coastal prairie are not present. Scrub shrub vegetation is not present, this species distribution is not limited entirely to the coast (CDFW 2020b).
<i>Packera bolanderi</i> var. <i>bolanderi</i>	seacoast ragwort	None	None	G4T4	S2S3	2B.2		Coastal scrub, north coast coniferous forest. Sometimes along roadsides. 30-915 m.	No Potential. North coast coniferous forest does not occur. Scrub shrub and coastal scrub habitat do not occur.
<i>Polemonium carneum</i>	Oregon polemonium	None	None	G3G4	S2	2B.2		Coastal prairie, coastal scrub, lower montane coniferous forest. 15-1525 m.	Low Potential. The closest CNDDDB records is from 1950 on Bear River Ridge (CDFW 2020b). Some open scrub habitat is present, but it is not known to occur in the area.
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	None	None	G3	S3	4.2		Broadleafed upland forest, coastal prairie, coastal scrub, north coast coniferous forest, riparian forest. Woodlands and clearings near coast; often in disturbed areas. 4-765 m.	Moderate Potential. Scrub-shrub vegetation is present. Disturbed areas are present.



<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	None	None	G5T2	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, coastal prairie, north coast coniferous forest. Open coastal forest; roadcuts. 5-1255 m.	Moderate Potential. There is a recent CNDDDB record in an area of remnant coastal prairie near Alton (CDFW 2020b). Coastal bluff scrub, coastal prairie, and north coast coniferous forest are not present, but this species is also known to occur in moderately disturbed roadside grassland and scrub-shrub habitats.
<i>Sidalcea oregana</i> ssp. <i>eximia</i>	coast checkerbloom	None	None	G5T1	S1	1B.2	BLM_S-Sensitive	Meadows and seeps, north coast coniferous forest, lower montane coniferous forest. Near meadows, in gravelly soil. 5-1805 m.	No Potential. Specific habitats for this species are not present at project location, including meadows and north coast coniferous forest.
<i>Spergularia canadensis</i> var. <i>occidentalis</i>	western sand-spurrey	None	None	G5T4	S1	2B.1	BLM_S-Sensitive SB_RSABG-Rancho Santa Ana Botanic Garden	Marshes and swamps (coastal salt marshes). 0-3 m.	No Potential. No swamp or coastal salt marsh habitat is present.
Monocots									
<i>Carex leptalea</i>	bristle-stalked sedge	None	None	G5	S1	2B.2		Bogs and fens, meadows and seeps, marshes and swamps. Mostly known from bogs and wet meadows. 3-1395 m.	Low Potential. An on-site wetland is present.
<i>Carex lyngbyei</i>	Lyngbye's sedge	None	None	G5	S3	2B.2		Coastal marshes and swamps (brackish or freshwater). +-0m (Baldwin et al., 2012).	No Potential. An on-site wetland is present, but this species is strictly coastal.



<i>Erythronium oregonum</i>	giant fawn lily	None	None	G4G5	S2	2B.2		Cismontane woodland, meadows and seeps. Openings. Sometimes on serpentine; rocky sites. 300-1435 m.	No Potential. Ultramafic soil, and cismontane woodland is not present.
<i>Erythronium revolutum</i>	coast fawn lily	None	None	G4G5	S3	2B.2		Bogs and fens, broadleaved upland forest, north coast coniferous forest. Mesic sites; streambanks. 60-1405 m.	No Potential. The project area does not contain bogs or fens, broadleaved upland forest, or North coast coniferous forest directly at project area.
<i>Lilium occidentale</i>	western lily	E	E	G1	S1	1B.1	SB_BerrySB-Berry Seed Bank	Coastal scrub, freshwater marsh, bogs and fens, coastal bluff scrub, coastal prairie, north 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.	No Potential. Specific habitat requirements for this species do not occur within the Project Area.
<i>Piperia candida</i>	white-flowered rein orchid	None	None	G3	S3	1B.2	BLM_S-Sensitive	North Coast coniferous forest, lower montane coniferous forest, broadleaved upland forest. Sometimes on serpentine. Forest duff, mossy banks, rock outcrops, and muskeg. 20-1615 m.	No Potential. Broadleaved upland forest, lower montane coniferous forest are not present at project site. North coast coniferous forest is not present directly at the project site.
<i>Puccinellia pumila</i>	dwarf alkali grass	None	None	G4?	SH	2B.2		Marshes and swamps. Mineral spring meadows and coastal salt marshes. 1-10 m.	No Potential. Marshes, swamps, or mineral springs are not present.



<i>Sisyrinchium hitchcockii</i>	Hitchcock's blue-eyed grass	None	None	G2	S1	1B.1		Cismontane woodland, valley and foothill grassland. Openings in woodland or in grassland. 305 m in California.	Low Potential. Open grassland occurs in the area, but this species is not known to occur nearby.
<i>Bryophytes, Ferns, and Lichens</i>									
<i>Anomobryum julaceum</i>	slender silver moss	None	None	G5?	S2	4.2		Broadleaved upland forest, lower montane coniferous forest, north coast coniferous forest. Moss which grows on damp rocks and soil; acidic substrates. Usually seen on roadcuts. 100-1000 m.	No Potential. No broadleaved upland or coniferous forest is present.
<i>Fissidens pauperculus</i>	minute pocket moss	None	None	G3?	S2	1B.2	USFS_S-Sensitive	North coast coniferous forest. Moss growing on damp soil along the coast. In dry streambeds and on stream banks. 30-1025 m.	No Potential. There is a CNDDDB record from Fortuna in 1965 (CDFW 2020b). However, north coast coniferous forest is not present.
<i>Lycopodium clavatum</i>	running-pine	None	None	G5	S3	4.1		Lower montane coniferous forest, north coast coniferous forest, marshes and swamps. Forest understory, edges, openings, roadsides; mesic sites with partial shade and light. 45-1225 m.	No potential. No lower montane coniferous forest, marshes, or swamps are present.
<i>Usnea longissima</i>	Methuselah's beard lichen	None	None	G4	S4	4.2	BLM_S-Sensitive	North coast coniferous forest, broadleaved upland forest. Grows in the "redwood zone" on tree branches of a variety of trees,	No Potential. No broadleaved upland or coniferous forest is present.



								including big leaf maple, oaks, ash, Douglas-fir, and bay. 45-1465 m in California.	
<i>Sensitive Natural Communities</i>									
Sitka Spruce Forest	None	None	G1	S1.1	n/a				Not Present within the Project Area.
Coastal Terrace Prairie	None	None	G2	S2.1	n/a		Coastal prairie		Not Present within the Project Area.
Northern Coastal Salt Marsh	None	None	G3	S3.2	n/a				Not Present within the Project Area.

Table compiled from CDFW California Natural Diversity Database (CNDDDB), U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) Species List, and the California Native Plant Society (CNPS) Rare Plant Inventory searches of Fortuna (project quad) and the surrounding USGS 7.5 Minute Quadrangles: Cannibal Island, Ferndale, Capetown, Fields Landing, Fortuna, Taylor Peak, McWhinney Creek, Hydesville, Scotia (CDFW 2020, CNPS 2020, USFWS 2020). **The National Marine Fisheries Service (NMFS) California Species List tools were not queried for this project as no aquatic habitat (other than wetlands) occurs onsite or within 0.25 miles of the project site. For this reason, strictly aquatic (fish and freshwater mollusks) and marine species (e.g., sea turtles) were not included in this table.** Potential to occur is determined based on habitat availability and nearest known documented records as well as limited site specific information including eBird and iNaturalist citizen science databases (eBird 2020, iNaturalist 2020).

Footnotes:

¹ General habitat, and microhabitat column information, reprinted from CNDDDB (April 2020).

² Rankings from CNDDDB (April 2020)

Column Header Categories and Abbreviations:

FedList: Listing status under the federal Endangered Species Act (ESA) – E (endangered); T (threatened); C (candidate); P (proposed); UR (under review); D (delisted)

CalList: Listing status under the California state Endangered Species Act (CESA) - E (endangered); T (threatened); C (candidate)

GRank: Global Rank from NatureServe’s Heritage Methodology (NatureServe 2020) (ranking according to degree of global imperilment - G1 = Critically Imperiled—At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors; G2 = Imperiled—At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors; G3 = Vulnerable—At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors; G4 = Apparently Secure—Uncommon but not rare; some cause for long-term concern due to declines or other factors; G5 = Secure—Common; widespread and abundant. Subspecies/variety level: “Subspecies/varieties receive a T-rank attached to the G-rank. With the subspecies/varieties, the G-rank reflects the condition of the entire species, whereas the T-rank reflects the global



situation of just the subspecies or variety" (CDFW 2019); ? = " Denotes inexact numeric rank" (NatureServe 2020); Q = " Questionable taxonomy that may reduce conservation priority" (NatureServe 2020)

SRank: State Rank from NatureServe's Heritage Methodology (NatureServe 2020) (ranking according to degree of imperilment in the state (California) - S1 = Critically Imperiled—Critically imperiled in the state because of extreme rarity (often 5 or fewer populations) or because of factor(s) such as very steep declines making it especially vulnerable to extirpation from the state; S2 = Imperiled—Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state; S3 = Vulnerable—Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state; S4 = Apparently Secure—Uncommon but not rare in the state; some cause for long-term concern due to declines or other factors; S5 = Secure—Common, widespread, and abundant in the state; SNR = State Not Ranked

RPlantRank: CNPS rankings for rare plants (CNPS 2020) - 1A = Plants presumed extinct in California; 1B = Plants rare, threatened or endangered in California and elsewhere; 2 = Plants rare, threatened, or endangered in California, but more common elsewhere; 3 = Plants about which more information is needed (a review list); 4 = Plants of limited distribution (a watch list); n/a = not applicable; Threat Code extensions and their meanings: .1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 – Moderately threatened in California (20-80% of occurrences threatened / moderate degree and immediacy of threat); .3 – Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)" (CDFW 2020a)

Other Status: Other federal or state listings may include:

BLM_S (Bureau of Land Management Sensitive): "(1) species listed or proposed for listing under the Endangered Species Act (ESA), and (2) species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA, which are designated as Bureau sensitive by the State Director(s). All Federal candidate species, proposed species, and delisted species in the 5 years following delisting will be conserved as Bureau sensitive species." (CDFW 2020b);

CDF_S: (California Department of Forestry and Fire Protection Sensitive): "those species that warrant special protection during timber operations" (CDFW 2020b);

CDFW_FP (CDFW Fully Protected Animal): "This classification was the State of California's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibians and reptiles, birds and mammals. Most of the species on these lists have subsequently been listed under the state and/or federal endangered species acts." (CDFW 2020b);

CDFW_SSC (CDFW Species of Special Concern): "It is the goal and responsibility of the Department of Fish and Wildlife to maintain viable populations of all native species. To this end, the Department has designated certain vertebrate species as 'Species of Special Concern' because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction. The goal of designating species as 'Species of Special Concern' is to halt or reverse their decline by calling attention to their plight and addressing the issues of concern early enough to secure their long-term viability" (CDFW 2020b);

CDFW_WL (California Department of Fish and Wildlife Watch List): "The CDFW maintains a list consisting of taxa that were previously designated as "Species of Special Concern" but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status" (CDFW 2020b);

IUCN_LC (International Union for Conservation of Nature Least Concern): "when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened" (IUCN 2012);

IUCN_NT (International Union for Conservation of Nature Near Threatened): "when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future (IUCN 2012);



IUCN_VU (International Union for Conservation of Nature Vulnerable): “when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable..., and it is therefore considered to be facing a high risk of extinction in the wild” (IUCN 2012);

IUCN_EN (International Union for Conservation of Nature Endangered): “when the best available evidence indicates that it meets any of the criteria A to E for Endangered...,and it is therefore considered to be facing a very high risk of extinction in the wild” (IUCN 2012);

NABCI_RWL (North American Bird Conservation Initiative Red Watch List): “species with extremely high vulnerability” (CDFW 2019);

NMFS_SC (National Marine Fisheries Service Species of Concern): “species about which NOAA’s NMFS has some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act” (CDFW 2020b);

SB_BerrySB: Seed bank present at Berry Seed Bank

SB_RSABG: Seed bank present at Rancho Santa Ana Botanic Garden

SB_SBBG: Seed bank present at Santa Barbara Botanic Garden

SB_UCBBG: Seed bank present at UC Berkeley Botanical Garden

USFS_S (U.S. Forest Service Sensitive): “plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density and/or significant current or predicted downward trends in habitat capability that would reduce a species’ existing distribution” (CDFW 2020b);

USFWS_BCC (U.S. Fish and Wildlife Service Birds of Conservation Concern): “The goal of the Birds of Conservation Concern 2008 report is to accurately identify the migratory and non-migratory bird species (beyond those already designated as Federally Threatened or Endangered) that represent our highest conservation priorities and draw attention to species in need of conservation action” (CDFW 2020b);

WBWG_H- (Western Bat Working Group High Priority): “those species considered the highest priority for funding, planning, and conservation actions. Information about status and threats to most species could result in effective conservation actions being implemented should a commitment to management exist. These species are imperiled or are at high risk of imperilment” (BCI 1998);

WBWG_LM- (Western Bat Working Group Low Priority): “most of the existing data support stable populations of the species, and that the potential for major changes in status in the near future is considered unlikely. While there may be localized concerns, the overall status of the species is believed to be secure” (BCI 1998);

WBWG_M- (Western Bat Working Group Medium Priority): “a level of concern that should warrant closer evaluation, more research, and conservation actions of both the species and possible threats” (BCI 1998);

XERCES_IM (Xerces Society Imperiled): species “at high risk of extinction because of highly restricted range, rare populations (often 20 or fewer), steep declines, or other factors” (National Research Council 2007);

Definitions:

Project Area: The “Project Area” is defined as the extent of construction activities associated with engineering design for the Project.

Project Study Boundary (PSB): The Project Study Boundary (PSB) includes the Project Area and a buffer of 0.25 miles. This large buffer around the Project Area is designed to account for the fact that wildlife are mobile and maybe occur right outside the Project Area (footprint) and have potential to traverse the Project Area.

Potential to Occur:

No Potential. Habitat on and adjacent to the Project Area is clearly unsuitable for the species requirements (cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).



Low Potential. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the Project Area is unsuitable or of very poor quality. The species is not likely to be found in the Project Area.

Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the Project Area is unsuitable. The species has a moderate probability of being found in the Project Area.

High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the Project Area is highly suitable. The species has a high probability of being found in the Project Area.

Present/Not Present. Detected or excluded (habitats only) during site visits.

Citations:

AmphibiaWeb. 2020. AmphibiaWeb Database. AmphibiaWeb, University of California, Berkeley, California, USA. <http://amphibiaweb.org> (04/02/2020)

Baldwin, B. G., Goldman, D. H., Keil, D. J., Patterson, R., & Rosatti, T. J. (Eds.). (2012). *The Jepson Manual: Vascular Plants of California*. Univ of California Press.

Bat Conservation International (BCI). 1998. Proceedings of the Western Bat Working Group workshop on ecology, conservation and management of western bat species – Western Bat Species Regional Priority Matrix. Western Bat Working Group workshop, February 9-13, 1998, Reno, Nevada, USA.

Beedy, E. C., W. J. Hamilton, III, R. J. Meese, D. A. Airola and P. Pyle. 2017. Tricolored Blackbird (*Agelaius tricolor*), version 3.0 in A. Poole, Ed. The Birds of North America online. Cornell Lab of Ornithology, Ithaca, New York, USA. <https://doi.org/10.2173/bna.tribla.03> (04/03/2020)

BirdLife International. 2020. Species factsheet: *Phoebastria albatrus*. BirdLife International, Cambridge, UK. <http://www.birdlife.org> (04/02/2020)

California Department of Fish and Wildlife (CDFW). 2018a. Considerations for conserving the Foothill Yellow-Legged Frog. CDFW, Habitat Conservation Planning Branch, Eureka, California, USA.

California Department of Fish and Wildlife (CDFW). 2018b. Report to the fish and game commission. A status review of the Humboldt Marten (*Martes caurina humboldtensis*) in California. State of California, Natural Resources Agency, Department of Fish and Wildlife, Sacramento, California, USA.

California Department of Fish and Wildlife (CDFW). 2019. Special Animals List. Periodic publication. State of California, Natural Resources Agency, Department of Fish and Wildlife Biogeographic Data Branch, Sacramento, California, USA.

California Department of Fish and Wildlife (CDFW). 2020a. Special Vascular Plants, Bryophytes, and Lichens List. Quarterly publication. State of California, Natural Resources Agency, Department of Fish and Wildlife Biogeographic Data Branch, Sacramento, California, USA.

California Department of Fish and Wildlife (CDFW). 2020b. State and federally listed endangered and threatened animals of California. State of California Natural Resources Agency Department of Fish and Wildlife Biogeographic Data Branch. California Natural Diversity Database (CNDDDB) Rarefind. Sacramento, California, USA. <https://www.wildlife.ca.gov/Data/CNDDDB> (04/02/2020)



California Native Plant Society (CNPS). 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). CNPS, Sacramento, California, USA. <http://www.rareplants.cnps.org> (04/02/2020)

Conservation Biology Institute (CBI) (2020). The Bat Acoustic Monitoring Visualization Tool, a companion to BatAmp. Conservation Biology Institute, Corvallis, Oregon, USA. <https://visualize.batamp.databasin.org> (04/03/2020)

Cook, D. G. 2012. *Rana boylei* (Foothill yellow-legged frog). Upland Movement. *Herpetological Review* 43: 325.

eBird. 2020. eBird: an online database of bird distribution and abundance. eBird, Cornell Lab of Ornithology, Ithaca, New York, USA. <http://www.ebird.org> (04/02/2020)

Hatfield, R., Jepsen, S., Thorp, R., Richardson, L. and S. Colla. 2014. *Bombus caliginosus*. The IUCN Red List of Threatened Species 2014: e.T44937726A69000748. <https://dx.doi.org/10.2305/IUCN.UK.2014-3.RLTS.T44937726A69000748.en> (04/03/2020)

Hatfield, R., Jepsen, S., Thorp, R., Richardson, L., Colla, S., and S. Foltz Jordan. 2015. *Bombus occidentalis*. The IUCN Red List of Threatened Species 2015: e.T44937492A46440201. <https://dx.doi.org/10.2305/IUCN.UK.2015-2.RLTS.T44937492A46440201.en> (04/03/2020).

Hunter, J.E., D. Fix, G.A. Schmidt, and J.C. Power. 2005. Atlas of the breeding birds of Humboldt County, California. Redwood Region Audubon Society. Eureka, California, USA.

iNaturalist. 2020. Observations. California Academy of Sciences and National Geographic Society, iNaturalist Department, San Francisco, California, USA. <https://www.inaturalist.org> (04/02/2020)

International Union for Conservation of Nature (IUCN). 2012. IUCN Red List Categories and Criteria, version 3.1. Second edition. IUCN, Gland, CH and Cambridge, UK.

Nafis, G. 2020. California Herps – A Guide to the Amphibians and Reptiles of California. <http://www.californiaherps.com> (04/02/2020)

National Research Council. 2007. Xerces Society Red List of Pollinating Insects of North America. In Status of pollinators in North America. National Academies Press, Washington, District of Columbia, USA.

NatureServe. 2020. NatureServe Explorer: An online encyclopedia of life. NatureServe, Arlington, Virginia, USA. <http://explorer.natureserve.org> (04/02/2020)

U.S. Fish and Wildlife Service (USFWS). 2020. IPaC - Information for Planning and Consultation. U.S. Department of the Interior, Fish and Wildlife Service, Arcata Fish and Wildlife Office, Arcata, California, USA. <https://ecos.fws.gov/ipac/> (04/02/2020)

Appendix D

Wetland Buffer Reduction Request



Reference No. 11205111

May 1, 2020

Liz Shorey
City of Fortuna
Community Development Department
621 11th Street
Fortuna, CA 95540

Dear Ms. Shorey

**Re: Fortuna Fire Protection District Rohnerville Road Fire Station
Request and Justification for Wetland Buffer Reduction**

GHD previously mapped a 0.91 three-parameter wetland on APN 202-411-022 (GHD 2018). A jurisdictional determination was submitted to the U.S. Army Corp of Engineers and issued on May 29, 2018. The parcel is presently undeveloped and owned by the Fortuna Fire Protection District. Ongoing site maintenance has been limited to mowing.

The Fortuna Fire Protection District is now planning to construct the new Rohnerville Road Fire Station on the parcel. Please see the attached Project Description and figures for a full summary of the project. The regulatory-imposed 50 foot buffer would impose restrictions on the development of the proposed fire station that would affect the feasibility of the project.

In order to construct the fire station on the gentle sloping portion of the lot, site grading would result in excavation on the north/northeast portion of the developed site. A retaining wall approximately 8 to 12 feet in height would then be constructed to prevent erosion in that location. To minimize the volume of excavation, the height of the retaining wall required to prevent erosion of the upslope area, and future erosion potential, site development would need to shift slightly toward South Rohnerville Road. As a result, limited encroachment into the wetland buffer would be necessary. Thus, the Fortuna Fire Protection Department is requesting approval to encroach into the buffer a maximum of 25 feet in specific locations (see attached Figure 1 for approximate locations of expected buffer encroachment), leaving a minimum 25 foot wide buffer from the wetlands

The on-site wetland and balance of the established buffer (minimum 24 foot wide) would be excluded from the construction grading boundary to avoid potential impacts. Additionally, standard BMPs required to avoid potential impacts to Waters and the water quality of the wetland would be included in the project's CEQA Initial Study/Proposed Mitigated Negative Declaration (IS/Proposed MND) as Mitigation Measures.

The project would include a large LID retention area between the fire station facility and the wetland (outside of the 25 foot wide buffer). The LID retention area would capture storm runoff from the constructed impervious surface and route storm flow around the wetland into an existing culvert under the



access road to connect with the City's existing storm drainage infrastructure along South Rohnerville Road. The LID feature would serve to protect the wetland from any potential water quality impacts related to stormwater.

As a certified Professional Wetlands Scientist, I have evaluated the wetland and associated buffer in order to determine if a reduced buffer width from 50 feet to 25 feet, in limited locations, would be appropriate given the physical and biological functions and values of the wetland and surround area. Please see Table 1 for a summary of wetland functions as they relate to the proposed limited wetland reduction.

Table 1. Summary of Wetland Buffer Analysis

Wetland Function	Description	Evaluation of Functional Capacity
Flood flow attenuation	Velocity reduction and storage of flood waters	Flood flows on the site are limited to stormwater runoff. A proposed LID stormwater retention feature would be included in the development and would help attenuate stormwater runoff associated with new impervious surface on the parcel. The wetland and remaining buffer would also continue to attenuate stormwater runoff flood flows. A reduction in wetland function would not result.
Sediment stabilization	Reduction of erosive potential of flood waters; also captures suspended fine sediments	The proposed LID stormwater retention feature would help to capture fine sediments and reduce stormwater flood flow velocities prior to entering the downslope wetland. Additionally, the remaining buffer and wetland would remain unimpacted and continue to reduce erosive potential and filter sediments prior to reaching South Rohnerville Road. A reduction in the wetland's functional ability to stabilize sediments would not result.
Nutrient removal/transformation	Biotic metabolism of nutrient pollutants (e.g. nitrogenous compounds)	Given the area of reduced buffer is relatively small and the footprint of the area itself will not be reduced, the reduction in biotic metabolism of nutrient pollutants would be negligible. A reduction in the wetland's ability to remove nutrients would not result. The proposed LID stormwater feature would also capture nutrient and sediments.
Toxicant retention	Storage and biotic metabolism of toxic pollutants	Given the area of reduced buffer is relatively small and the footprint of the area itself will not be reduced, the reduction in biotic metabolism of toxic pollutants would be negligible. Additionally, implementation of required Mitigation Measures and BMPs, both during construction and operationally, would limit the potential for toxic pollutants to pose



Wetland Function	Description	Evaluation of Functional Capacity
		an environmental risk to the parcel and surrounding area. A reduction in the wetland's ability to remove toxic pollutants would not result.
Wildlife and botanical resources	Habitat for native plants and wildlife, include special status species	The wetland buffer consists largely of nonnative grasses and does not include any large trees or shrubs that would be removed through the buffer reduction. Existing vegetation in the wetland would be retained, including large willows. The project is located in a developed neighborhood and is not prime habitat for wildlife. A reduction in wetland function related to wildlife and botanical resources would not result. The wetlands does not act as a significant wildlife corridor as is originates as a spring and then discharges into a culvert (defined beginning and end).
Aquatic diversity	Biodiversity and species richness	Standing water is not present in the wetland buffer; thus aquatic diversity within the buffer would not be reduced. No reduction to aquatic diversity would result. The wetlands do not harbor and sensitive plant or animal or fish species.
Recreation	Opportunities for hunting and nature study	The wetland and buffer are located on private property and do not presently provide recreational opportunities and would not do so in the future. No reduction in wetland function related to recreation would result.
Uniqueness	Rare or unique features on the landscape	Aside from the wetland itself, there are no rare or unique features present. No reduction in wetland function related to uniqueness would result.
Groundwater recharge/discharge	The movement of surface water to groundwater, and vice versa	Aside from the wetland, live surface waters are not present on the parcel (e.g. streams, creeks, or rivers.). Groundwater recharge is limited to sporadic stormwater runoff. Given the area of reduced buffer is relatively small and the footprint of the area itself will not be reduced, the reduction in hydrologic connection between surface waters (stormwater runoff) and groundwater would be negligible. A reduction in wetland function would not result.

On April 7, 2020 the buffer for the proposed project was visited. The 25 foot buffer is dominated with nonnative species similar to what is found on the project footprint. Most of the proposed 25 foot is



currently mowed up to or near to the wetlands edge. Some of the proposed 25 foot buffer consist of California blackberry (*Rubus ursinus*) and poison oak (*Toxicodendron diversilobum*).

At the time of delineation and during the April 7, 2020 field review, the Palustrine Emergent Persistent wetlands consist primarily of an herbaceous layer. The dominant shrub in the Palustrine Emergent Scrub-Shrub wetlands were willows. Hydrophytic vegetation was dominant within all wetland areas.

To offset encroachment into the existing 50 foot buffer, the following enhancements to the remaining buffer are recommended:

- 1) Where California blackberry is 10 to 15 feet wide juxtaposed to the wetlands within the 25 foot buffer, leave in place. No further action is recommended for these areas.
- 2) Where the buffer is mowed up to on near the wetlands edge, plant wax myrtles (*Myrica californica*) five feet from wetlands edge, 20 feet on center up to 25 feet beyond and parallel to the proposed development. Fifteen feet in front of the wax myrtles (towards development), plant coyote brush (*Baccharis pilularis*) 10 feet on center up to 25 feet beyond and parallel to the proposed development.

In order to provide enhancement to wetlands, it is recommended that Himalayan blackberry (*Rubus armeniacus*) be removed in the wetlands areas. The area infestation is located (up slope) near the culvert under the access road. Himalayan blackberry should be cut back approximately one (1) foot from the soil surface and then roots removed by hand digging. Removed material shall be removed from the site.

Given the need to encroach into the wetland buffer offsets erosion risk by reducing the necessary height of the retaining wall and the inclusion of the large LID stormwater retention feature in the project design, limited encroachment into the buffer would not detrimentally impact the wetland. The remaining buffer would remain in place, and the wetland itself would be untouched. Enhancements to the wetland (removal of invasive species) and remaining buffer (planting of additional appropriate native species) is also recommended. Review of the wetland functions as they apply to the on-site wetland (see Table 1) further indicate buffer encroachment would not detrimentally impact the wetland.

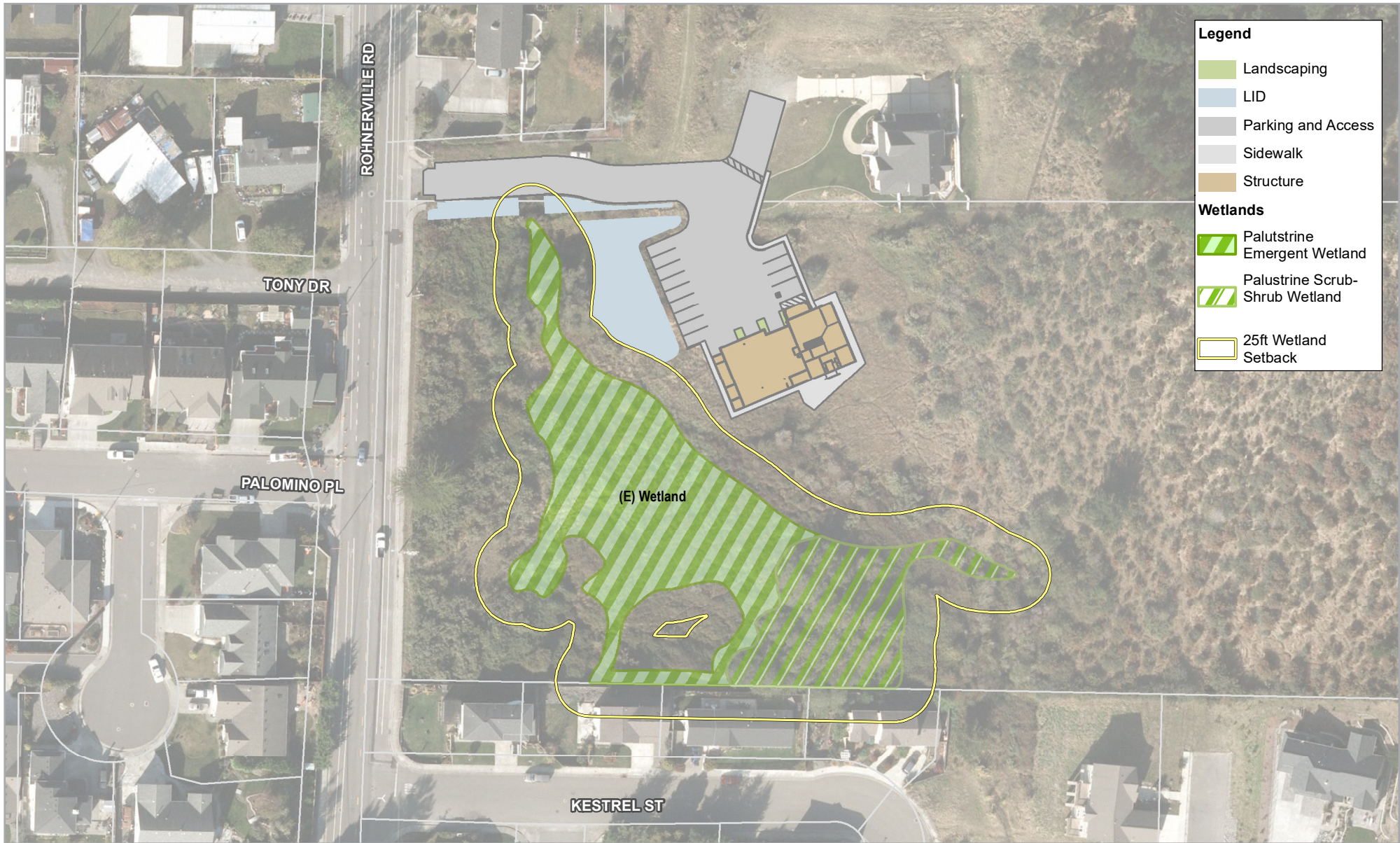
Sincerely,

Misha Schwarz

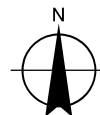
Senior Scientist

Encl.

cc: Figure 1 – Proposed Areas of Buffer Encroachment
Figure 2 – Wetland Delineation Report (GHD 2018)



Paper Size ANSI A
 0 20 40 60 80 100
 Feet
 Map Projection: Lambert Conformal Conic
 Horizontal Datum: North American 1983
 Grid: NAD 1983 StatePlane California I FIPS 0401 Feet



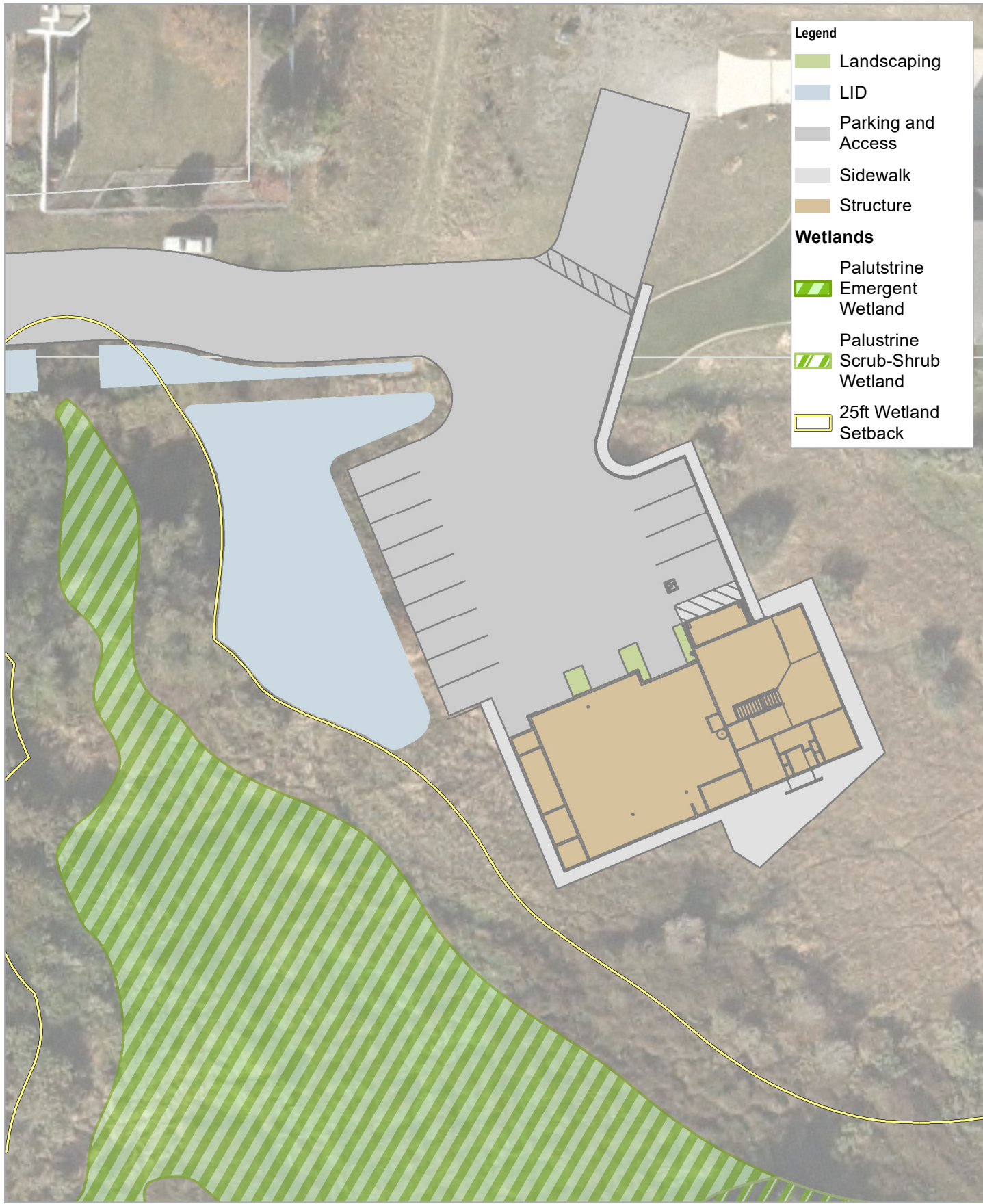
Fortuna Volunteer Fire Department
 CEQA

Project No. 11205111
 Revision No. F
 Date 10/14/2020

Site Plan

FIGURE 2

Data source: Aerial: City of Fortuna GIS; parcel boundaries: Humboldt County GIS. Created by: jclark2

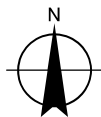
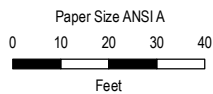


Legend

- Landscaping
- LID
- Parking and Access
- Sidewalk
- Structure

Wetlands

- Palustrine Emergent Wetland
- Palustrine Scrub-Shrub Wetland
- 25ft Wetland Setback



Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California 1 FIPS 0401 Feet



Fortuna Volunteer Fire Department
CEQA

**Stormwater and Wetland
Project Components**

Project No. 11205111
Revision No. E
Date Oct 2020

FIGURE 3

Data source: . Created by: jdark2

