



County of Humboldt
Samoa Peninsula Wastewater Project

Draft Environmental Impact Report

SCH #2018042083

January 2019

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Draft Environmental Impact Report for the
Samoa Peninsula Wastewater Project

SCH #2018042083

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January 2019

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Acronyms and Abbreviations

AC	asbestos-cement
ACOE	Army Corps of Engineers
ADL	aerially deposited lead
ADU	Accessory Dwelling Unit
AEP	Association of Environmental Professionals
ALUC	Airport Land Use Commission
APNs	Assessor's Parcel Numbers
ARB	Air Resources Board
ASBS	Area of Special Biological Significance
ASTM	ASTM International
B	Beach
BLM	Bureau of Land Management
BMP	best management practices
BOD	biochemical oxygen demand
CAAQS	California Ambient Air Quality Standards
CAL/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALFIRE	California Department of Forestry and Fire Projection
Caltrans	California Department of Transportation
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CG	Commercial General
CHP	California Highway Patrol
CIWMB	California Integrated Waste Management Plan
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
COC	constituent of concern

COP, 2015	California Ocean Plan, 2015
CPUC	California Public Utilities Commission
CR	Commercial Recreation
CRPR	California Rare Plant Rank
CSD	Community Services District
CWA	Clean Water Act
CY	cubic yards
CZMA	Coastal Zone Management Act
CZMP	Coastal Zone Management Program
DAL	Dial-A-Lift
DAR	Dial-A-Ride
dB	decibel
dBA	A-Weighted Sound Level
DEIR	Draft Environmental Impact Report
DNL	Day/Night Noise Level
DOT	Department of Transportation
DPM	Diesel Particulate Matter
DTSC	Department of Toxic Substances Control
EDR	Environmental Data Resources, Incorporated
EFH	essential fish habitat
EIR	Environmental Impact Report
EO	elemental occurrence
EOP	Emergency Operations Plan
EPA	United States Environmental Protection Agency
ESHA	Environmentally Sensitive Habitat Area
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FR	Federal Register
FRAP	Fire and Resource Assessment Program
G#	global ranking
GIS	Geographic Information Systems
gpd	gallons per day
GPU	General Plan Update
HBAP	Humboldt Bay Area Plan
HBHRCD	Humboldt Bay Harbor Recreation and Conservation District
HCDEH	Humboldt County Division of Environmental Health
HSC	Health and Safety Code
HWMA	Humboldt Waste Management Authority
Hz	frequency
In/sec	micro-inches per second

IPac	Information for Planning and Consultation
IS/MND	Initial Study/Mitigated Negative Declaration
kgpd	thousand gallons per day
kV	kilovolt
kWh	kilowatt hours
L01	A-weighted sound level exceeding 1% during measurement period
L10	A-weighted sound level exceeding 10% during measurement period
L50	A-weighted sound level exceeding 50% during measurement period
L90	A-weighted sound level exceeding 90% during measurement period
LAFCo	Local Agency Formation Commission
LAMP	Local Agency Management Program
LCP	Local Coastal Program
Ldn	Day/Night Average Sound Level
Leq	Equivalent Noise Level
LID	Low-Impact Development
Lmax	maximum A-weighted noise level during measurement period
Lmin	minimum A-weighted noise level during measurement period
L-P	Louisiana-Pacific Corporation
LTA	Lighter than Air
M	Magnitude
MB	Business park
MBTA	Migratory Bird Treaty Act
MC	Industrial Coastal dependent
MG	Industrial General
mg/L	milligrams per liter
MGD	million gallons per day
ml/L	milliliters per liter
MLD	Most Likely Descendant
MLPZ	Marine Life Protection Zone
MPN/100 ml	most probable number per 100 millilitres
MtBE	Methyl T-Butyl Ether
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native America Heritage Commission
NCCP	Natural Communities Conservation Plan
NCRWQCB	North Coast Regional Water Quality Control Board
NCUAQMD	North Coast Unified Air Quality Management District
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service

NO ₂	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NR	Natural Resource
NRHP	National Register of Historic Places
NSR	New Source Review
NTU	nephelometric turbidity units
OA	Operational Area
OES	Office of Emergency Services
OHWM	ordinary high water mark
OSHA	Occupational Safety and Health Administration
OWTS	Onsite Wastewater Treatment System
pb	lead
PCBs	polychlorinated biphenyls
PCP	pentachlorophenol
PCSD	Peninsula Community Services District
PF	Public Facility
PG&E	Pacific Gas and Electric Company
PIG	pipeline inspection gauge
PM	particulate matter
PM ₁₀	particulate matter 10 microns or less in diameter
PM _{2.5}	particulate matter 2.5 microns or less in diameter
PPV	Peak Particle Velocity
PR	Public Recreation
PRC	Public Resources Code
PVC	polyvinyl chloride
RMS	Root Mean Square velocity
RMT II	Redwood Marine Terminal II
ROG	reactive organic gases
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
RX	Rural Exurban
S#	statewide ranking
SARA	Superfund Amendment and Reauthorization Act of 1986
SBR	Sequencing batch reactor
SGMP	Soil and Groundwater Management Plan
SMCA	Samoa State Marine Conservation Area
SO ₂	sulfur dioxide
SPCC	Spill Prevention Control and Countermeasures Plan

SPFPD	Samoa Peninsula Fire Protection District
SPG	Samoa Pacific Group
SR	State Route
SSC	species of special concern
STMP	Samoa Town Master Plan
SVOCs	semi-volatile organic compounds
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TBEL	technology based effluent limitations
TCR	tribal cultural resources
TSCA	Toxic Substances Control Act
TSS	total suspended solids
UFC	Uniform Fire Code
USA	North Underground Service Alert North
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UV	ultra violet
VdB	vibration velocity amplitude
VPA	Variance Prohibition Area
W	Coastal Wetlands
WDR	Waste Discharge Requirement
WWTF	wastewater treatment facility

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1. Executive Summary

Purpose

This Draft Environmental Impact Report (Draft EIR) is prepared in accordance with the California Environmental Quality Act (CEQA) to evaluate the potential environmental impacts associated with the implementation of the Samoa Peninsula Wastewater Project (State Clearinghouse No. 2018042083).

The purpose of this Draft EIR is to inform decision makers, representatives of affected and responsible agencies, the public, and other interested parties of the potential environmental effects that may result from implementation of the proposed project. This Draft EIR describes potential impacts relating to a variety of topical environmental issues.

Project Summary

Project Location

The proposed Samoa Peninsula Wastewater Project (project) is located on the Samoa Peninsula in Humboldt County approximately 225 miles north of San Francisco and less than 1 mile west of Eureka, California (Figure 1-1 Project Location). The project is within the proposed PCSD boundary, which once fully formed, will provide municipal services to the Samoa Peninsula (Figure 1-2 Service Area). The Samoa Peninsula includes the communities of Fairhaven, Finntown, and town of Samoa. The project's proposed wastewater improvements would serve the unincorporated communities of Fairhaven and Finntown, but would not include the Samoa Town Master Plan area, which have been addressed in the previously prepared Samoa Town Master Plan, Final Master Environmental Impact Report, Humboldt County, April 14, 2006, certified October 27, 2009.

Project improvements would primarily be located in-road in Vance Avenue, Bendixsen Street, Lincoln Avenue, New Navy Base Road, and portions of adjoining streets. Improvements also would be made at the approved, but not yet constructed, Samoa Wastewater Treatment Facility in the Samoa Town Master Plan area. Figure 1-3 Project Boundary shows the project site, including construction staging areas.

Project Description

The proposed project involves amendments to the Humboldt Bay Area Plan (HBAP) of the Humboldt County Local Coastal Program to allow the construction and operation of a consolidated wastewater collection, treatment, and disposal system with connections to residential, commercial/industrial, recreational, and institutional facilities located within the boundaries of the proposed Peninsula Community Services District (PCSD). It is anticipated that the PCSD will be fully formed by early 2019.

The project would provide sewer service to structures within the communities of Fairhaven and Finntown. The project would not provide service to parcels within the approved Samoa Town Master Plan (STMP). Sewer service to the area would be implemented in two phases: Sewer Service for Existing Structures (Short-Term), and Sewer Service for Possible Future Infill (Long-Term). The Short-Term phase includes construction and operation of a collection system, upgrades to a

previously approved wastewater treatment facility, and a disposal system using the existing outfall to discharge effluent into the ocean to serve the existing structures that are served by onsite septic systems within the boundaries of the PCSD. The Long-Term phase would allow future infill structures, consistent with HBAP and zoning, to connect to the project's collection system and be served by the wastewater treatment plant.

It is assumed that existing individual septic systems and leachfields in Fairhaven and Finntown would remain in-use until residences opt to connect to the project improvements. At that time, individual septic tanks would be decommissioned under permit through the HCDEH.

Sewer Service and Phasing

The project's sewer service would be implemented in the following two phases:

- **Sewer Service for Existing Structures (Short-Term).** The Short-Term phase includes construction and operation of a collection system, upgrades to the previously Approved Samoa WWTF, and a disposal system to serve the existing structures in Fairhaven, Finntown, the County Boat Launch facility, and the Eureka Airport that currently use on-site wastewater treatment systems.
- **Sewer Service for Possible Future Infill Development (Long-Term).** The Long-Term phase would allow possible future infill development in Fairhaven, consistent with HBAP and zoning, to connect to the project's collection system and be served by the wastewater treatment plant.

Upon completion of the improvements under the Short-Term phase, the project would allow connections for existing structures, consistent with and upon issuance of a Coastal Development Permit by the County or California Coastal Commission, as appropriate.

The Long-Term phase would be implemented at an unknown future date. For the purpose of this Draft EIR, it is assumed that the Long-Term phase would be implemented by 2030. Under the Long-Term phase, future infill development, consistent with the amended HBAP and zoning, within the PCSD would be allowed to connect to the project improvements upon approval of the amended HBAP. Future infill development may occur on parcels in Fairhaven that are designated RX, Rural X-Urban, and zoned RS-X, residential suburban with no further subdivision allowed. It is estimated that up to 62 new residential units could be constructed on the available infill lots in Fairhaven. In addition, construction of secondary units is allowed under the current zoning, which may include smaller accessory (guest) dwellings. Note that accessory dwellings are not additional single family homes and do not require a second sewer connection. Future infill development is assumed to occur over a 30-year planning horizon.

HBAP Amendments

Amendment to the HBAP is necessary to implement the Short-Term phase to allow existing structures in Fairhaven and Finntown to connect to the wastewater system and to allow that wastewater to be accepted and processed by the Approved Samoa WWTF. The HBAP would be amended to specify the existing uses that may be connected to the wastewater system as exceptions to the other policies in the HBAP. This approach would prevent connections for new development from being approved. Implementation of the project's Short-Term phase, outside of the HBAP Urban Limit Line of the town of Samoa shall not be allowed until the HBAP has been amended and approved by the California

Coastal Commission. The following actions are necessary to allow development of the project's Short-Term phase:

1. Amend HBAP Section 3.22, Public Services-Rural, subsection B (Development Policies) to add exceptions to allow sewer connections to Interim Conditionally Permitted uses in the Industrial/Coastal-Dependent Zone, and existing structures that are served by onsite septic systems on the Samoa Peninsula outside the town of Samoa. The amendment may read:

In addition, sewer connections may be provided to industrial uses, to Interim Conditionally Permitted uses in the Industrial/Coastal-Dependent zone, and to existing structures that are served by onsite septic systems on the Samoa Peninsula outside the town of Samoa.

2. Amend the HBAP to allow the discharge of treated wastewater through the existing permitted Redwood Marine Terminal II (RMT II) ocean outfall.

Additionally, implementation of the proposed project, within the boundary of the STMP area that is within the existing HBAP Urban Limit Line will not be allowed until the STMP has been amended to delete the STMP Land Use Designation Overlay New Development - Policy 9; which only allows connections to the Samoa WWTF by users within the STMP.

Amendment to the HBAP for the Long-Term phase of the project may involve expanding the Urban Limit Line in the Plan to include the areas proposed to be served, which would enable new infill development consistent with the HBAP and zoning to connect to the system. Implementation of the project's Long-Term phase shall not be allowed until the HBAP has been amended and approved by the California Coastal Commission. The following actions are necessary to allow development of the project's Long-Term phase:

1. Amend the HBAP to allow future infill development, consistent with the HBAP, within the PCSD boundary to connect to the proposed projects wastewater collection system and be served by the Samoa WWTF.

Permits and Approvals Required

The PCSD would approve the project and be responsible for the implementation (construction and operation) of the project.

Short-Term phase construction and operation would be subject to the following permits and/or approvals from various regulatory agencies:

- Coastal Commission – Certify HBAP to allow wastewater facilities to serve existing structures currently served by onsite septic systems; Certify HBAP to allow Samoa Townsite to accept wastewater from outside the STMP boundary; and issue Coastal Development Permit for project construction and discharge using existing ocean outfall
- County of Humboldt – Coastal Development Permit for project construction and service to existing residential users in Fairhaven and Finntown Building; Encroachment Permits; and, Grading Permit
- State Water Resources Control Board – Construction General Permit
- North Coast Regional Water Quality Control Board – National Pollutant Discharge Elimination System, Report of Waste Discharge, 401 Water Quality Certification

- U.S. Army Corps of Engineers – Section 404 of the Clean Water Act Permit
- California State Lands Commission – Lease for use of the existing ocean outfall

The Long-Term phase would be subject to the following approval(s):

- County of Humboldt and Coastal Commission – Amendments to and certification of the HBAP to allow wastewater service to existing structures and to future infill development, consistent with plan and zone, within the boundaries of the PCSD

Project Objectives

The following are the project objectives for the Short-Term phase:

- Collect, convey, and treat domestic wastewater from existing structures in Fairhaven, Finntown, the County Boat Launch facility, and the Eureka Airport that currently use on-site wastewater treatment systems;
- Reduce and avoid degradation of groundwater quality;
- Consolidate wastewater collection and treatment services within the PCSD service area;
- Minimize the impacts to coastal resources by limiting the project to only serve existing structures that are served by onsite septic systems and by locating the wastewater collection system within the existing developed road system wherever feasible;
- Minimize project cost by improving the approved Samoa Wastewater Treatment Facility (WWTF) system and utilizing the existing outfall to discharge effluent into the ocean.

The following are the project objectives for the Long-Term phase:

- Allow for the development of infill properties in Fairhaven, consistent with HBAP land use designations/zone classifications and policies;
- Protect coastal resources and provide coastal hazards resilience;
- Facilitate Industrial, Coastal-Dependent and Port of Humboldt development consistent with HBAP land use designations/zone classifications and policies.

Summary of Project Alternatives

Below is a summary of the alternatives to the proposed project considered in Section 5, Alternatives to the Proposed Project.

Alternative 1 - No Project Alternative

Under the No Project Alternative, the existing residences, recreational uses, and industrial uses within the PCSD, excluding the STMP area, would continue to be on individual septic systems and leachfields.

Alternative 2 –RMT II Site Alternative

Under Alternative 2, the project WWTF improvements would be constructed at the RMT II site instead of the Approved Samoa WWTF site. The RMT II site is located on an approximately 0.5-acre portion of APN 401-112-021 east of Vance Avenue and adjacent to the ocean outfall connection at Manhole 5.

Public Review of the Draft EIR

The Draft EIR will be circulated for 45 days, from January 31, 2019 to March 18, 2019, to allow interested individuals and public agencies time to review and comment on the document. Written comments on the Draft EIR will be accepted by the County until 5:00 pm on March 18, 2019. Public agencies, interested organizations and individuals are encouraged to submit comments on the Draft EIR, with the title “Samoa Peninsula Wastewater Project Comments on Draft EIR,” to:

John Miller, Senior Planner
Planning and Building Department
County of Humboldt
3015 H Street
Eureka, CA 95501

To facilitate understanding of the comments, please provide a separate sentence or paragraph for each comment, and note the page and section of the Draft EIR to which the comment is directed.

The Draft EIR is available for review at the County of Humboldt Planning and Building Department office located at 3015 H Street in Eureka, California. The Draft EIR is also available at the Samoa Peninsula Fire District Firehouse, located at 1982 Gass Street, Samoa, CA 95564. It is available in downloadable Adobe Acrobat format on the County’s website at <https://humboldt.gov/2364/Long-Range-Planning-Projects>.

At the end of the public review period, written responses will be prepared for comments received on the Draft EIR. The comments and responses will be included in the Final EIR and will be considered by the County prior to consideration of the adequacy of the EIR. Prior to approval of the project, the County must certify that the EIR has been completed in compliance with CEQA.

Executive Summary Matrix

Table 1-1 below summarizes the impacts, mitigation measures, and resulting level of significance after mitigation for the relevant environmental issue areas evaluated for the proposed project. The table is intended to provide an overview; narrative discussions for the issue areas are included in the corresponding section of this EIR. Table 1-1 is included in the EIR as required by CEQA Guidelines Section 15123(b)(1).

Table 1-1 Executive Summary Matrix

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
Section 4.1 Aesthetics and Visual Resources			
Impact AES-1: Would the project have a substantial adverse effect on a scenic vista?	Less than Significant	None Required	N/A
Impact AES-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a State scenic highway?	No Impact	None Required	N/A
Impact AES-3: Would the project substantially degrade the existing visual character or quality of the site and its surroundings?	Less than Significant	None Required	N/A
Impact AES-4: Create a new source of substantial light or glare which would adversely affect day or night-time views in the area?	No Impact	None Required	N/A
Impact AES-C-1: Would the project result in a cumulatively considerable contribution to a cumulative impact related to aesthetic resources?	Less than Significant	None Required	N/A
Section 4.2 Air Quality			
Impact AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?	Significant	<p>AQ-1: Implement Air Quality Construction Control Measures</p> <p>The PCSD shall limit dust during construction by implementing the following NCUAQMD recommended best management practices in all construction contract specifications for the project:</p> <ol style="list-style-type: none"> 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall 	Less than Significant with Mitigation

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
		<p>be watered as necessary to prevent fugitive dust emissions during dusty conditions.</p> <ol style="list-style-type: none"> 2. All haul trucks transporting soil, sand, or other loose material on- or off-site shall be covered or maintain at least two feet of freeboard. 3. During construction, the contractor will designate an area of the project site for equipment and vehicle cleaning in proximity to the temporary water source. The contractor will establish a temporary drive off road consisting of cobbles, which will mitigate bulk soil and mud accumulation on adjacent roads. Visible mud or dirt tracked-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 shall be prohibited. 4. All vehicle speeds on unpaved areas shall be limited to 15 miles per hour. 5. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points explaining these measures. 6. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. 7. A publicly visible sign shall be posted with the telephone number and person to contact at the PCSD regarding dust complaints. This person shall respond and take corrective action within 48 hours. The North Coast Unified Air Quality Management District phone number shall also be visible to ensure compliance with applicable regulations. 	

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
Impact AQ-2: Would the project violate an air quality standard or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	Significant	Implement MM AQ-1	Less than Significant with Mitigation
Impact AQ-3: Would the project expose sensitive receptors to substantial pollutant concentrations?	Significant	None Required	N/A
Impact AQ-4: Would the project create objectionable odors affecting a substantial number of people?	Less than Significant	AQ-4: Curtail Operational Odor-Generating Maintenance Activities during Wind Events The PCSD shall avoid and limit odor-generating maintenance activity at Approved Samoa WWTF during wind events, defined as winds southern winds 15 miles per hour or greater. Additionally, a publicly visible sign shall be posted with the telephone number and person to contact at the PCSD regarding odor complaints. This person shall respond and take corrective action within 48 hours. The North Coast Unified Air Quality Management District phone number shall also be visible to ensure compliance with applicable regulations.	Less than Significant with Mitigation
Impact AQ-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to air quality?	Less than Cumulatively Considerable (Less than Significant)	Implement MM AQ-1	Less than Significant with Mitigation
Section 4.3 Biological Resources			
Impact BIO-1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in	Significant	BIO-1a: Protect Nesting Birds The PCSD shall ensure that preconstruction nesting bird surveys shall be conducted by a qualified biologist if construction begins in the breeding season (January 15 to August 31 to include raptors and all other migratory birds).	Less than Significant with Mitigation

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
<p>local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</p>		<p>Surveys are to be conducted within seven days of construction activities and repeated if construction ceases for seven days in the same location, prior to construction resuming. An area of at least 500 feet within the construction area will be surveyed for nesting birds. If active nests are found, the biologist will monitor the nest(s) and establish protective buffers (no-disturbance area around the nest) determined with consultation with CDFW and based on the nesting species, its sensitivity to disturbance, and type of and duration of disturbance expected.</p> <p>Any work conducted within 500 feet of an osprey nest will either be conducted outside of the nesting season (March through August) or a qualified biologist in consultation with CDFW will observe the nests prior to the commencement of construction within the vicinity of the nests to ensure that juveniles have fledged, and that the nest is empty during construction, or determine an adequate buffer that will not impact the nest or nestlings.</p> <p>BIO-1b: Protect Rare Plants during Construction</p> <p>The PCSD shall protect rare plants during construction. Prior to the start of construction, where construction activities occur within close proximity (100 feet) to identified special-status plant species during preconstruction surveys, high visibility construction fencing shall be erected to establish a no-disturbance buffer that would be adequate for the protection of the plants, determined by a qualified biologist. The fencing will be checked weekly by a biological monitor to ensure its continued correct placement and stability.</p>	
<p>Impact BIO-2: Would the project 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</p>	<p>Significant</p>	<p>BIO-2a: Protect ESHAs and Sensitive Natural Communities</p> <p>The PCSD shall implement the following measures to protect sensitive natural communities:</p> <ul style="list-style-type: none"> • Prior to the start of construction a qualified biologist will develop and distribute educational materials to construction crews at a “tail-gate” meeting identifying sensitive natural resources within the project area. This will include (but is 	

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
Wildlife or U.S. Fish and Wildlife Service?		<p>not limited to) hard copy information about sensitive plant community identification and defining protective buffer flagging or fencing to explain where the buffers are placed and what they are intended to protect.</p> <ul style="list-style-type: none"> • Except where direct impact (removal) is proposed at the WWTF site, establish and maintain appropriate buffers, and BMPs in accordance with Mitigation Measure HWQ-1 Manage Stormwater during Construction, for the duration of construction. Vegetation communities with a Species Heritage rarity ranking of S3 (vulnerable), S2 (imperiled), or S1 (critically imperiled), as assigned by CDFW, shall be demarcated with high visibility fencing to avoid ground disturbance. A biologist or biological monitor shall inspect the sensitive areas and the protective buffers once a week for the duration of construction to ensure the buffers and BMPs are adequately protecting the ESHA and/or Sensitive Natural Communities. Modifications to the buffers and BMPs, recommended by the Qualified Biologist, shall be implemented as soon as feasible. <p>BIO-2b: Replace or Restore ESHAs or Other Sensitive Natural Communities Removed during Construction</p> <p>The PCSD shall prepare and implement a plan to identify and compensate for removal of ESHAs or other sensitive natural communities that cannot be avoided during construction. The Plan will include the following components, and must adequately replace habitat and be approved by the California Coastal Commission and California Department of Fish & Wildlife:</p> <ul style="list-style-type: none"> • Identify, map, and quantify the impacted ESHA and/or Sensitive Natural Community. • Determine the appropriate replacement or restoration ratio to impact. 	

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
		<ul style="list-style-type: none"> Identify suitable location for creating replacement habitat or restoring a site that previously had the equivalent ESHA and/or Sensitive Natural Community. Determine success criteria against which the replacement/restoration site would be judged to successfully have replaced or restored the ESHA and/or Sensitive Natural Community. Determine appropriate ongoing monitoring for the respective ESHA and/or Sensitive Natural Community. Monitoring shall include the timing and frequency of inspections, and documentation of inspections, until it is determined the success criteria has been met. If during monitoring it is found that the replacement and/or restoration is not succeeding, the PCSD shall consult with California Coastal Commission and California Department of Fish & Wildlife to determine appropriate corrective actions. 	
<p>Impact BIO-3: Would the project have a substantial adverse effect on protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</p>	Significant	<p>Implement MM HWQ-1</p> <p>BIO-3a: Protect Wetlands during Construction Excluding wetlands that will be filled by project construction, the PCSD shall protect jurisdictional wetlands during construction. Prior to the start of construction, where construction activities occur within close proximity (100 feet) to delineated wetlands, high visibility construction fencing shall be erected to establish a no-disturbance buffer that would be adequate for the protection of the wetlands, determined by a qualified biologist. The fencing shall be checked weekly by a biological monitor to ensure its continued correct placement and stability.</p> <p>BIO-3b: Create Compensatory Mitigation Wetlands The PCSD shall avoid fill of seasonal wetlands and waters, to the extent feasible. If fill cannot be avoided, the PCSD shall compensate for the loss of seasonal wetland habitat through</p>	Less than Significant with Mitigation

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
		the creation of on-site seasonal wetlands at a ratio of 3:1, so that there is no net loss in wetlands. Required permits and approvals from the U.S. Army Corp of Engineers, the North Coast Regional Water Quality Control Board, the California Department of Fish and Wildlife, and the California Coast Commission shall be received prior to the start of any on-site construction activity. The County shall ensure any additional measures outlined in the permits are implemented.	
Impact BIO-4: Would the project interfere substantially with the movement of any native resident or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	Less than Significant	None Required	
Impact BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Significant	Implement MMs BIO-2a, BIO-2b, BIO-3a, BIO-3b, and HWQ-1	Less than Significant with Mitigation
Impact BIO-6: Would the project 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	None Required	N/A
Impact BIO-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to biological resources?	Less than Cumulatively Considerable (Less than Significant)	None Required	N/A
Section 4.4 Cultural and Tribal Cultural Resources			
Impact CTR-1: Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	Significant	CTR-1: Minimize Impacts on Adjacent Historic Resources The County shall implement measures to minimize potential impacts of new development on adjacent contributing historic resources as a condition of approval of coastal development	Less than Significant with Mitigation

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
		permits authorizing new construction of facilities within the Samoa Town Master Plan area subject to a D - Design Review Combining Zone. These shall include siting, design and screening of new buildings, consistent with Design Guidelines, including compatible building height, scale, materials, roof and wall mass and articulation.	
<p>Impact CTR-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?</p>	Significant	<p>CTR-2: Protect Archaeological Resources during Construction</p> <p>The PCSD shall protect unknown archaeological resources. Should an archaeological resource be inadvertently discovered during ground-disturbing activities, the Tribal Historic Preservation Officers (THPO) appointed by the Blue Lake Rancheria, Bear River Band of Rohnerville Rancheria and Wiyot Tribe shall be immediately notified and a qualified archaeologist with local experience retained to consult with the PCSD, the three THPOs, Humboldt County and other applicable regulatory agencies to employ best practices for assessing the significance of the find, developing and implementing a mitigation plan if avoidance is not feasible, and reporting in accordance with the Harbor District's Standard Operating Procedures. The Standard Operating Procedures include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Ground-disturbing activities shall be immediately stopped if potentially significant historic or archaeological materials are discovered. Examples include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials, and historic structure remains such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the discovery locale. 	Less than Significant with Mitigation

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
		<ul style="list-style-type: none"> • An “exclusion zone” where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable bufferzone by the Contractor Foreman or authorized representative, or party who made the discovery and initiated these measures. • The discovery locale shall be secured (e.g., 24-hour surveillance) as directed by the PCSD if considered prudent to avoid further disturbances. • The Contractor Foreman or authorized representative, or party who made the discovery and initiated these SOP, shall be responsible for immediately contacting by telephone the parties listed below to report the find: <ul style="list-style-type: none"> o the PCSD’s authorized Point of Contact (POC), and o the Applicant’s (District’s permittee, lease or franchise holder) authorized POC, and it’s General Contractor’s POC if applicable. • Upon learning about a discovery, the PCSD’s POC shall be responsible for immediately contacting by telephone the POCs listed below to initiate the consultation process for its treatment and disposition: <ul style="list-style-type: none"> o THPOs with Blue Lake Rancheria, Bear River Band and Wiyot Tribe; and Other applicable agencies involved in Project permitting (e.g., US Army Corps of Engineers, US Fish & Wildlife Service, California Department of Fish & Wildlife, etc.). • Ground-disturbing project work at the find locality shall be suspended temporarily while PCSD, the three THPOs, consulting archaeologist and other applicable parties consult about appropriate treatment and disposition of the find. Ideally, a Treatment Plan will be developed within three working days of discovery notification. Where the project can be modified to avoid disturbing the find (e.g., through project redesign), this may be the preferred option. Should Native American remains be encountered, the 	

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
		<p>provisions of State laws shall apply (see below). The Treatment Plan shall reference appropriate laws and include provisions for analyses, reporting, and final disposition of data recovery documentation and any collected artifacts or other archaeological constituents. Ideally, the field phase of the Treatment Plan may be accomplished within five (5) days after its approval, however, circumstances may require longer periods for data recovery.</p> <ul style="list-style-type: none"> The PCSD's officers, employees and agents, including contractors, permittees, holders of leases or franchises, and applicable property owners shall be obligated to protect significant cultural resource discoveries and may be subject to prosecution if applicable State or Federal laws are violated. In no event shall unauthorized persons collect artifacts. Any and all inadvertent discoveries shall be considered strictly confidential, with information about their location and nature being disclosed only to those with a need to know. The PCSD's authorized representative shall be responsible for coordinating with any requests by or contacts to the media about a discovery. These Standard Operating Procedures shall be communicated to the field work force (including contractors, employees, officers and agents) of those entities that obtain a permit, lease or franchise from the PCSD, and such communications may be made and documented at weekly tailgate safety briefings. Ground-disturbing work at a discovery locale may not be resumed until authorized in writing by the PCSD. 	
<p>Impact CTR-3: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</p>	<p>Significant</p>	<p>CTR-3: Recovery of Unknown Buried Paleontological Resources</p> <p>In the event that paleontological resources are discovered, the PCSD shall notify a qualified paleontologist. The paleontologist shall document the discovery as needed, evaluate the potential</p>	<p>Less than Significant with Mitigation</p>

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
		<p>resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. If fossilized materials are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist. The paleontologist shall notify the appropriate agency to determine procedures that would be followed before construction is allowed to resume at the location of the find.</p> <p>If the PCSD determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important. The plan shall be submitted to the PCSD for review and approval prior to implementation.</p>	
<p>Impact CTR-4: Would the project disturb any human remains, including those interred outside of formal cemeteries?</p>	<p>Significant</p>	<p>CTR-4: Protect Human Remains if Encountered during Construction</p> <p>Should human remains be inadvertently discovered during ground-disturbing activities, work at the discovery locale shall be halted immediately, the PCSD and County Coroner contacted, and the Harbor District’s Standard Operating Procedures shall be followed, consistent with Public Resources Code § 5097.9 and Health and Safety Code § 7050.5. The Standard Operating Procedures include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • If human remains are encountered, they shall be treated with dignity and respect. Discovery of Native American remains is a very sensitive issue and serious concern of affiliated Native Americans. Information about such a discovery shall be held in confidence by all project personnel on a need-to-know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld. • Violators of Section 7050.5 of the California Health and Safety Code may be subject to prosecution to the full extent of applicable law (felony offense). 	<p>Less than Significant with Mitigation</p>

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
		<ul style="list-style-type: none"> • The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American, the Coroner has 24 hours to notify the Native American Heritage Commission (NAHC) in Sacramento at (916) 653-4082. • The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) of the deceased Native American. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.) • Within 48 hours of their notification by the NAHC, the MLD will be granted permission by the property owner of the discovery locale to inspect the discovery site if they so choose. • Within 48 hours of their notification by the NAHC, the MLD may recommend to the owner of the property (discovery site) the means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses (if any) recommended by the MLD may be considered and carried out. • Whenever the NAHC is unable to identify a MLD, or the MLD fails to make a recommendation, or the property owner rejects the recommendation of the MLD and mediation between the parties by NAHC fails to provide measures acceptable to the property owner, he/she shall cause the re-burial of the human remains and associated grave offerings with appropriate dignity on the property in a location not subject to further subsurface disturbance. 	
<p>Impact CTR-5: Would the project cause a substantial adverse change in the significance of a tribal cultural resource,</p>	<p>Significant</p>	<p>CTR-5: Minimize Impacts to Unknown Tribal Cultural Resources</p>	<p>Less than Significant with Mitigation</p>

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
<p>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 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?</p>		<p>Prior to construction, all three Wiyot groups, Bear River Band of the Rohnerville Rancheria, Blue Lake Rancheria, and the Wiyot Tribe, shall be contacted and provided the opportunity to monitor ground-disturbing activities. If potential tribal cultural resources are uncovered during construction, the PCSD shall halt work, and workers shall avoid altering the materials and their context. Project personnel shall not collect cultural materials. The PCSD shall immediately notify the Tribal Historic Preservation Officers (THPO) appointed by the Blue Lake Rancheria, Bear River Band of Rohnerville Rancheria and Wiyot Tribe shall be immediately notified and a qualified archaeologist with local experience retained to consult with the PCSD, the three THPOs, other applicable regulatory agencies to employ best practices for assessing the significance of the find, developing and implementing a mitigation plan if avoidance is not feasible, and reporting in accordance with the <i>Protocols for Inadvertent Archaeological Discoveries for Ground Disturbing Project Permits, Leases and Franchises Issued by The Humboldt Bay Harbor, Recreation, and Conservation District, Humboldt Bay, California</i>, with the substitution of PCSD staff for Harbor District Staff.</p>	
<p>Impact CTR-C-1: Would the project result in a cumulatively considerable contribution to a cumulative impact?</p>	<p>Less than Cumulatively Considerable (Less than Significant)</p>	<p>None Required</p>	<p>N/A</p>
<p>Section 4.5 Geology, Soils, and Seismicity</p>			
<p>Impact GEO-1: Would the project expose people or structures to potential substantial adverse effects involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map</p>	<p>No Impact</p>	<p>None Required</p>	<p>N/A</p>

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
issued by the State Geologist for the area or based on other substantial evidence of a known fault?			
Impact GEO-2: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving strong seismic ground shaking?	Significant	GEO-2: Reduce Geologic Hazards through Design and Construction Measures The PCSD shall design and construct the project in conformance with the specific recommendations contained in the geotechnical report prepared for the project. Specifically, the design and construction shall be consistent with the geotechnical recommendations for seismic design and liquefiable soils, which may include flexible joints for underground utilities, preventing flotation of pipelines, earthwork, and excavation. Professional inspection of the pipe installation and any foundations shall be performed during construction to ensure compliance with the recommendations.	Less than Significant with Mitigation
Impact GEO-3: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving seismic-related ground failure, including liquefaction?	Significant	Implement MM GEO-2	Less than Significant with Mitigation
Impact GEO-4: Would the project expose people or structures to potential substantial adverse effects involving landslides?	No Impact	None Required	N/A
Impact GEO-5: Would the project result in substantial soil erosion or the loss of topsoil?	Less than Significant	None Required	N/A
Impact GEO-6: Would the project 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	Less than Significant	None Required	N/A

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
spreading, subsidence, liquefaction or collapse?			
Impact GEO-7: Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	No Impact	None Required	N/A
Impact GEO-8: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	No Impact	None Required	N/A
Impact GEO-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact related to geology and soils?	No Impact	None Required	N/A
Section 4.6 Greenhouse Gas Emissions			
Impact GHG-1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less than Significant	None Required	N/A
Impact GHG-2: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No Impact	None Required	N/A
Impact GHG-C-1: Would the project result in a cumulatively considerable contribution to a cumulative impact related to greenhouse gases?	Less than Cumulatively Considerable (Less than Significant)	None Required	N/A

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
Section 4.7 Hazards and Hazardous Materials			
Impact HAZ-1: Would the project create a significant hazard through the routine transport, use or disposal of hazardous materials, substances or waste or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials?	Less than Significant	None Required	N/A
Impact HAZ-2: Would the project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No Impact	None Required	N/A
Impact HAZ-3: Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65965.5 and, as a result, would it create a significant hazard to the public or the environment?	Significant	<p>HAZ-3: Soil and Groundwater Management during Construction</p> <p>The PCSD shall prepare a construction Soil and Groundwater Management Plan (SGMP) prior to start of construction activities. The SGMP will include the following components:</p> <ol style="list-style-type: none"> 1. Soil Pre-characterization Workplan. A work plan that identifies potential COCs for laboratory analysis, location, and number of borings necessary for pre-characterization and depths for sample collection. This work will be completed by professional engineer or geologist licensed in the state of California. Pre-characterization soil borings shall be conducted in areas that are within or adjacent to sites with hazard ranks of one, two, or three where soil will be disturbed or groundwater encountered by project construction activities. Surficial and depth-discrete samples shall be collected to the proposed depth of excavation. Fill materials may be encountered within or adjacent to sites with a hazard rank of 3 where historical activities and site reconnaissance suggest that areas within or adjacent to the project alignment were filled. Fill materials may include wood debris from treated lumber. 	Less than Significant with Mitigation

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
		<ol style="list-style-type: none"> 2. Health and Safety Plan. Data generated from the soil pre-characterization will be used to prepare a project-specific construction-period health and safety plan and identify areas where impacted soil and/or groundwater management for worker protection may be necessary. 3. Field Screening Procedures. Field screening procedures shall be identified in the SGMP and enacted during construction to identify potentially impacted soil in areas of the project alignment that are within or adjacent to sites with hazard ranks of one, two, or three. If impacted soil or groundwater is encountered during construction activities, follow-up measures (such as, soil and groundwater sample collection, laboratory analysis, stockpiling, impacted soil segregation, and manifested disposal) may be necessary. 4. Follow-up Measures. The SGMP will identify follow-up measures to be taken in the event impacted soil or groundwater is encountered during construction activities. The SGMP will identify each potential COC, stop-work actions if encountered, person(s) responsible for initiating follow-up measures, and notification, coordination, removal, and disposal processes (as appropriate). If impacted soil and groundwater is encountered during construction, appropriate measures for worker protection shall be implemented per the Health and Safety Plan. 	
<p>Impact HAZ-4: Would the project be 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, and result in a safety hazard for people residing or working in the project area?</p>	Less than Significant	None Required	N/A
<p>Impact HAZ-5: Would the project result in a safety hazard for people residing or working in the project area due to a</p>	No Impact	None Required	N/A

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
private airstrip located within two miles of the project site?			
Impact HAZ-6: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Less than Significant	None Required	N/A
Impact HAZ-7: Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	Less than Significant	None Required	N/A
Impact HAZ-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact related to hazards or hazardous materials?	Less than Cumulatively Considerable (Less than Significant)	None Required	N/A
Section 4.8 Hydrology and Water Quality			
Impact HWQ-1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality?	Significant	HWQ-1a: Manage Stormwater during Construction The PCSD shall prepare a stormwater pollution prevention plan (SWPPP) specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and shall be reviewed and approved by the project applicant prior to commencement of work and shall be made conditions of the contract with the contractor selected to build the project. The	Less than Significant with Mitigation

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
		<p>SWPPP(s) shall incorporate control measures in the following categories:</p> <ul style="list-style-type: none"> • Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching); • Dewatering and/or flow diversion practices, if required (see Mitigation Measure HWQ-1b); • Sediment control practices (temporary sediment basins, fiber rolls); • Temporary and post-construction on- and off-site runoff controls; • Special considerations and BMPs for water crossings, wetlands, and drainages; • Monitoring protocols for discharge(s) and receiving waters, with emphasis placed on the following water quality objectives: dissolved oxygen, floating material, oil and grease, pH, and turbidity; • Waste management, handling, and disposal control practices; • Corrective action and spill contingency measures; • Agency and responsible party contact information, and • Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP. <p>The SWPPP shall be prepared by a qualified SWPPP practitioner with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment</p>	

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
		<p>release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.</p> <p>HWQ-1b: Construction Dewatering Permits All construction dewatering shall be discharged to an approved land disposal area or drainage facility in accordance with a NPDES permit and North Coast RWQCB requirements. The PCSD shall apply for the NPDES permit and provide the NCRWQCB with the location, type of discharge, and methods of treatment and monitoring for all groundwater dewatering discharges, prior to dewatering activities. Emphasis shall be placed on those discharges that would occur directly or in proximity to surface water bodies and drainage facilities.</p>	
<p>Impact HWQ-2: Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rates of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?</p>	<p>Less than Significant</p>	<p>None Required</p>	<p>N/A</p>
<p>Impact HWQ-3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or the increase in the rate or amount of surface runoff, in a manner which would result in substantial erosion or siltation or flooding on- or off-site?</p>	<p>No Impact</p>	<p>None Required</p>	<p>N/A</p>

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
Impact HWQ-4: Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff?	Less than Significant	None Required	N/A
Impact HWQ-5: Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	No Impact	None Required	N/A
Impact HWQ-6: Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?	No Impact	None Required	N/A
Impact HWQ-7: Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	No Impact	None Required	N/A
Impact HWQ-8: Would the project be subject to inundation by seiche, tsunami, or mudflow?	Less than Significant	None Required	N/A
Impact HWQ-C-1: Would the project result in a cumulatively considerable contribution to a cumulative impact related to hydrology and water quality?	Cumulatively Considerable	Implement MMs HWQ-1a and HWQ-1b	Less than Cumulatively Considerable (Less than Significant)
Section 4.9 Land Use and Planning			
Impact LU-1: Would the project physically divide an established community?	No Impact	None Required	N/A

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
Impact LU-2: Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	No Impact	None Required	N/A
Impact LU-3: Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?	No Impact	None Required	N/A
Impact LU-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to land use?	Less than Cumulatively Considerable (Less than Significant)	None Required	N/A
Section 4.10 Noise			
Impact NOI-1: Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Significant	NOI-1: Noise Attenuation Design for Pump Stations The County shall require each pump station design to include a demonstration that pump-generated noise would be attenuated to less than 60 dBA at the exterior of the pump station.	Less than Significant with Mitigation
Impact NOI-2: Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	Less than Significant	None Required	N/A
Impact NOI-3: Would the project result in a substantial permanent increase in ambient noise levels in the project	Significant	Implement MM NOI-1	Less than Significant with Mitigation

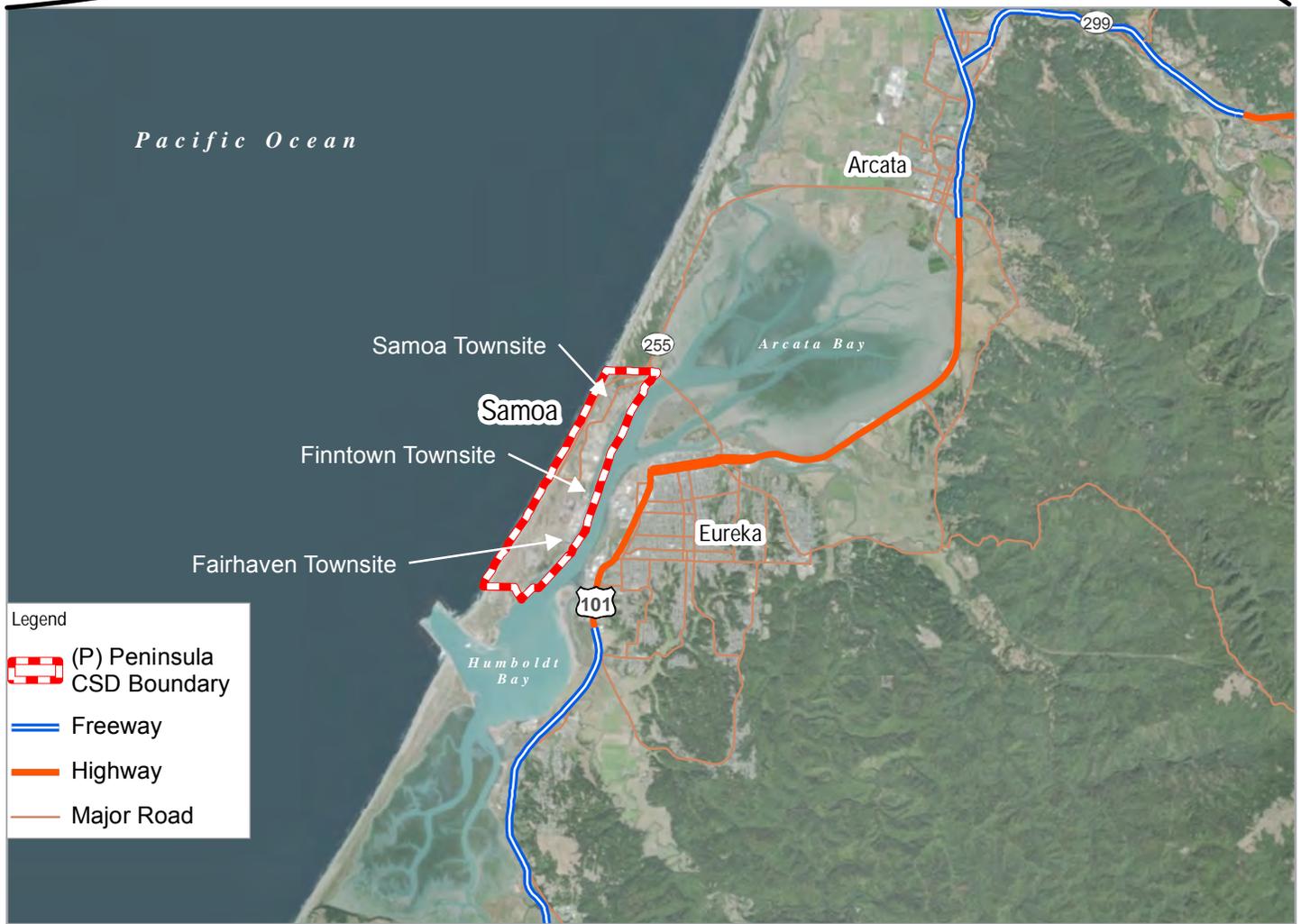
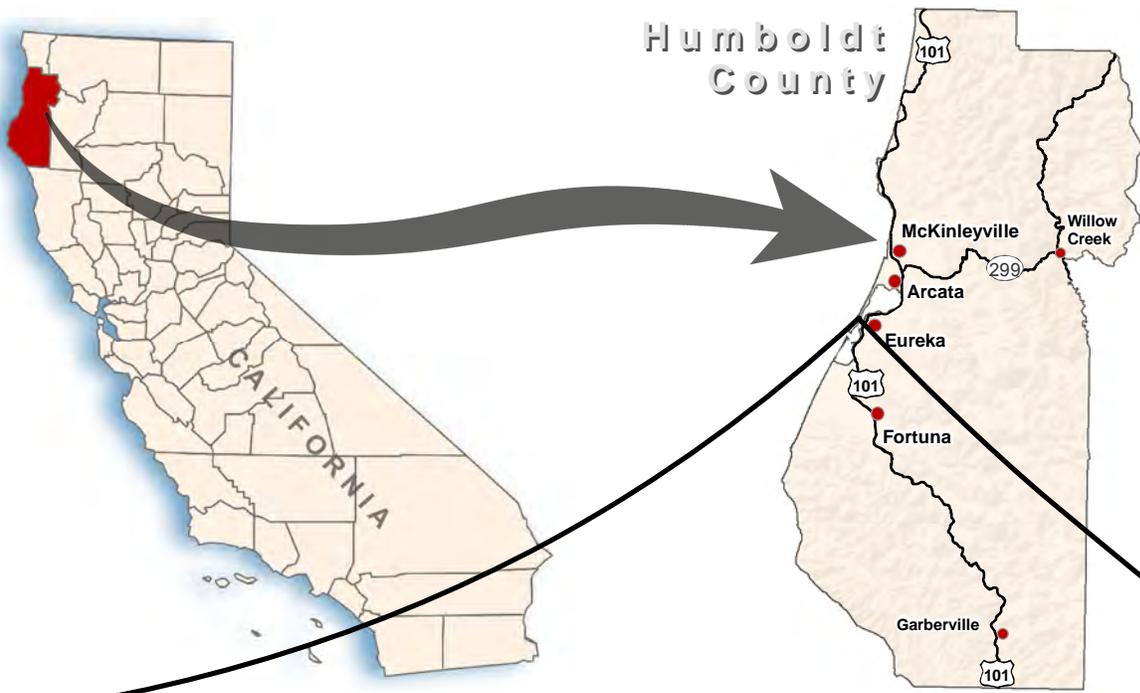
Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
vicinity above levels existing without the project?			
Impact NOI-4: Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	Less than Significant	None Required	N/A
Impact NOI-5: Would the project be 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, and expose people residing or working in the project area to excessive noise levels?	No Impact	None Required	N/A
Impact NOI-6: Would the project be located within the vicinity of a private airstrip, and expose people residing or working in the project area to excessive noise levels?	No Impact	None Required	N/A
Impact NOI-C-1: Would the project contribute to cumulatively considerable noise impacts?	Less than Cumulatively Considerable (Less than Significant)	None Required	N/A
Section 4.11 Population and Housing			
Impact POP-1: Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirect (for example, through extension of roads or other infrastructure?)	Less than Significant	None Required	N/A
Impact POP-2: Would the project displace substantial numbers of existing	No Impact	None Required	N/A

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
housing or people, necessitating the construction of replacement housing elsewhere?			
Impact POP-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to population and housing?	Less than Cumulatively Considerable (Less than Significant)	None Required	N/A
Section 4.12 Public Services and Recreation			
Impact PSR-1: Would the project result in substantial adverse physical impacts associated with the provision of 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 following public services: fire protection, police protection, schools, parks, and/or other public facilities?	Less than Significant	None Required	N/A
Impact PSR-2: Would the project 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?	Less than Significant	None Required	N/A
Impact PSR-3: Would the project include recreational facilities or require the construction or expansion of recreation facilities which might have an adverse physical effect on the environment?	Less than Significant	None Required	N/A

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
Impact PSR-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to public services or recreational resources?	Less than Cumulatively Considerable (Less than Significant)	None Required	N/A
Section 4.13 Transportation and Traffic			
Impact TRA-1: Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	Less than Significant	None Required	N/A
Impact TRA-2: Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	No Impact	None Required	N/A
Impact TRA-3: Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	No Impact	None Required	N/A
Impact TRA-4: Would the project substantially increase hazards due to a design feature or incompatible use?	Less than Significant	None Required	N/A

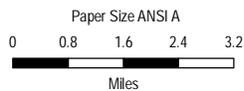
Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
Impact TRA-5: Would the project result in inadequate emergency access?	Less than Significant	None Required	N/A
Impact TRA-6: Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	Less than Significant	None Required	N/A
Impact TRA-C-1: Would the project result in cumulatively considerable contributions to cumulative impacts related to transportation?	Less than Cumulatively Considerable (Less than Significant)	None Required	N/A
Section 4.14 Utilities and Service Systems			
Impact UTI-1: Would the project exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board.	Less than Significant	None Required	N/A
Impact UTI-2: Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	No Impact	None Required	N/A
Impact UTI-3: Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.	No Impact	None Required	N/A
Impact UTI-4: Would the project have sufficient water supplies available to serve the project from existing	Less than Significant	None Required	N/A

Environmental Impact	Impact Significance	Mitigation Measure	Impact After Mitigation
entitlements and resources, or are new or expanded entitlements needed.			
Impact UTI-5: Would the project 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.	Less than Significant	None Required	N/A
Impact UTI-6: Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	Less than Significant	None Required	N/A
Impact UTI-7: Would the project comply with federal, state, and local statutes and regulations related to solid waste.	No Impact	None Required	N/A
Impact UTI-C-1: Would the project result in a cumulatively considerable contribution to a cumulative impact related to utility or service systems.	Less than Cumulatively Considerable (Less than Significant)	None Required	N/A



Legend

-  (P) Peninsula CSD Boundary
-  Freeway
-  Highway
-  Major Road



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

County of Humboldt
 Samoa Peninsula Wastewater Project
 Draft EIR

Project No. 11146487
 Revision No. -
 Date Jul 2018

Location Map

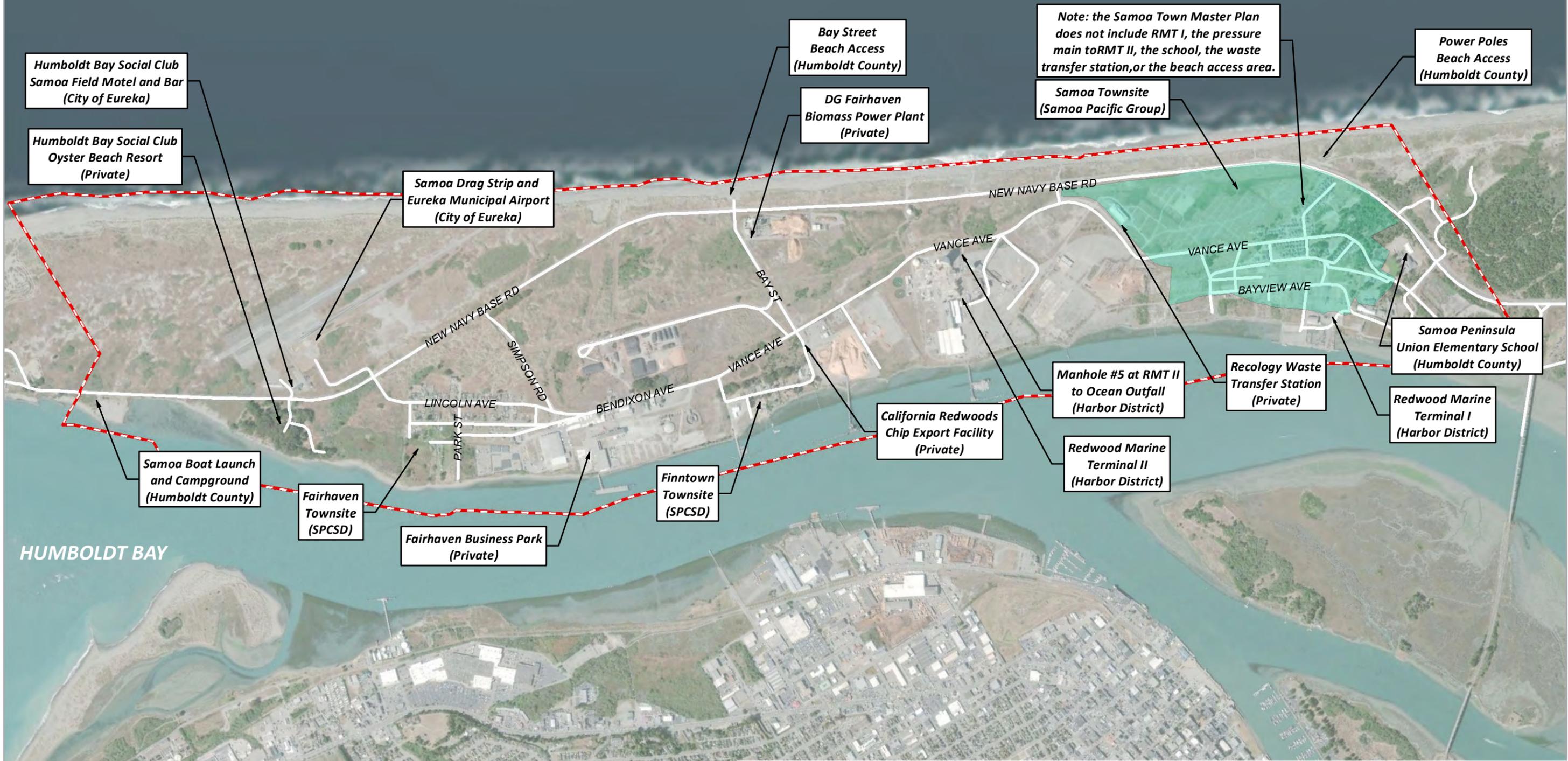
FIGURE 1-1

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PACIFIC OCEAN

Legend

- Samoa Town Master Plan Area
- (P) Peninsula CSD Boundary



HUMBOLDT BAY

Data Disclaimer
 Proposed Samoa Peninsula Community Services District (SPCSD) boundary dependent upon Humboldt County Local Area Formation Commission (LAFCo) approval.

Paper Size ANSI B

0 375 750 1,125 1,500
 Feet

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



County of Humboldt Samoa
 Peninsula Wastewater
 Project
 Draft EIR

Project Service Area

Project No. SHN017203
 Revision No. -
 Date Aug 2018

FIGURE 1-2

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 Print date: 06 Aug 2018 - 08:22

Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Created by SHN: cswanson

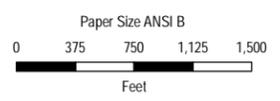
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Pacific Ocean



Proposed Activity

-  Project Boundary
-  Staging
-  Peninsula CSD Boundary



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



County of Humboldt
Samoa Peninsula
Wastewater Project
Draft EIR

Project No. 11146487
Revision No. C
Date Aug 2018

Project Boundary

FIGURE 1-3

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2. Introduction

The County of Humboldt is the project sponsor for the Samoa Peninsula Wastewater Project (project). The Peninsula Community Services District (PCSD), which is anticipated to be fully formed by the early 2019, is the project proponent and would be responsible for construction and operation of the project.

The California Environmental Quality Act (CEQA) requires that discretionary decisions by public agencies be subject to environmental review. The project is subject to the provisions of the CEQA because it will result in a physical change in the environment and involves the issuance of discretionary approvals, permits, and entitlements. The County of Humboldt will serve as the lead agency for CEQA compliance because it is the public agency which has the principal responsibility for approving the project.

Humboldt County is sponsoring the planning for the project and has served as the applicant for the State Water Resources Control Board grant funding because the PCSD was not yet official formed. Humboldt County is responsible for amending the LCP to allow the project to be developed and approving, with the Coastal Commission, Coastal Development Permits to allow the construction of the project.

Funding has been provided in full or in part through an agreement with the State Water Resources Control Board using funds from Proposition 1. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

2.1 Overview of the California Environmental Quality Act Process

The California Environmental Quality Act (CEQA) requires that discretionary decisions by public agencies be subject to environmental review. The purpose of an Environmental Impact Report (EIR) is to identify the significant effects of the project on the environment, to identify alternatives to the project, and to indicate the manner in which those significant effects can be mitigated or avoided (Public Resources Code [PRC] Section 21002.1[a]). Each public agency is required to mitigate or avoid the significant effects on the environment of projects it approves or carries out whenever it is feasible.

This Draft EIR has been prepared by the County of Humboldt (County) for the proposed Samoa Peninsula Wastewater Project (project) pursuant to CEQA (PRC Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations Section 15000 et seq.). Environmental effects of the project that must be addressed include the significant effects of the project, growth-inducing effects of the project, and significant cumulative effects of past, present, and reasonably anticipated future projects.

The purpose of an EIR is not to recommend either approval or denial of a project. CEQA requires decision-makers to balance the benefits of a project against its unavoidable environmental effects in deciding whether to carry out a project. The lead agency will consider the Draft EIR, comments received on the Draft EIR, and responses to those comments before making a final decision. If significant environmental effects are identified, the lead agency must adopt “Findings” indicating whether feasible mitigation measures or alternatives exist that can avoid or reduce those effects. If

significant environmental impacts are identified as unavoidable after proposed mitigation, the lead agency may still approve the project if it determines that the social, economic, or other benefits outweigh the unavoidable impacts. The lead agency would then be required to prepare a “Statement of Overriding Considerations” that discusses the specific reasons for approving the project, based on information in the EIR and other information in the administrative record.

2.2 Background

The communities of Fairhaven and Finntown, and surrounding areas on the Samoa Peninsula, do not have a wastewater collection and treatment system, and instead use individual onsite septic systems that discharge to individual leachfields. The DG Fairhaven Power Facility discharges to an existing ocean outfall.

Existing septic and leachfield systems in the area predominantly pre-date current standards for adequate soil conditions and groundwater separation. The near-sea-level ground elevation and influence of tidal waters results in a shallow groundwater table, that is susceptible to further rise in conjunction with fluctuations of sea level. This, coupled with the fast-draining sandy soils comprising the peninsula presents a situation preventing adequate biological and filtrative treatment of wastewater compliant with current onsite waste treatment system (OWTS) regulations.

In May 2018 the County of Humboldt Planning and Building Department finalized the Samoa Peninsula Wastewater Project Planning and Design Study (PER) to evaluate the feasibility and cost of potential wastewater collection, treatment, and disposal options for the town of Samoa, Fairhaven, and Finntown. The main focus of the PER was to evaluate the opportunities, identify constraints and approaches to address the constraints, and ultimately determine the path of future wastewater development on the Samoa Peninsula.

2.3 Purpose and Authority

This Draft EIR is a project-level environmental document that analyzes construction and operation of the Samoa Peninsula Wastewater Project. Humboldt County has commissioned the preparation of this Draft EIR to disclose the potential environmental effects that may result from the construction and operation of the project in accordance with the requirements of CEQA.

The environmental impacts of the proposed project are analyzed in the EIR to the degree of specificity appropriate, in accordance with CEQA Guidelines Section 15146. This document addresses the potentially significant adverse environmental impacts that may be associated with the project. It also identifies appropriate and feasible mitigation measures and alternatives that may be adopted to significantly reduce or avoid these impacts.

2.4 Lead Agency Determination

The County of Humboldt is designated as the lead agency for the project. CEQA Guidelines Section 15367 defines the lead agency as “. . . the public agency, which has the principal responsibility for carrying out or approving a project.” Other public agencies may use this Draft EIR in the decision-making or permit process and consider the information in this Draft EIR along with other information that may be presented during the CEQA process, including, but not limited to, the California Coastal Commission. The Coastal Commission will serve as a responsible agency pursuant to CEQA Guidelines Section 15381 because the project requires amending the Local Coastal Plan. The

Peninsula Community Services District, which is in-process of formation and anticipated to be fully formed by early 2019, will be responsible for approving the project and implementing the project.

As discussed above, the County of Humboldt is designated as the lead agency for the project because they have principal responsibility for approving the project. This Draft EIR was prepared by GHD and SHN, environmental consultants. Prior to public review, it was extensively reviewed and evaluated by the County of Humboldt. This Draft EIR reflects the independent judgment and analysis of the County of Humboldt as required by CEQA. Lists of organizations and persons consulted and the report preparation personnel are provided in Section 8 of this Draft EIR.

2.5 Intended Uses of the EIR

The purpose of an EIR is to provide a clear understanding of the environmental impacts associated with the construction and operation of a project. To do this, an EIR must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the Notice of Preparation (NOP) is published, from both a local and regional perspective. This environmental setting normally constitutes the baseline physical conditions by which the lead agency determines whether an impact is significant. The lead agency, the County of Humboldt, is the decision-making body that will consider the adequacy of the EIR, ultimately certifying if found adequate, and consider approval of the project.

In addition to the lead agency, other responsible and trustee agencies may use this EIR in approving permits or providing recommendations for the project. These agencies include, but are not limited to:

- Coastal Commission – Certify Humboldt Bay Area Plan (HBAP), Coastal Development Permit
- Caltrans – Encroachment Permit
- North Coast Regional Water Quality Control Board - National Pollutant Discharge Elimination System, Report of Waste Discharge, 401 Water Quality Certification
- State Water Resources Control Board - Construction General Permit
- California State Lands Commission – Lease

2.6 Public Involvement and Scoping Process

2.6.1 Notice of Preparation

On April 30, 2018, the Notice of Preparation (NOP) for the Humboldt County Samoa Peninsula Wastewater Project EIR was distributed (included in Appendix A). The NOP was mailed to the State Clearinghouse and the reviewing State agencies, as well as local and regional agencies, triggering the start of a 30-day scoping period. A public notice on the NOP was also mailed to property owners within the project area. On May 16, 2018 a public scoping meeting was held at the Fairhaven Fire Station, to solicit input regarding the issues that should be addressed in the EIR. The scoping period ended on May 30, 2018. Seven letters were received during the scoping period, and one comment card was submitted during the scoping meeting (included in Appendix B). Table 2-1, below, summarizes the comment letters and concerns.

2.6.2 Environmental Issues Determined Not to Be Significant

The NOP identified topical areas that were determined not to be significant. An explanation of why each area is determined not to be significant is provided in Section 7, Effects Found Not To Be Significant. These topical areas are as follows:

- Agriculture and Forestry Resources.
- Mineral Resources

Table 2-1 NOP Comment Letters

Affiliation	Signatory	Date	Topic(s) of Concern	EIR Section(s) where Topics are Addressed
State Agencies				
Native American Heritage Commission (NAHC)	Frank Lienert, Associate Governmental Program Analyst	May 7, 2018	AB 52 and SB 18 Compliance	Section 4.4, Cultural and Tribal Cultural Resources
State Water Resources Control Board (SWRCB)	Barry Sutter, P.E., Klamath District Engineer	May 16, 2016	No Environmental Topics	N/A
California Department of Fish and Wildlife (CDFW)	Curt Babcock, Habitat Conservation Program Manager	May 18, 2018	Special-status species and sensitive habitats	Section 4.3, Biological Resources
California Coastal Commission (CCC)	Melissa B. Kraemer, Supervising Analyst	May 30, 2018	Scenic and Visual Resources Wetland, marine habitat, environmental sensitive habitat areas (ESHA), and other biological resources Hazards and hazardous materials Flooding and water quality Recreation/public access	Section 4.1, Aesthetics Section 4.3, Biological Resources Section 4.7, Hazards and Hazardous Materials Section 4.8, Hydrology and Water Quality Section 4.12, Public Services and Recreation
Regional and Local Agencies				
Humboldt Bay Harbor, Recreation and Conservation District	Larry Oetker, Executive Director	May 30, 2018	No Environmental Topics	N/A
Humboldt Local Agency Formation Commission (LAFCO)	Colette Metz	May 30, 2018	No Environmental Topics	N/A
Humboldt County Department of Health & Human Services (DHHS)	Benjamin Dolf, R.E.H.S., Senior Environmental Health Specialist	May 31, 2018	Project Description	Section 3.0 Project Description
Private Parties				
	Jennifer Jensen	May 29, 2018	Hydrology and water quality	Section 4.8, Hydrology and Water Quality

2.6.3 Potentially Significant Environmental Issues

The NOP found that the following topical areas may contain potentially significant environmental issues that will require further analysis in the EIR. These sections are as follows:

Aesthetics	Hydrology and Water Quality
Air Quality	Land Use and Planning
Biological Resources	Noise
Cultural and Tribal Resources	Population and Housing
Geology, Soils, and Seismicity	Public Services and Recreation
Greenhouse Gas Emissions	Transportation and Traffic
Hazards and Hazardous Materials	Utilities and Service Systems

2.7 Organization of this EIR

This Draft EIR is organized into chapters, as identified and briefly described below. Chapters are further divided into sections (e.g., Section 4.1, Aesthetics).

- **Chapter 1, Executive Summary.** The executive summary summarizes the project, project impacts, and mitigation measures applied to the project.
- **Chapter 2, Introduction.** Describes the purpose and organization of the Draft EIR, context, and terminology used in the Draft EIR. This section also describes the public scoping process and comment period.
- **Chapter 3, Project Description.** Describes the project objectives, project location, background, project characteristics, and project components.
- **Chapter 4, Environmental Analysis.** For each environmental resource area, this section describes the existing environmental and regulatory setting, discusses the environmental impacts associated with the proposed project, identifies feasible mitigation measures to reduce or eliminate those impacts, and provides conclusions on significance.
- **Chapter 5, Alternatives.** This section describes the alternatives to the proposed project that are being considered to mitigate the project's environmental impacts while meeting most of the project's objectives.
- **Chapter 6, Other CEQA Related Impacts.** This section describes the unavoidable significant impacts, growth-inducing, and irreversible impacts.
- **Chapter 7, Effects Found Not To Be Significant.** This section contains analysis of the topical sections not addressed in Chapter 4.
- **Chapter 8, List of Preparers.** This section identifies the Draft EIR authors and consultants who assisted in the preparation of the Draft EIR, by name and affiliation.
- **Appendices.** The appendices contain various technical reports and publications that have been summarized or otherwise used for preparation of the Draft EIR.

2.8 Document Incorporated by Reference

As permitted by CEQA Guidelines Section 15150, this Draft EIR has referenced several technical studies, analyses, and previously certified environmental documentation. Information from the documents, which have been incorporated by reference, has been briefly summarized in the appropriate section(s). The relationship between the incorporated part of the referenced document and the Draft EIR has also been described. The documents and other sources that have been used in the preparation of this Draft EIR include but are not limited to:

- County of Humboldt General Plan and EIR
- Humboldt Bay Area Plan
- Samoa Townsite Master Plan and EIR

These documents are specifically identified at the end of each section for which the document was referenced. In accordance with CEQA Guidelines Section 15150(b), the referenced documents and other sources used in the preparation of the Draft EIR are available for review at the County of Humboldt office at the address shown in Section 2.10 below.

2.9 Documents Prepared for the Project

The following technical studies and analyses were prepared for the proposed project:

- CalEEMod Outputs (Appendix D)
- Archaeological Survey Report, prepared by Roscoe and Associates
- Natural Resources Assessment – RMT II Samoa Effluent Pipeline Project, prepared by SHN (Appendix E)
- Wetland and Other Waters Delineation Report – RMT II Samoa Effluent Pipeline Project, prepared by SHN (Appendix E)
- Natural Resources Assessment – Samoa Peninsula Wastewater Project, prepared by SHN (Appendix E)
- Wetland and Other Waters Delineation Report – Samoa Peninsula Wastewater Project, prepared by SHN (Appendix E)
- Geologic Hazard Evaluation and Soils Engineering Report, prepared by SHN (Appendix F)
- Hazardous Materials Corridor Study, prepared by SHN (Appendix H)

2.10 Review of the Draft EIR

The Draft EIR will be circulated for 45 days, from January 31, 2019 to March 18, 2019, to allow interested individuals and public agencies time to review and comment on the document. Written comments on the Draft EIR will be accepted by the County until 5:00 pm on March 18, 2019. Public agencies, interested organizations and individuals are encouraged to submit comments on the Draft EIR, with the title “Samoa Peninsula Wastewater Project Comments on Draft EIR,” to:

John Miller, Senior Planner
Planning and Building Department
County of Humboldt
3015 H Street
Eureka, CA 95501

To facilitate understanding of the comments, please provide a separate sentence or paragraph for each comment, and note the page and section of the Draft EIR to which the comment is directed.

The Draft EIR is available for review at the County of Humboldt Planning and Building Department office located at 3015 H Street in Eureka, California. The Draft EIR is also available at the Samoa Peninsula Fire District Firehouse, located at 1982 Gass Street, Samoa, CA 95564. It is available in downloadable Adobe Acrobat format on the County’s website at <https://humboldt.gov/2364/Long-Range-Planning-Projects>.

At the end of the public review period, written responses will be prepared for comments received on the Draft EIR. The comments and responses will be included in the Final EIR and will be considered by the County prior to consideration of the adequacy of the EIR. Prior to approval of the project, the County must certify that the EIR has been completed in compliance with CEQA.

3. Project Description

The proposed project involves amendments to the Humboldt Bay Area Plan (HBAP) of the Humboldt County Local Coastal Program to allow the construction and operation of a consolidated wastewater collection, treatment, and disposal system with connections to residential, commercial/industrial, recreational, and institutional facilities located within the boundaries of the proposed Peninsula Community Services District (PCSD). It is anticipated that the PCSD will be fully formed by early 2019.

The project would provide sewer service to structures within the communities of Fairhaven and Finntown. The project would not provide service to parcels within the approved Samoa Town Master Plan. Sewer service to the area would be implemented in two phases: Sewer Service for Existing Structures (Short-Term), and Sewer Service for Possible Future Infill (Long-Term). The Short-Term phase includes construction and operation of a collection system, upgrades to a previously approved wastewater treatment facility, and a disposal system using the existing outfall to discharge effluent into the ocean to serve the existing structures that are served by onsite septic systems within the boundaries of the PCSD. The Long-Term phase would allow future infill structures, consistent with HBAP and zoning, to connect to the project's collection system and be served by the wastewater treatment plant.

3.1 Project Location

The proposed Samoa Peninsula Wastewater Project (project) is located on the Samoa Peninsula in Humboldt County approximately 225 miles north of San Francisco and less than 1 mile west of Eureka, California (Figure 3-1 Project Location). The project is within the proposed PCSD boundary, which once fully formed, will provide municipal services to the Samoa Peninsula (Figure 3-2 Service Area). The Samoa Peninsula includes the communities of Fairhaven, Finntown, and town of Samoa. The project's proposed wastewater improvements would serve the unincorporated communities of Fairhaven and Finntown, but would not include the Samoa Town Master Plan area, which have been addressed in the previously prepared *Samoa Town Master Plan, Final Master Environmental Impact Report*, Humboldt County, April 14, 2006, certified October 27, 2009 (see Section 3.3.2).

Project improvements would primarily be located in-road in Vance Avenue, Bendixsen Street, Lincoln Avenue, New Navy Base Road, and portions of adjoining streets. Improvements also would be made at the approved, but not yet constructed, Samoa Wastewater Treatment Facility in the Samoa Town Master Plan area. Figure 3-3 Project Boundary shows the project site, including construction staging areas.

3.2 Project Objectives

The following are the project objectives for the Short-Term phase:

- Collect, convey, and treat domestic wastewater from existing structures in Fairhaven, Finntown, the County Boat Launch facility, and the Eureka Airport that currently use on-site wastewater treatment systems;
- Reduce and avoid degradation of groundwater quality;

- Consolidate wastewater collection and treatment services within the PCSD service area;
- Minimize the impacts to coastal resources by limiting the project to only serve existing structures that are served by onsite septic systems and by locating the wastewater collection system within the existing developed road system wherever feasible;
- Minimize project cost by improving the approved Samoa Wastewater Treatment Facility (WWTF) system and utilizing the existing outfall to discharge effluent into the ocean.

The following are the project objectives for the Long-Term phase:

- Allow for the development of infill properties in Fairhaven, consistent with HBAP land use designations/zone classifications and policies;
- Protect coastal resources and provide coastal hazards resilience;
- Facilitate Industrial, Coastal-Dependent and Port of Humboldt development consistent with HBAP land use designations/zone classifications and policies.

3.3 Background and Context

The project is proposed to improve and protect water quality in the project area through development of a public wastewater system that minimizes project costs and impacts on the environment. The Humboldt County Division of Environmental Health considers establishment of a community sewer system on the Samoa peninsula a high priority. Existing systems in Fairhaven and surrounding areas predominantly pre-date current standards for adequate soil conditions and groundwater separation. The near-sea-level ground elevation and influence of tidal waters results in a shallow groundwater table, susceptible to further rise in conjunction with fluctuations of sea level. This, coupled with the fast-draining sandy soils comprising the peninsula, presents a situation preventing adequate biological and filtrative treatment of wastewater compliant with current onsite waste treatment system (OWTS) regulations.

In addition, the North Coast Regional Water Quality Control Board (NCRWQCB) staff has raised concerns prior to and during the preparation of the *Samoa Peninsula Wastewater Project, Planning and Design Study* (GHD/SHN 2018), about the impacts to groundwater quality from continued use and potential future failure of existing private septic systems within Samoa Peninsula. The Short-Term phase would be initiated as soon as funding is available and amendments to the HBAP are certified, and would implement improvements to collect, treat, and dispose of wastewater from existing structures within the PCSD service boundaries, as detailed in Section 3.5.3, below. The Long-Term phase would occur after planning relating to coastal resources and coastal hazards is complete and additional amendments to the HBAP are certified, utilizing the infrastructure constructed in Short-Term phase and would accommodate Industrial, Coastal-Dependent, Port and infill development that would occur over time.

The project is proposed within a complex planning environment that includes application of planning and policy documents at the County level, and regulation and oversight by multiple state and regional resource management agencies. The following paragraphs describe the various components of the planning landscape for the project.

3.3.1 Existing Unsewered Condition in Fairhaven and Finntown

The communities of Fairhaven and Finntown, surrounding industrial properties, Samoa Peninsula Union School, the Samoa boat ramp and RV park, and smaller commercial operations located on or near the City of Eureka Samoa Field Airport, do not have a wastewater collection and treatment system, and instead use individual septic systems that discharge to individual leachfields. The DG Fairhaven Power Facility discharges to an existing ocean outfall. Most of the existing septic systems are aging and are poorly suited for the soil and groundwater conditions that exist on the peninsula. Preventative maintenance is uncommon and failing systems are rarely identified until surface seepage is reported to the Humboldt County Division of Environmental Health (HCDEH).

In 1991, the first Wisconsin mound on-site wastewater disposal system was approved by the HCDEH. At the time, Wisconsin mounds were the best available technology for leachate disposal in areas of high groundwater; however, the HCDEH and the NCRWQCB found that due to high groundwater levels and coarse sand, mound systems, while providing better treatment than standard leachfields, did not comply with the Water Quality Control Plan (Basin Plan) requirements for the Fairhaven area. The Basin Plan sets specific vertical separation requirements between disposal lines and groundwater to ensure protection of beneficial uses of the groundwater in the Samoa Peninsula.

On June 8, 1993, the NCRWQCB advised the HCDEH that no more than six mounds should be installed in the Fairhaven area until sufficient monitoring data supports permitting additional mounds. To date, groundwater monitoring for septic leachate contamination has not been completed in the Fairhaven area. Six permits were issued for new residential construction using Wisconsin mounds, the most recent being in 2006; however, an additional 14 Wisconsin mounds were permitted as emergency repairs for failed standard septic systems. In total, 20 Wisconsin mounds have been constructed with an average of one per year since 2010 as emergency replacements.

The NCRWQCB is concerned about the impacts of partially-treated wastewater discharged to leachfields, groundwater, and Humboldt Bay due to the Peninsula's high water table and sandy soils. The NCRWQCB has raised concerns about harmful impacts to groundwater and potential impacts to the waters of Humboldt Bay if the existing systems are left in place.

The NCRWQCB maintains the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy). In this policy, counties are required either to accept a generic management plan for OWTS or to create their own area-specific Local Agency Management Program (LAMP) by 2018. Due to area-specific constraints, Humboldt County elected to develop its own LAMP, the *Humboldt County OWTS Regulations and Technical Manual*. The Humboldt LAMP regulates the installation of new or replacement OWTS under Tier 2 of the OWTS Policy.

In the Humboldt LAMP, the Fairhaven area is identified as having multiple challenging conditions. Due to these issues, Fairhaven is within a Variance Prohibition Area. Variance Prohibition Areas (VPA) have conditions which require special consideration to protect public health and water including high groundwater elevations, extremely coarse or restrictive soils, and high septic or water well density. Replacement of failing systems in VPAs will likely require above-grade pressurized dispersal systems, and new OWTS design proposals within these areas must strictly adhere to the regulations to ensure adequate treatment prior to dispersal. Variances cannot be granted for new

OWTS construction. It is unlikely that site conditions found in Fairhaven would support the design of new septic system OWTS that meet the requirements of the County regulations. Any discharge to land outside the jurisdiction of the local county regulations would require review and approval by the NCRWQCB. Additionally, proposals for future infill development specifically in Fairhaven are subject to submittal of a cumulative impact report that assesses groundwater mounding and organic and nitrogen impacts that are likely to result from the development. The HCDEH cites Humboldt County Code section 612-2(b)(3)(j) for authority to require the report. Multiple developers have sought OWTS permits since 2006; however, no cumulative impact report has been submitted, thus no permit has been issued.

3.3.2 Samoa Townsite Master Plan

The Samoa Townsite Master Plan (STMP), prepared by the Samoa Pacific Group (SPG), was approved in 2009 with the STMP Master Environmental Impact Report (EIR) (State Clearinghouse Number: 2003052054) certified on October 27, 2009 by the Humboldt County Board of Supervisors. The STMP covers approximately 173 acres on the north end of the Samoa Peninsula (See Figure 3-2 Service Area). After certification of the STMP Master EIR, amendment of the Humboldt County General Plan (Humboldt Bay Area Plan [HBAP]) was approved by the County of Humboldt on December 6, 2011. The HBAP amendment incorporates the adopted findings of the California Coastal Commission (LCP Amendment HUM-MAJ-01-08, March 10, 2011). The amendment conditionally approved the land uses and associated zone reclassifications for the STMP site.

The STMP and Master EIR include a wastewater treatment facility (Samoa WWTF). The Samoa WWTF, as described and contained in the approved STMP and certified Master EIR, is referred to as the “Approved Samoa WWTF” within this DEIR.

2015 HBAP Amendment

After approval of the STMP, Humboldt County adopted an amendment to the HBAP to establish development requirements for each phase of the STMP. The amendment also establishes submittal requirements for each development phase and provides specific improvement requirements for each phase. This amendment was subsequently certified by the California Coastal Commission.

2017 STMP Amendment and IS/MND

The STMP was amended in 2017. The 2017 amendment was analyzed in the *Samoa Town Master Plan Phase 1 Multi-family Housing, Wastewater Treatment Facilities, and Vance Avenue Reconstruction* Initial Study/Mitigated Negative Declaration (IS/MND), adopted by the County of Humboldt Planning Commission on May 4, 2017. The overall scope of the STMP project was reduced from that which was analyzed in the Master EIR in terms of total acres of proposed development, number of proposed new residential units, and acres of business park development.

The STMP will be implemented in four phases and includes development of the Approved Samoa WWTF that would serve development within the STMP boundary. The town of Samoa has two separate wastewater treatment facilities that will be replaced by the Approved Samoa WWTF. The western system consists of a septic tank and leachfield. The eastern system consists of a septic tank, two unused bark filters, an oxidation treatment pond, and a percolation basin.

The Approved Samoa WWTF will be located north and west of Vance Avenue (Figure 3-4 Approved Samoa WWTF). As identified in the STMP and associated environmental documents, the Approved

Samoa WWTF will be constructed in phases and will be enlarged incrementally as new development progresses in Samoa. The Approved Samoa WWTF would be constructed in Phase 1 of the STMP and would include construction of primary treatment facility and a secondary wastewater treatment area (Advantex System) on approximately 0.5 acre, and an effluent disposal system (infiltration field or leachfield) on approximately 8.5 acres.

The Approved Samoa WWTF has not yet been permitted by the NCRWQCB. The RWQCB published a draft Waste Discharge Requirements order (Order No. R1-2014-0031) proposing new discharge limits for the Approved Samoa WWTF to serve the development under the STMP.

2018 Proposed STMP Amendment and Supplemental EIR

As described above, the Approved Samoa WWTF includes land-based (infiltration) disposal of treated effluent. However, the SPG is proposing to amend the STMP with an alternative to allow treated effluent disposal via the existing ocean outfall pipe at the Redwood Marine Terminal II (RMT II). As stated in the NOP for the Samoa Town Master Plan Supplement to the Master EIR, SPG is pursuing two possible scenarios for wastewater management:

1. Treatment at the Approved Samoa WWTF and land disposal consistent with the certified Master EIR, or
2. Treatment at the Approved Samoa WWTF and ocean disposal

Ocean disposal includes construction and operation of a dedicated pressure main to connect the Approved Samoa WWTF to Manhole 5, and use of the existing RMT II ocean outfall. The dedicated pressure main and associated pump station would be constructed by SPG as a component of the SPG-proposed Samoa WWTF improvements and would, therefore, be transferred to the PCSD after construction.

The SPG-proposed Samoa WWTF improvements for ocean disposal, including the construction of a dedicated pressure main and use of the ocean outfall, are referred to as the “SPG-proposed Samoa WWTF improvements” within this DEIR.

3.3.3 RMT II Ocean Outfall

The existing RMT II ocean outfall is an approximately 1.5 mile long, 48-inch diameter pipe with 144 2.4-inch diameter diffuser ports distributed over approximately one-quarter mile at the distant end of the pipe off-shore, putting it in the jurisdiction of the California Ocean Plan. Currently, DG Fairhaven Power, located between Fairhaven and Samoa, discharges approximately 170,000 gallons per day (gpd) of processed water, following treatment, through the RMT II ocean outfall. Discharges from DG Fairhaven Power are regulated by a National Pollutant Discharge Elimination System (NPDES) permit under North Coast Regional Water Quality Control Board (NCRWQCB) Order No. R1-2014-0031).

3.3.4 Peninsula Community Services District

The Samoa Peninsula Fire Protection District (SPFPD) submitted an application to the Humboldt County Local Agency Formation Commission (LAFCo) for what is known as a “reorganization” consisting of dissolution of the SPFPD and formation of a new community services district. The PCSD was approved by LAFCo in 2017, and approved by voters within the service area in the November 7, 2017 election. It is anticipated that the PCSD will be fully formed by the end of 2018.

As requested and approved, the SPFPD was reorganized to a community services district for purposes of providing expanded municipal services to the Samoa Peninsula, including the new water and wastewater facilities to be constructed as part of the approved STMP. Control and ownership of the Approved Samoa WWTF will be transferred to PCSD once a plan is agreed upon for transfer of ownership. The PCSD continues the role of providing fire protection services previously provided by the SPFPD.

3.3.5 Samoa Peninsula Wastewater Project Planning and Design Study

The Samoa Peninsula Wastewater Project Planning and Design Study (Preliminary Engineering Report) was prepared to evaluate the potential wastewater collection systems, treatment systems, and disposal options for the town of Samoa, Fairhaven, and Finntown. The main focus of the Preliminary Environmental Study was to evaluate the opportunities, identify approaches to address the constraints, and ultimately determine the path of future wastewater development on the Samoa Peninsula.

3.3.6 Humboldt Bay Area Plan/Local Coastal Plan

The HBAP is the County's Local Coastal Plan applicable to the project area. The HBAP identifies land uses and standards by which development will be evaluated within the Coastal Zone. The HBAP may be amended, in conformance with the policies of the California Coastal Act, only with the approval of the California Coastal Commission.

There are two areas in the HBAP that serve to directly limit connection to public wastewater systems contemplated in both the Short-Term and Long-Term phases of the proposed project.

HBAP Section 3.22, Public Services-Rural, subsection B (Development Policies) prohibits the extension of wastewater services outside of the Urban Limit Line (the STMP area is the only area of the PCSD that is within the Urban Limit Line), except sewer connections provided to industrial uses.

HBAP STMP Land Use Designation Overlay New Development (Policy 9) only allows connection to the Samoa WWTF by uses within the STMP boundary.

These HBAP policies would prevent the Approved Samoa WWTF from serving areas outside the STMP (Fairhaven and Finntown), and would prevent existing structures from connecting to the Approved Samoa WWTF.

To allow the project's Short-Term phase to proceed, HBAP Section 3.22, Public Services-Rural, subsection B (Development Policies) would be amended to add an exception to allow sewer connections be provided to Interim Conditionally Permitted uses in the Industrial/Coastal-Dependent Zone, and to existing structures that are served by onsite septic systems on the Samoa Peninsula outside the town of Samoa. STMP Land Use Designation Overlay New Development – Policy 9 would be deleted. In addition, amendments may be required to allow the discharge of treated wastewater through the RMT II ocean outfall.

The project's Long-Term phase involves amendments to the HBAP allowing future infill development, consistent with existing HBAP and zoning within the PCSD boundary, to connect to the project's collection system and be served by the Approved Samoa WWTF. The increase in effluent resulting from lateral connections allowed under the Long-Term phase would be conveyed,

treated, and disposed of using the facilities constructed under the Short-Term phase. No additional improvements to the collection system or at the WWTF would be required.

Humboldt County is in the process of updating the HBAP Section 3.17 Hazards to address sea level rise and tsunami inundation. The Long-Term phase would need to be consistent with amended HBAP hazard related policies. In addition, site-specific evaluation of ESHA and coastal resources potentially impacted by new infill development served by the WWTF will be needed to ensure consistency with the policies of the HBAP and Coastal Act.

3.3.7 California Ocean Plan

The State Water Resources Control Board (SWRCB) adopted the 2015 California Ocean Plan (Ocean Plan) to protect the quality of ocean waters for beneficial uses. The Ocean Plan requires control of discharge of waste to ocean waters to protect against degradation of marine species and impacts to public health. The objectives and measures of the plan are applicable to point source and nonpoint source discharges to the ocean.

All publically owned treatment works are required to meet secondary treatment standards using technology based effluent limitations (40CFR part 133). In addition, the Ocean Plan provides the following *General Requirements for Management of Waste Discharge* to the ocean:

- a. Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
- b. Waste discharged to the ocean must be essentially free of:
 1. Material that is floatable or will become floatable upon discharge.
 2. Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.
 3. Substances which will accumulate to toxic levels in marine waters, sediments or biota.
 4. Substances that significantly decrease the natural light to benthic communities and other marine life.
 5. Materials that result in aesthetically undesirable discoloration of the ocean surface.
- c. Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.
- d. Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:
 1. Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports.
 2. Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.
 3. Maximum protection is provided to the marine environment.
- e. Waste that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfishing and water-contact sports areas to maintain applicable bacterial standards

without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard should be used.

Finally, the Ocean Plan states:

The beneficial uses of the ocean waters of the State that shall be protected include industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting.

3.4 Project Relationship to Samoa Townsite Master Plan

Although the proposed Samoa Peninsula Wastewater Project (project) would not provide wastewater collection service to parcels within the STMP, the project would modify the Approved Samoa WWTF which is within the STMP.

The Samoa Town Master Plan Supplement to the Master EIR, which includes ocean disposal as an alternative, is currently under preparation (see Section 3.3.2). The release date of the Samoa Town Master Plan Supplement to the Master EIR is not known at this time. If the ocean disposal is chosen as the disposal method for Approved Samoa WWTF, the Samoa Peninsula Wastewater Project would use the SPG-constructed dedicated pressure main and contribute to the ocean disposal flow. If land disposal remains the disposal method for the Approved Samoa WWTF, the Samoa Peninsula Wastewater Project would assume the responsibility for implementing the treated effluent disposal system pipeline for ocean outfall disposal, as described in Section 3.5.3.

Normally a project such the Samoa Peninsula Wastewater Project, which proposes improvements to an approved facility, would only analyze project's net increase over the approved facility. However, because the Samoa Peninsula Wastewater Project EIR may be considered for certification prior to the Samoa Town Master Plan Supplement to the Master EIR, the construction and operation of the dedicated pressure main and use of the ocean outfall for treated effluent disposal is included in this project description. A brief synopsis of the approved and proposed Samoa WWTF improvements is provided below:

Approved Samoa WWTF

The Approved Samoa WWTF includes construction of the WWTF in three phases. In Phase 1, the Approved Samoa WWTF will be constructed with primary treatment of screening and grit removal, followed by treatment facility and a secondary wastewater treatment area (Advantex System), a UV disinfection system, and an effluent disposal system (infiltration field or leachfield). Phase 2 and Phase 3 include expansion of the WWTF to include advanced treatment and additional land-based effluent disposal (leachfields). The leachfields will be located between 14 and 25 feet above mean sea level.

The full built-out of the Approved Samoa WWTF will be on approximately 0.5 acre, and the effluent disposal system (infiltration field or leachfield) on approximately 8.5 acres.

SPG-Proposed Samoa WWTF Improvements

The SPG-proposed WWTF improvements, if approved, would allow the WWTF to use ocean disposal for treated effluent. The approved STMP includes the realignment of Vance Avenue to the north of the existing recycling center. The SPG-proposed Samoa WWTF improvements would include construction of an approximately 4,000 foot long pressurized 6-inch PVC treated effluent pipeline in the realigned Vance Avenue to connect the Approved Samoa WWTF to Manhole 5 at RMT II.

In addition, one pump station (treated effluent pump station) would be installed at the Approved Samoa WWTF to pressurize the system. The SPG-proposed treated effluent pipeline alignment is shown in Figure 3-5 SPG-Proposed Samoa WWTF Improvements (Humboldt County 2018a).

3.5 Project Components

Subject to the proposed amendments of the HBAP described above and in Section 3.5.4, the project would provide sanitary sewer service for residential, recreation, commercial, industrial, and institutional facilities located within the boundaries of the PCSD. The project would not provide service to parcels within the approved STMP.

The project improvements include; wastewater collection and conveyance pipelines, expansion of the Approved Samoa WWTF, and connection to the existing ocean outfall, as described in Section 3.5.3, below. In addition, the project would require amendment of the HBAP to allow existing uses outside the STMP area to connect to the Approved Samoa WWTF. HBAP amendments may be required to allow the discharge of treated wastewater through the RMT II ocean outfall.

It is assumed that existing individual septic systems and leachfields in Fairhaven and Finntown would remain in-use until residences opt to connect to the project improvements. At that time, individual septic tanks would be decommissioned under permit through the HCDEH.

3.5.1 Sanitary Sewer Service

The project would provide sewer service to structures within the communities of Fairhaven and Finntown. The project would not provide service to parcels within the STMP. The project's sewer service would be implemented in the following two phases:

- **Sewer Service for Existing Structures (Short-Term).** The Short-Term phase includes construction and operation of a collection system, upgrades to the previously Approved Samoa WWTF, and a disposal system to serve the existing structures in Fairhaven, Finntown, the County Boat Launch facility, and the Eureka Airport that currently use on-site wastewater treatment systems.
- **Sewer Service for Possible Future Infill Development (Long-Term).** The Long-Term phase would allow possible future infill development in Fairhaven, consistent with HBAP and zoning, to connect to the project's collection system and be served by the wastewater treatment plant.

Upon completion of the improvements under the Short-Term phase, the project would allow connections for existing structures, as summarized in Table 3-1, consistent with and upon issuance of a Coastal Development Permit by the County or California Coastal Commission, as applicable.

The Long-Term phase would be implemented at an unknown future date. For the purpose of this DEIR, it is assumed that the Long-Term phase would be implemented by 2030. Under the Long-

Term phase, future infill development, consistent with the amended HBAP and zoning, within the PCSD would be allowed to connect to the project improvements upon approval of the amended HBAP. Future infill development may occur on parcels in Fairhaven that are designated RX, Rural X-Urban, and zoned RS-X, residential suburban with no further subdivision allowed. It is estimated that up to 62 new residential units could be constructed on the available infill lots in Fairhaven. In addition, construction of secondary units is allowed under the current zoning, which may include smaller accessory (guest) dwellings. Note that accessory dwellings are not additional single family homes and do not require a second sewer connection. The parcels with potential for infill residential development are identified in Figure 3-6 Potential Parcels Served – Long-Term Phase. Future infill development is assumed to occur over a 30-year planning horizon.

Finntown is zoned MC-A, industrial/coastal dependent with an archaeological resources overlay zone. This type of zoning does not allow residential construction, but does allow a caretaker's quarters. The number of potential sanitary connections that could occur in the Long-Term phase is identified in Table 3-1.

Table 3-1 Potential Sanitary Sewer Service Connections

Land Use	Potential Sanitary Sewer Connections		
	Short-Term Phase ¹	Long-Term Phase ²	Total
Residential	66	62 ³	128
Commercial ⁴	10	0	10
Recreational ⁵	1	0	1
Institutional	1	0	1
Total	78	62	150

Source: Preliminary Engineering Report, Tables 6-2 and 6-3.

Notes:

1. The Short-Term phase includes physical improvements and would allow connections for existing structures.
2. Future infill development consistent with existing HBAP plan and zoning designations. For the purpose of evaluating reasonably foreseeable impacts of project, this DEIR assumes that the Long-Term phase would be implemented by 2030. Future infill development is assumed to occur within a 30-year planning horizon.
3. Connections for future infill assumes one connection per parcel.
4. Commercial users include both commercial and industrial uses.
5. Existing recreational connections may include the boat ramp and campground; it is assumed that the drag strip will connect at the same location as the Humboldt Bay Social Club.

This document does not include growth assumptions for industrial uses within the PCSD. The majority of the proposed PCSD service area is zoned industrial, including Coastal-Dependent Industrial (CDI) and Industrial General (Humboldt County 2017). The *Humboldt Bay Maritime Industrial Use Market Study* identifies prior, current, and proposed land uses on CDI land within the Samoa Peninsula (Humboldt County 2018b). Future uses of CDI properties may include commercial fishing, recreational boating, mariculture, marine research, and offshore energy. These CDI uses would not generate substantial quantities of wastewater that would be conveyed or treated by the project.

The estimated residential population served by the Short-Term and Long-Term is summarized in Table 3-2. The assumptions and data used to estimate residential population are provided in Appendix B, Preliminary Engineering Report.

Table 3-2 Estimated Residential Population Served

Location	Estimated Population Served		
	Short-Term Phase	Long-Term Phase ¹	Total
Fairhaven	187	273	460
Finntown	28	0	28
Total	215	273	488

Source: Preliminary Engineering Report.

Notes:

1. Future infill development would be consistent with existing HBAP plan and zoning. Development is assumed to occur within a 30-year planning horizon.

3.5.2 Design Flow and Treated Effluent Standards

The average daily flow for the project would be approximately 67,000 gallons per day (gpd) under full implementation. The project's design flow estimates are provided in Table 3-3. As shown in the table, the full project buildout plus STMP buildout is estimated to generate over 185,000 gpd average daily flow, and a design peak hour flow of over 740,000 gpd.

Table 3-3 Design Flow

Scenario	Estimated Flow Rate (gpd)	
	Average Daily Flow	Peak Hour Flow
Short-Term Phase	22,648	90,592
Long-Term Phase	44,276	177,103
Total Project	66,924	267,695
<i>Approved STMP</i>	<i>118,210</i>	<i>472,658</i>
<i>Total Project and Approved STMP</i>	<i>185,134</i>	<i>740,353</i>

Source: Preliminary Engineering Report.

Although not applicable to the proposed project, the project is designed to attain the following Ocean Plan standard:

Shellfish Harvesting Standards

- (a) At all areas where shellfish may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

1. The median total coliform density shall not exceed 70 per 100 mL, and not more than 10 percent of the samples shall exceed 230 per 100 mL.

3.5.3 Project Improvements

Project improvements would be constructed during the Short-Term phase. The Long-Term phase would not require any improvements to the collection system, WWTF, or disposal system. Project improvements would include:

- **Collection System:** wastewater pipelines installed in-road and three pump stations.
- **Project Improvements to the Approved Samoa WWTF:** install a sequencing batch reactor (SBR) system and ultraviolet (UV) disinfection system. Install solids treatment system for onsite

dewatering of settled solids consisting of a polymer injection system, a roll-off style dewatering container, and solids drying beds.

- **Treated Effluent Disposal System:** Pipeline installed in road connecting the Approved Samoa WWTF to the ocean outfall pipe at the Redwood Marine Terminal II (RMT II) Manhole 5, and an associated pump station (construction by the SPG).

Wastewater would enter the collection system and be conveyed to the Approved Samoa WWTF. At the Approved Samoa WWTF, wastewater will have primary treatment of screening and grit removal followed by secondary treatment with an SBR system, then will be disinfected by a UV system. Solids accumulated during the treatment process will be dewatered onsite and hauled to either an appropriately permitted landfill or composting operation via an approximately five cubic yard truck.

The project would use the Approved Samoa WWTF headworks for primary treatment of screening and grit removal. No improvements are proposed to the primary facilities. Improvements would need to be made to the secondary treatment, UV disinfection system, and solids handling. Solids disposal would be handled in the same manner as the Approved Samoa WWTF.

Treated wastewater would be transported to the existing RMT II Manhole 5 for ocean disposal through the existing outfall. Each component of the project improvements is described in greater detail below.

Collection System

The proposed collection system consists of gravity flow pipes in Fairhaven and Finntown, connected by a single pressure pipe running north along Vance Avenue to the Approved Samoa WWTF. Gravity pipes would be a minimum diameter of 8 inches to allow for easy access of cleaning and inspection equipment. Manholes would be placed a maximum of every 500 feet, at each change in vertical or horizontal alignment, within existing right of ways and streets, and at the end of every pipe run. Gravity mains would be constructed to prevent floatation during seismic events or due to high groundwater. The proposed pipeline alignments are shown in Figure 3-7 Collection System Overview, Figure 3-8 Collection System Fairhaven, and Figure 3-9 Collection System Finntown.

A pressure main would run from the boat ramp and campground at the southern end of the PCSD service area to Fairhaven and Finntown and to the Approved Samoa WWTF (See Figure 3-3 Project Boundary). The pressure mains would include air relief valves at each rise in the pipe with air scrubbers to remove noxious gasses and odors. The pressure main also would include cleanout stations at each change in horizontal or vertical alignment, intersection of main lines, and at the end of every pipe run, for launching of a pipeline inspection gauge (PIG) to clean or inspect the pipe when necessary.

Table 3-4 Collection System Pipeline Length Estimates

Location	Pipe Length (feet)	Pipe Diameter
Collection System		
Fairhaven ¹ Gravity Main	6,100	8-inch
Finntown ¹ Gravity Main	1,400	8-inch
Pressure Main	15,600	4-inch
Total	23,100	

Notes:

¹ See Figures 3-8 and 3-9 for proposed sewer layouts in Fairhaven and Finntown. ***Collection System Pump Stations***

Each community would have at least one centralized pump station to pump wastewater to the Samoa WWTF through the central pressure main. A third pump station would be located at the Samoa boat ramp and campground. Each pump station would have an emergency backup diesel generator.

A single large pump station would be constructed at the east end of Park Street to serve the Fairhaven collection system. A pump station would be constructed on Comet Street south of Bendixsen for the Finntown collection system. Both the Fairhaven and Finntown pump stations are expected to be up to 5 feet deeper than the minimum trenching depth for the gravity pipe due to the need for storage volume. All the pump stations would be constructed below ground surface, with an access hatch directly above each station. A small, approximately 8-foot by 12-foot building would also be constructed near the pump stations to house an emergency generator, the power service, and control panel. The subsurface pump station at the Samoa boat ramp would be approximately 3-feet in diameter and 6-feet deep. The subsurface pump stations at Park Street and Comet Street would be approximately 6-feet in diameter and 16-feet deep.

Project Improvements to the Approved Samoa WWTF

The wastewater in the project's collection system would be conveyed to the Approved Samoa WWTF. Construction of the Approved Samoa WWTF is not a component of this project. The WWTF was analyzed in the certified Samoa Townsite Master Plan EIR, State Clearinghouse Number 2003052054. Location of the Approved Samoa WWTF is shown in Figure 3-4. The project would result in the construction of improvements to the Approved Samoa WWTF. The improvements would occur on approximately 0.25 acres of the WWTF site.

The Samoa WWTF improvements would include upgrades to the existing secondary treatment system with the addition of a Sequencing Batch Reactor, a new disinfection system, and a dewatering system for the solids using a batch process onsite. No changes would be made to the headworks or solids disposal.

Sequencing Batch Reactor

A SBR would be installed, modifying the Advantex process of the Approved Samoa WWTF. The SBR improvements would be installed immediately adjacent to the Advantex system within the Approved Samoa WWTF overall area. The Advantex system will be used until the SBR is brought online. The proposed SBR system would take the flow from the Approved Samoa WWTF headworks after the initial screening and grit removal and direct it to the SBR units instead of sending it to the Advantex system. The SBR system would consist of two concrete basins, each 36-feet long by 18-feet wide by 20-feet deep. The basins would be located partially below and partially aboveground. The basins would be outfitted with required flow control manifolds, diffusers, and decanters. Two positive displacement blowers with 15-horsepower (hp) electric motors would also be utilized to provide the required air for the treatment process. Two submersible sludge pumps with 5-hp electric motors would be installed in the basin to remove solids as required. Associated piping, valves, and necessary process control and electrical power wiring and panels would also be installed. The total required footprint area for the SBR would be approximately 6,000 square feet.

No physical improvements to the SBR would be required to accommodate the Long Term phase; Long Term effluent would be accommodated through operational changes to the SBR.

Ultraviolet Disinfection

Secondary treated effluent would leave the SBR and would flow through a new disinfection system consisting of a pipe outfitted with a UV lamp bank prior to being pumped from the plant for disposal. The UV chamber would consist of a reaction chamber such as a Trojan UVFit or similar system. These consist of compact reaction chambers, with the treated secondary effluent flowing in one end and out the other end of the chamber, with 18 UV lamps installed around the outside of the flow. As a physical process, the UV light “touching” the pathogens is what accomplishes the disinfection. Two chambers would be installed to provide a redundant system, so one system can be used while the other is being maintained, and to handle peak flows. Each chamber is approximately 7-feet long by 16-inches in diameter and two feet high. The chambers would be located in a small building to protect the system, power supply, and controls, and to allow for working on the system to be sheltered from the weather. The overall building would be concrete block construction and would have a footprint of approximately 8-feet by 12-feet. The building would be located within the footprint of the Approved Samoa WWTF and near the final pump station that transfers flows to Manhole 5.

Solids Dewatering

The growth of the bacteria that consume the contaminants in the wastewater results in a sludge or solids that occasionally need to be disposed of. The solids consist of a large fraction of water when they are removed from the SBR. It is more energy efficient and cost effective to transport and dispose of the solids if they are first dewatered prior to them being transported off site. To accomplish this, a solids dewatering system would be added to the Samoa WWTF within the footprint of the existing facility. The solids dewatering process would consist of dewatering the solids using a batch process onsite and then hauling the dried solids, or “cake,” to either a landfill or composting operation holding the appropriate licensure. The following infrastructure would be required to integrate a dewatering system:

- Polymer injection system and mixing tank. These would consist of a small positive displacement pump connected to an approximately 100-gallon storage tank that would be used to mix and inject the polymer into the dewatering tank.
- Sludge dewatering container would consist of a concrete basin approximately 18-feet long by 8-feet wide, by 6-feet high. The sludge would be pumped from the SBR to the dewatering container and polymer would be added. The polymer aids the solids in clumping together to form a cake. The cake then settles and the liquid is removed from the basin and recycled back to the front of the SBR. The solids are then removed from the basin and transferred to the concrete holding area.
- Covered concrete holding area for dried solids would consist of two concrete pads surrounded by a low concrete wall. The pads would be approximately 6-feet wide by 18-feet long and the wall would be approximately 3-feet high. The pads would be covered with a light metal frame roofing structure supporting a lightweight roof approximately 8-feet above the pads, which would keep rain off the solids, and allow them to dry more completely. The solids would be stored on the pads until such time as sufficient solids are collected for disposal.

This DEIR assumes that the only solids that would be handled by this system are those that are generated by the connections and service population identified in Section 3.5.1. The solids dewatering improvements would occupy approximately 600 square feet.

Treated Effluent Disposal System

The SPG-proposed Samoa WWTF improvements include two possible scenarios for treated effluent disposal: (1) land disposal consistent with the certified Master EIR; and (2) a pressure main to transfer treated wastewater from the Approved Samoa WWTF to Manhole 5 at RMT II for ocean disposal, shown in Figure 3-5 SPG-Proposed Samoa WWTF Improvements. The RMT II ocean outfall releases treated effluent approximately 1.5 miles offshore. As stated in Section 3.4, the Samoa Peninsula Wastewater Project would assume responsibility for constructing the treated effluent disposal pipeline if land disposal remains the disposal method for the Approved Samoa WWTF. See Section 3.3.2 and Section 3.4, for the CEQA history and status of the Approved Samoa WWTF and SPG-proposed Samoa WWTF improvements, and the Samoa Peninsula Wastewater Project's relationship to the STMP. To connect the Approved Samoa WWTF to the RMT II, a pressurized pipeline with one pump station would be constructed along Vance Avenue from the WWTF to RMT II Manhole 5. An approximately 4,000 foot long pressurized 6-inch PVC treated effluent pipeline would be installed beneath the approved Vance Avenue realignment. The pump station would be located within the Approved Samoa WWTF. The pressurized pipeline and pump station would be constructed as part of the SPG-Proposed Samoa WWTF improvements prior to construction of the project.

The flows that would be contributed to the ocean outfall from the Samoa Peninsula Wastewater Project and approved STMP are presented in Table 3-3. If the SPG-proposed Samoa WWTF improvements are approved with the ocean outfall scenario at RMT II, the Approved Samoa WWTF would discharge to the ocean outfall with a peak hour flow of approximately 472,658 gallons (STMP flow only). The total peak hourly flow of the project and buildout of the STMP is estimated at 740,353 gallons.

For average daily flows, the project's Short-Term phase would add 22,648 gallons and the Long-Term phase would add 44,276 gallons per day at average daily flow. Total project and STMP daily flow is estimated as 185,134 gallons per day.

SPG-Proposed Treated Effluent Pump Station

Assuming that the ocean outfall scenario is selected as part of the SPG-proposed Samoa WWTF improvements, a pump station would be located at the Approved Samoa WWTF to pressurize the treated effluent disposal pipeline. The pump station would be constructed below ground surface, with an access hatch directly above the station. A small, approximately 8-foot by 12-foot building would also be constructed near the pump station to house an emergency generator, the power service, and control panel. It is estimated that the subsurface pump station would be approximately 6-feet in diameter and 10-feet deep.

3.5.4 Humboldt Bay Area Plan/Local Coastal Plan Amendment

Amendment to the HBAP is necessary to implement the Short-Term phase to allow existing structures in Fairhaven and Finntown to connect to the wastewater system and to allow that wastewater to be accepted and processed by the Approved Samoa WWTF. The HBAP would be

amended to specify the existing uses that may be connected to the wastewater system as exceptions to the other policies in the HBAP. This approach would prevent connections for new development from being approved. Implementation of the project's Short-Term phase, outside of the HBAP Urban Limit Line of the town of Samoa shall not be allowed until the HBAP has been amended and approved by the California Coastal Commission. The following actions are necessary to allow development of the project's Short-Term phase:

1. Amend HBAP Section 3.22, Public Services-Rural, subsection B (Development Policies) to add exceptions to allow sewer connections to Interim Conditionally Permitted uses in the Industrial/Coastal-Dependent Zone, and existing structures that are served by onsite septic systems on the Samoa Peninsula outside the town of Samoa. The amendment may read:

In addition, sewer connections may be provided to industrial uses, to Interim Conditionally Permitted uses in the Industrial/Coastal-Dependent zone, and to existing structures that are served by onsite septic systems on the Samoa Peninsula outside the Town of Samoa.

2. Amend the HBAP to allow the discharge of treated wastewater through the existing permitted Redwood Marine Terminal II (RMT II) ocean outfall.

Additionally, implementation of the proposed project, within the boundary of the STMP area that is within the existing HBAP Urban Limit Line will not be allowed until the STMP has been amended to delete the STMP Land Use Designation Overlay New Development - Policy 9; which only allows connections to the Samoa WWTF by users within the STMP.

Amendment to the HBAP for the Long-Term phase of the project may involve expanding the Urban Limit Line in the Plan to include the areas proposed to be served, which would enable new infill development consistent with the HBAP and zoning to connect to the system. Implementation of the project's Long-Term phase shall not be allowed until the HBAP has been amended and approved by the California Coastal Commission. The following actions are necessary to allow development of the project's Long-Term phase:

1. Amend the HBAP to allow future infill development, consistent with the HBAP, within the PCSD boundary to connect to the proposed projects wastewater collection system and be served by the Samoa WWTF.

3.6 Construction Activities

Project improvements described in Section 3.5 would be constructed in the Short-Term phase. The Long-Term phase requires no new construction except for connection of individual properties to the project improvements constructed under the Short-Term phase. Laterals to existing facilities (Short-Term phase) would be constructed as individual land owners opt to connect to the project improvements. Laterals to future infill facilities (Long-Term phase) would be constructed as infill development occurs. However, construction of laterals is not a part of the proposed project.

Overall construction of project improvements is anticipated to begin in 2020, and be complete within 12 months. Within the 12-month period, construction of the improvements to the Approved Samoa WWTF would last for approximately 6 months. Anticipated daytime work hours are 7:00 a.m. to 7:00 p.m., Monday through Friday.

3.6.1 Site Access and Staging

Access to the project area is primarily from Highway 255 from the north and east. The staging areas would be located within the paved area of the Samoa Drag Strip/Eureka Municipal Airport, a paved portion of the former Samoa Pulp Mill site, and a compacted gravel near the Approved Samoa WWTF, as shown in Figure 3-3. All staging and construction parking would occur within these areas. Construction parking (approximately one to two vehicles) could also occur for short periods along the streets where pipelines would be installed.

3.6.2 Collection System

The construction of the collection system would generally consist of trenching within existing roadways, laying pipe in the trench, backfilling, compacting, and repaving over the trench.

Trenches would typically be between 5 feet and 12 feet deep and 3 feet wide. Trenches 5 feet deep or more will be shored to prevent collapse. Digging would be done with an excavator. The excavated asphalt and soil (that is unsuitable for backfill) would be hauled offsite in 10-yard dump trucks. A skid-steer would likely be used for backfilling purposes. A backhoe would be used for potholing utilities, other various digging activities, and hauling/moving backfill material. A front loader may also be used for transporting backfill material. A jumping jack, plate compactor, or similar equipment would be used for compacting backfill.

If needed, temporary groundwater dewatering would be conducted to provide a dry work area. Dewatering would involve pumping water out of the trench. Groundwater would typically be pumped to Baker tanks (or other similar type of settling tank). Following the settling process provided by a tank, the groundwater would typically be pumped to a bag and cartridge filter system (or similar system) before being discharged to a permitted location. NCRWQCB Order No. R1-2009-0045, Waste Discharge Requirements for Low Threat Discharges to Surface Waters in the North Coast Region, applies to discharges of construction dewatering. This order requires development of a best management practices/pollution prevention plan to characterize the discharge and to identify specific measures to control the discharge, such as sediment controls to ensure that excessive sediment is not discharged and flow controls to prevent erosion and flooding downstream of the discharge.

The project is required to comply with the NPDES General Permit for Stormwater Discharges Associated with Construction (Construction General Permit), which includes best management practices to prevent soil erosion. The Construction General Permit requires the development of a Stormwater Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges; and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater and non-stormwater discharges. SWPPPs must include BMPs that address source control, BMPs that address pollutant control, and BMPs that address treatment control.

After the collection system piping is installed and trenches are backfilled, paving would occur over the areas of paving that have been removed from excavation. A grinder would be used to grind out the section to be paved, and the spoils from this activity would be hauled offsite. A paver would be used to pave the trench section, and rollers would be used to compact the pavement that is placed. It is estimated that approximately 3 acres of pavement surface restoration would be required.

3.6.3 Improvements to Approved Samoa WWTF

Construction of the additions to the Approved Samoa WWTF would generally consist of construction of the two SBR basins and related piping and controls, construction of the UV disinfection reaction chambers and a building to house them, and construction of the dewatering basin and sludge drying beds as detailed in Section 3.5.3. These structures would be situated within the overall footprint of the Approved Samoa WWTF and would occupy approximately 7,000 SF of the site. Approximately 480 cubic yards (CY) of material would be excavated and hauled off for the construction of the SBRs. The SBR basins, the solids dewatering basin, and the solids drying beds would all be constructed of concrete. An estimated 100 CY of concrete would be required to construct the SBR tanks, floor of the disinfection building, solids dewatering tank, and solids drying beds.

3.6.4 Treated Effluent Disposal System

The pressurized pipeline to Manhole 5 and associated pump station would be constructed at the same time as the Approved Samoa WWTF by SPG. The construction activities to install the pressurized pipeline and restore pavement would be identical to construction activities for the collection system described in 3.6.2.

3.7 Energy Usage

The Short-Term and Long-Term phases of the project would use energy for the collection, treatment, and disposal of water. A summary of the project's energy use is provided in Table 3-5. Details for the estimated energy demand for each of the project components are in the following subsections.

Table 3-5 Summary of Energy Use

Component	Annual Energy Consumption (kWh)		
	Short-Term Phase	Long-Term Phase	Sub Total
Project Components			
Collection System	21,412	17,069	38,481
Treatment System	19,617	18,510	38,127
Treated Effluent Pump Station	11,566	10,916	22,482
Project Totals	52,595	46,495	99,090
<i>STMP Treated Effluent Pump Station</i>	N/A	N/A	54,443
<i>Total Project and STMP</i>	52,595	46,495	153,533

Notes: N/A = not applicable

3.7.1 Collection System

Pump stations used to convey effluent through the collection system would use electricity during project operations. The energy consumption estimates assume the collection system pumps would run 24 hours per day. The total annual energy usage of the pumps for the collection system is estimated to be approximately 21,412 kilowatt-hours (kWh) and 17,069 kWh of energy annually for the Short-Term and Long-Term phases, respectively. Full project implementation would use approximately 38,481 kWh/year.

3.7.2 Treatment System

Energy consumption related to operation of the WWTF treatment system would be from the SBR, UV disinfection system, and solids dewatering. The energy intensity of each treatment system component, and estimated annual energy consumption of treatment system is provided in Table 3-6.

Table 3-6 Estimated Treatment System Energy Use

Treatment Component	Annual kWh/kgpd	Estimated Flow Rate (kgpd)			Annual Energy Consumption (kWh)		
		Short-Term	Long-Term	Total Project	Short-Term	Long-Term	Total Project
SBR	554.85	30.07	28.38	58.45	16,686	15,744	32,430
UV	54.27				1,632	1,540	3,172
Solids Dewatering	43.21				1,299	1,226	2,525
Total					19,617	18,510	38,127

3.7.3 Treated Effluent Disposal System

The treated effluent pump station would use approximately 76,925 kWh of energy annually at full buildout of the project and the STMP. The estimated energy usage of the pump is provided in Table 3-7 (GHD/SHN 2018).

Table 3-7 Estimated Treated Effluent Pump Station Energy Use

Scenario	Annual Energy Consumption (kWh)
Short-Term Phase	11,566
Long-Term Phase	10,916
Total Project	22,482
<i>STMP Full Buildout</i>	<i>54,442</i>
<i>Total Project and STMP</i>	<i>76,924</i>

3.8 Operation and Maintenance

3.8.1 Collection System

Operations and maintenance include annual cleaning of the three proposed pump stations in Fairhaven and Finntown and at the Boat Launch facility, regular camera inspection of gravity pipes, and regular jet cleaning of gravity pipes.

Camera inspection and jet cleaning are assumed to take place simultaneously because jetting is often required prior to camera inspection. Initially, cleaning and inspection of the new sewer system may not be necessary, but over the lifetime of the system it is assumed that 10 percent of the piping would be cleaned and inspected annually (760 feet per year).

Maintenance of the collection system would include periodic line inspection and repairs, cleaning out blockages, and repair of areas where substantial infiltration is occurring. Maintenance would also include routine inspection of the pump stations. Pump station maintenance consists of routine inspections, cleaning of the wet well, and replacement of worn out parts. The type and frequency of

inspections and maintenance would not change from the Short-Term to the Long-Term phases of the project. The cost for maintenance for the Long-Term phase would increase very slightly as more time would likely be required to clean the collection system. The cost for maintenance of the pumps in the collection system would increase between Short-Term and Long-Term phases, roughly proportionally to the increase in flows as the pumps operate longer to handle the increased flows.

3.8.2 Improvements to Approved Samoa WWTF

Annual maintenance for the components of the treatment system would include regular inspections and maintenance of the air blowers and pumps associated with the SBRs including replacement of worn parts and complete replacement likely every 10-15 years. The SBR influent and effluent manifolds and weir would also have to be cleaned regularly and components replaced as they wear out.

UV lamps would be regularly wiped to keep the lamps clear in order to effectively transmit their light. UV systems would be fitted with automated wipers to keep lamps clean. The UV lamps would need to be replaced every one to two years.

The polymer pumps for the solids dewatering system would also have to be maintained regularly and likely replaced every 5 to 10 years. The dewatering tank and the drying beds would not require significant maintenance other than an occasional cleaning.

The type and frequency of inspections and maintenance would not change from the Short-Term to the Long-Term phases of the project for the treatment system.

3.8.3 Treated Effluent Disposal System

A wastewater discharge permit (WDP) from the NCRWQCB would be required for the disposal of treated wastewater through the outfall. The Samoa Townsite will need to obtain a WDP for their discharge and a permit application has been submitted for their operation. This WDP would then be amended to handle the additional flows associated with the treated wastewater from Fairhaven and Finntown, etc. Under the WDP, there would be several required monitoring operations in place to protect the quality of the ocean water in the vicinity of the outfall. Requirements would be in place for both influent and effluent monitoring. Influent parameters to be monitored would include flowrate, biochemical oxygen demand (BOD), and total suspended solids (TSS). Effluent parameters anticipated to be monitored include the following: flowrate, BOD, TSS, pH, settleable solids, total coliforms, copper, cyanide, dichlorobromomethane, methyl tertiary butyl ether (MtBE), acute toxicity, chronic toxicity, and priority pollutants identified as Compound Nos. 1 – 126 by the California Toxics Rule at 40 CFR 131.38 (b) (1).

The type and frequency of inspections and maintenance would not change from the Short-Term to the Long-Term phases of the project for the disposal system.

3.8.4 Solids Handling and Hauling

Solids would accumulate in the SBR tanks, which would periodically need to be removed and put through the dewatering system. Sludge would be injected with polymer and mixed in a tank, and then placed into a sludge dewatering container. The treated solids would be stored on the new concrete pad with a cover that would allow additional drying to occur. Dried solids would be stored

in a concrete holding area until there is enough to haul. A front end loader or backhoe would be used to load the cake into a truck to be hauled.

Dried solids would be hauled to either a landfill or composting operation for disposal. Currently, the landfill in Anderson, California, is the nearest landfill that would accept these solids. The Anderson Landfill is located approximately 162 miles from the Approved Samoa WWTF. There are also composting facilities in the Humboldt Bay area that could potentially accept these solids. Solids hauling would generate approximately four to five CY-truckloads of solids per year.

3.9 Permits and Approvals

The PCSD would approve the project and be responsible for the implementation (construction and operation) of the project.

Short-Term phase construction and operation would be subject to the following permits and/or approvals from various regulatory agencies:

- Coastal Commission – Certify HBAP to allow wastewater facilities to serve existing structures currently served by onsite septic systems; Certify HBAP to allow Samoa Townsite to accept wastewater from outside the STMP boundary; and issue Coastal Development Permit for project construction and discharge using existing ocean outfall
- County of Humboldt – Coastal Development Permit for project construction and service to existing residential users in Fairhaven and Finntown Building; Encroachment Permits; and, Grading Permit
- State Water Resources Control Board – Construction General Permit
- North Coast Regional Water Quality Control Board – National Pollutant Discharge Elimination System, Report of Waste Discharge, 401 Water Quality Certification
- U.S. Army Corps of Engineers – Section 404 of the Clean Water Act Permit
- California State Lands Commission – Lease for use of the existing ocean outfall

The Long-Term phase would be subject to the following approval(s):

- County of Humboldt and Coastal Commission – Amendments to and certification of the HBAP to allow wastewater service to existing structures and to future infill development, consistent with plan and zone, within the boundaries of the PCSD

3.10 References

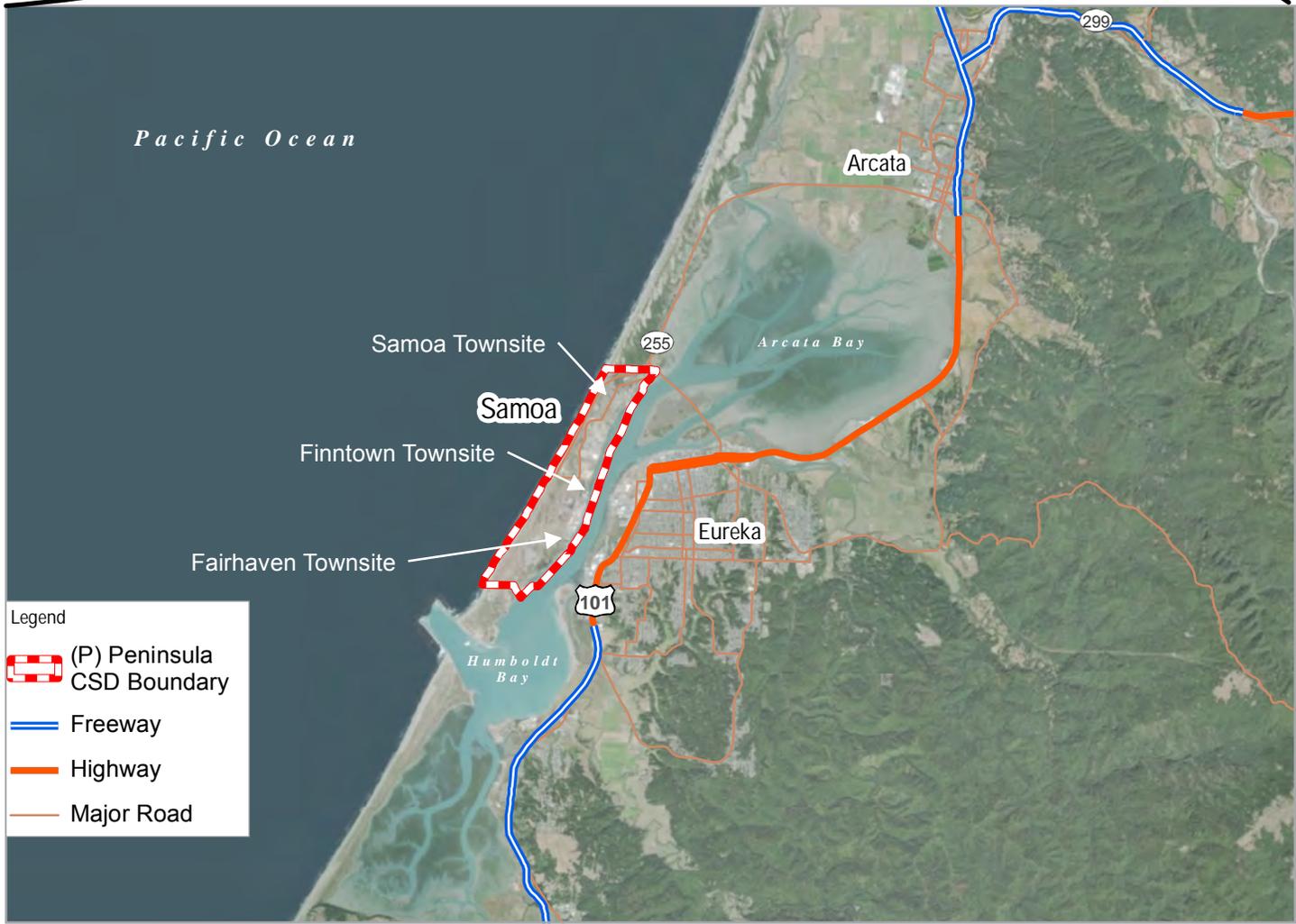
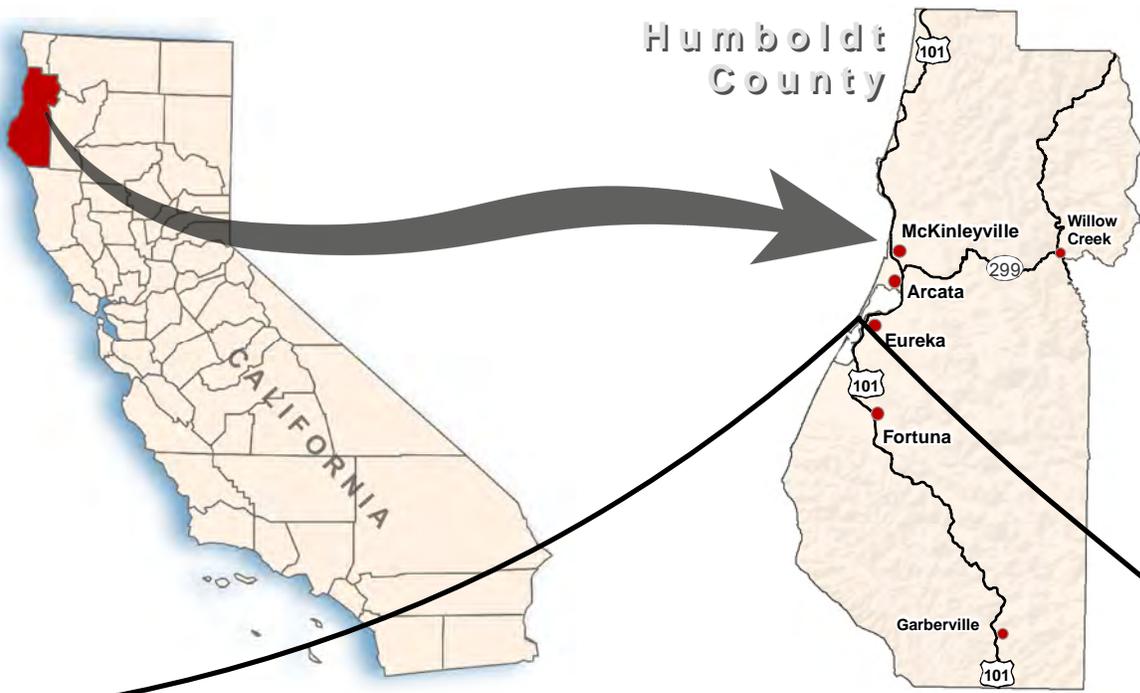
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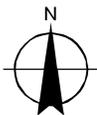
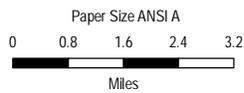
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Legend

-  (P) Peninsula CSD Boundary
-  Freeway
-  Highway
-  Major Road



County of Humboldt
Samoa Peninsula Wastewater Project
Draft EIR

Project No. 11146487
Revision No. -
Date Jul 2018

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

Location Map

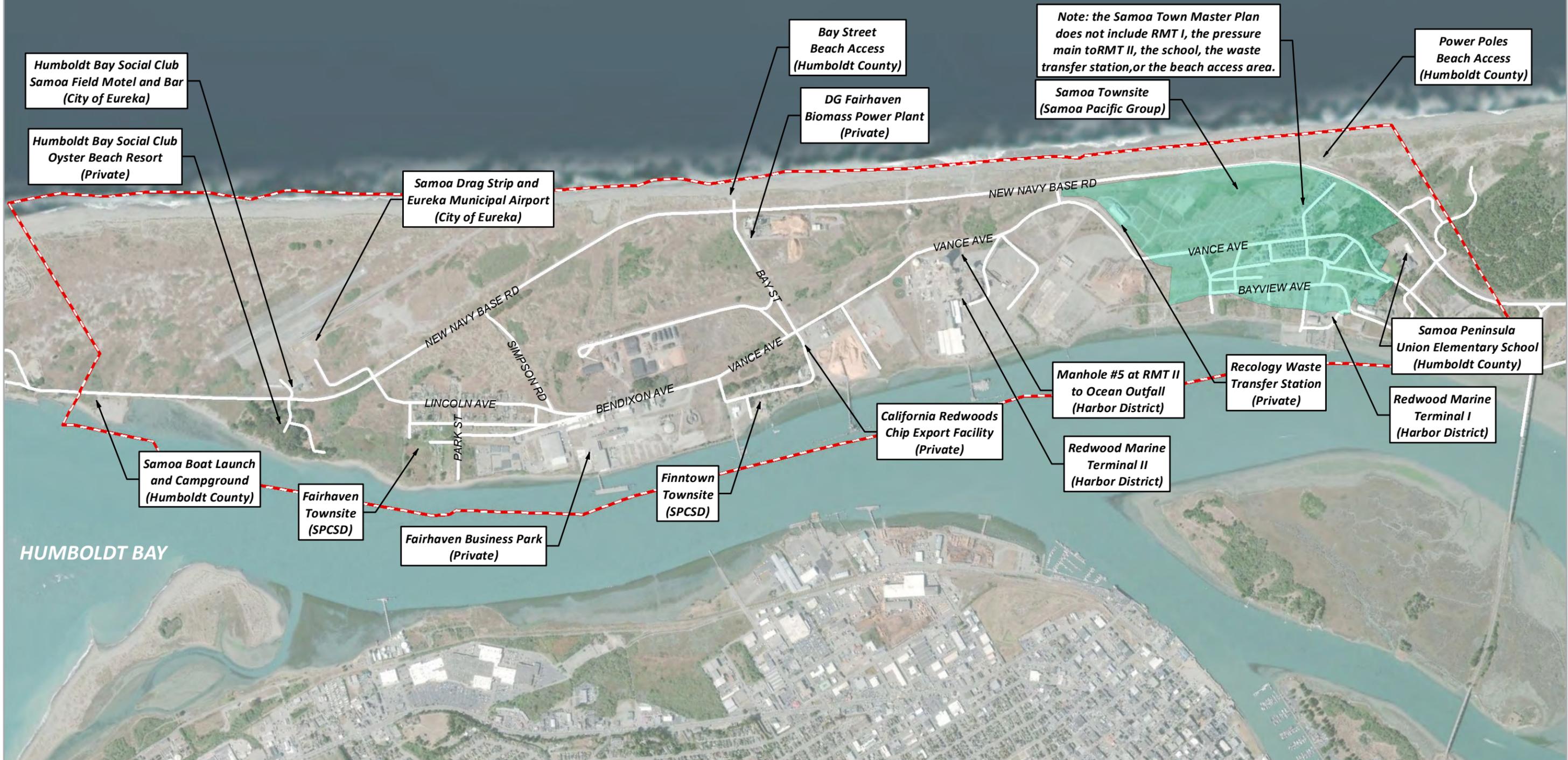
FIGURE 3-1

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PACIFIC OCEAN

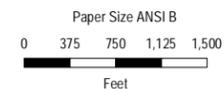
Legend

- Samoa Town Master Plan Area
- (P) Peninsula CSD Boundary



HUMBOLDT BAY

Data Disclaimer
 Proposed Samoa Peninsula Community Services District (SPCSD) boundary dependent upon Humboldt County Local Area Formation Commission (LAFCo) approval.



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



County of Humboldt Samoa
 Peninsula Wastewater
 Project
 Draft EIR

Project Service Area

Project No. SHN017203
 Revision No. -
 Date Aug 2018

FIGURE 3-2

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 Print date: 06 Aug 2018 - 08:22

Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Created by SHN: cswanson

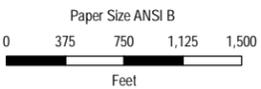
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Pacific Ocean



Proposed Activity

-  Project Boundary
-  Staging
-  Peninsula CSD Boundary



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



County of Humboldt
 Samoa Peninsula
 Wastewater Project
 Draft EIR

Project No. 11146487
 Revision No. C
 Date Aug 2018

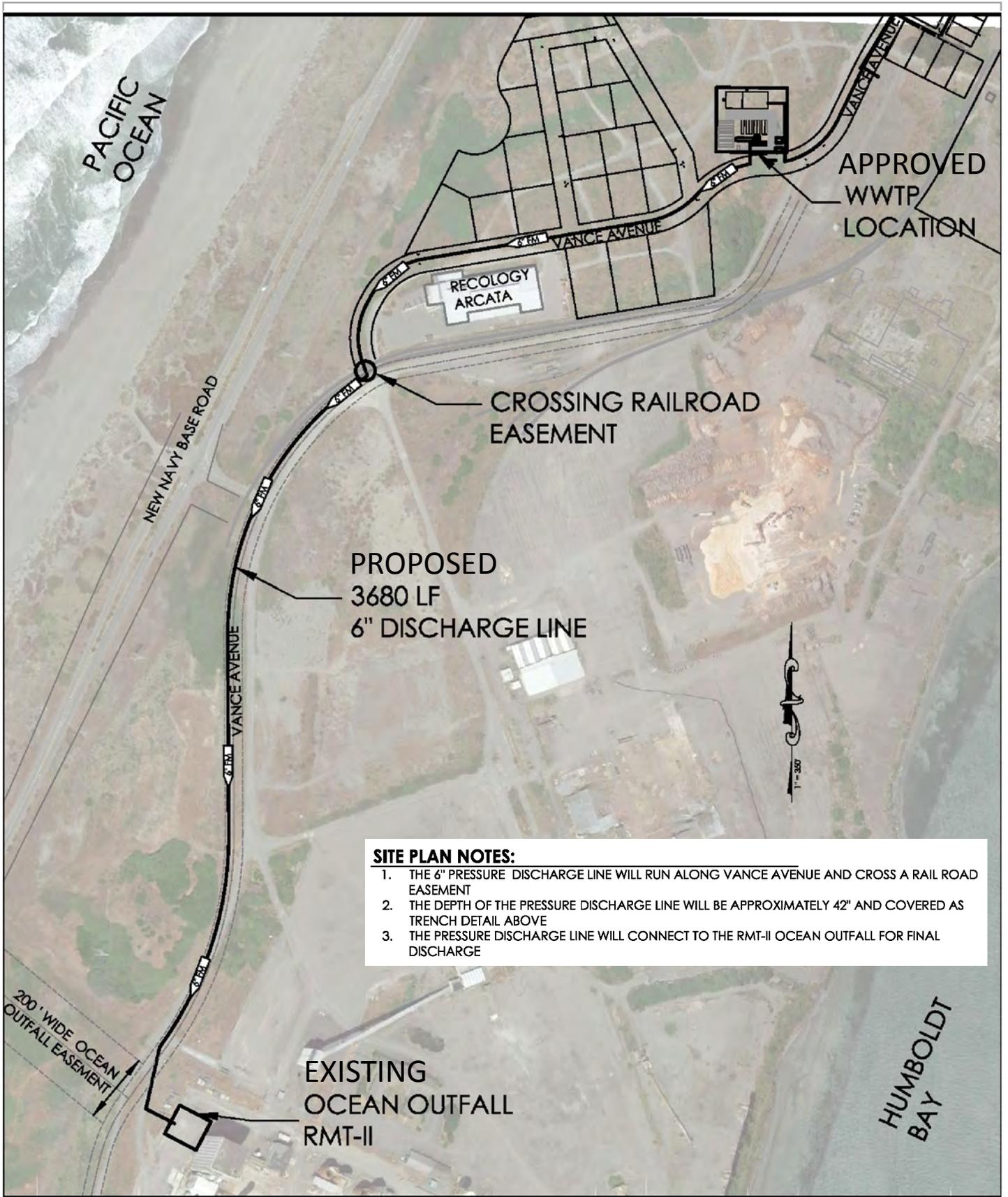
Project Boundary

FIGURE 3-3

N:\US\Eureka\Projects\11111146487 Hum Co-Samoa Pen WW Plan Study\08-GIS\Maps\Deliverables\CEQA\IR\11146487_F3-3_Boundary.mxd
 Print date: 16 Aug 2018 - 11:36
 Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Created by: jclark2

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SITE PLAN NOTES:

1. THE 6" PRESSURE DISCHARGE LINE WILL RUN ALONG VANCE AVENUE AND CROSS A RAIL ROAD EASEMENT
2. THE DEPTH OF THE PRESSURE DISCHARGE LINE WILL BE APPROXIMATELY 42" AND COVERED AS TRENCH DETAIL ABOVE
3. THE PRESSURE DISCHARGE LINE WILL CONNECT TO THE RMT-II OCEAN OUTFALL FOR FINAL DISCHARGE



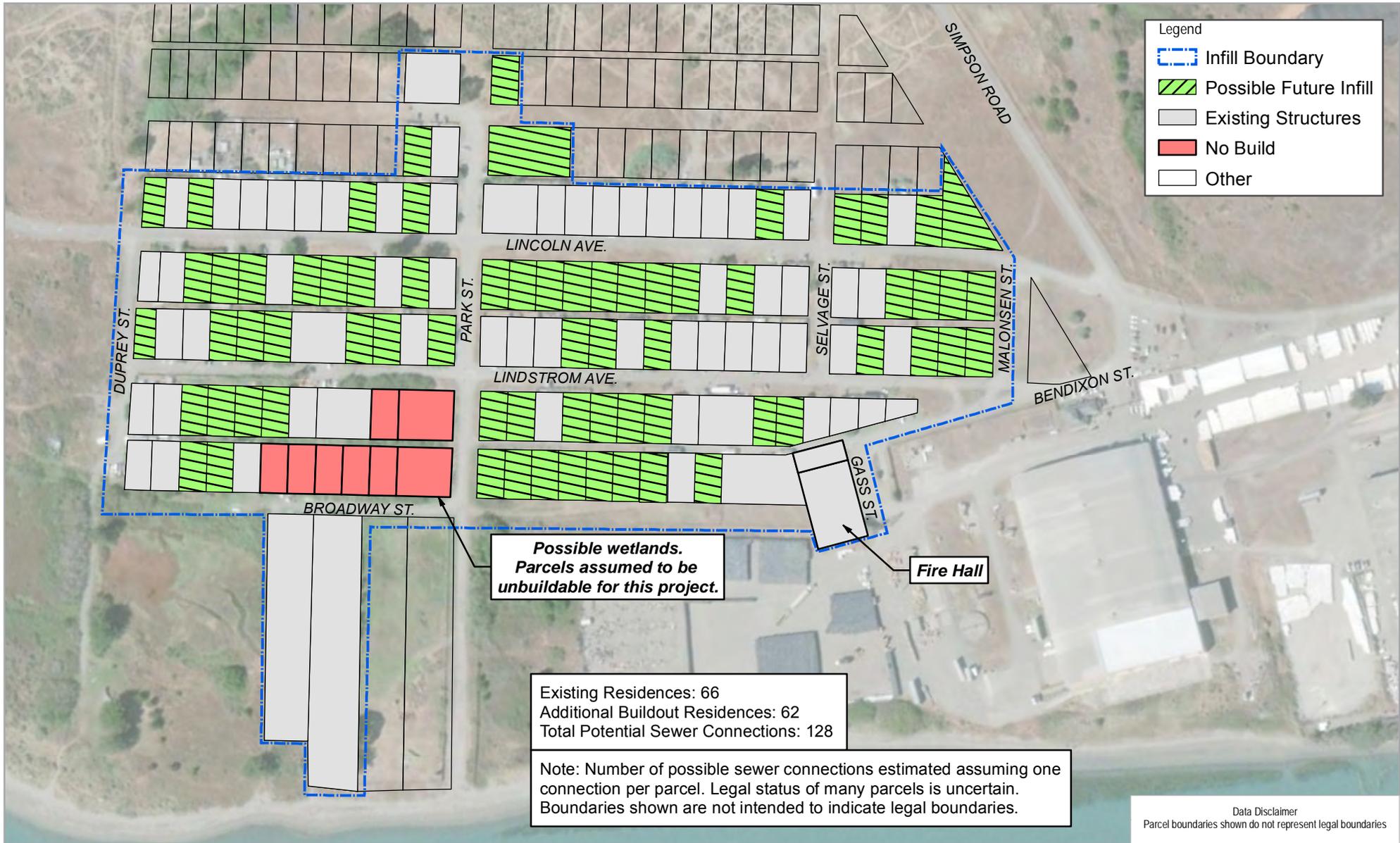
County of Humboldt
 Samoa Peninsula
 Wastewater Project
Draft EIR

Project No. 11146487
 Revision No. -
 Date Sept 2018

SPG - Proposed Samoa
 WWTF Improvements

FIGURE 3-5

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Legend

- Infill Boundary
- Possible Future Infill
- Existing Structures
- No Build
- Other

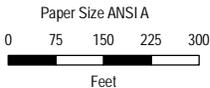
**Possible wetlands.
Parcels assumed to be
unbuildable for this project.**

Fire Hall

Existing Residences: 66
 Additional Buildout Residences: 62
 Total Potential Sewer Connections: 128

Note: Number of possible sewer connections estimated assuming one connection per parcel. Legal status of many parcels is uncertain. Boundaries shown are not intended to indicate legal boundaries.

Data Disclaimer
 Parcel boundaries shown do not represent legal boundaries



Map Projection: Lambert Conformal Conic
 Horizontal Datum: NAD 1983 2011
 Grid: NAD 1983 2011 StatePlane California I FIPS 0401 Ft US



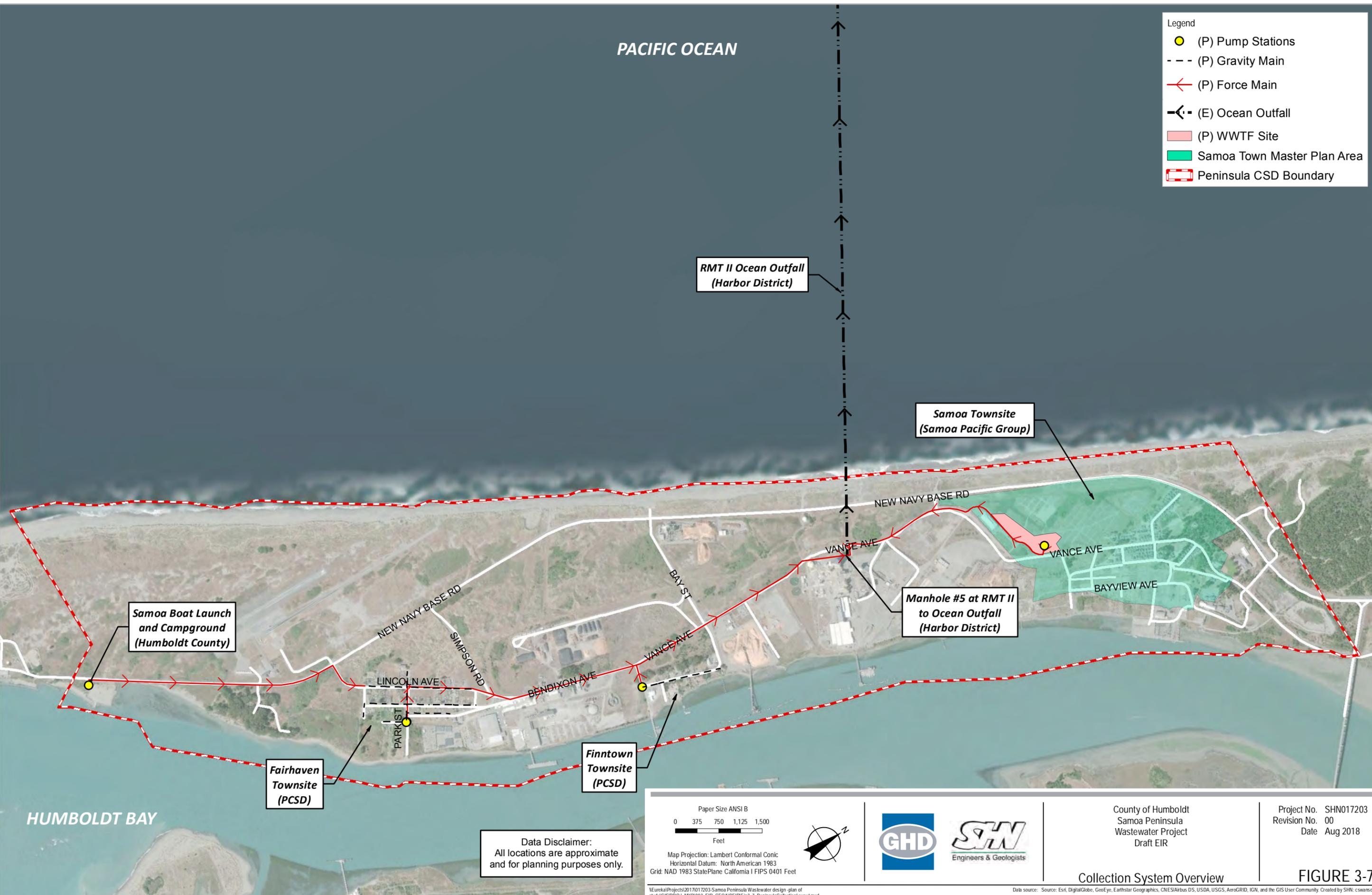
County of Humboldt
 Samoa Peninsula
 Wastewater Project
 Draft EIR

Project No. SHN017203
 Revision No. 01
 Date Jan 2019

Potential Parcels Served
 Long-Term Phase

FIGURE 3-6

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- Legend
- (P) Pump Stations
 - - - (P) Gravity Main
 - (P) Force Main
 - (E) Ocean Outfall
 - (P) WWTF Site
 - Samoa Town Master Plan Area
 - ▬ Peninsula CSD Boundary

**RMT II Ocean Outfall
(Harbor District)**

**Samoa Townsite
(Samoa Pacific Group)**

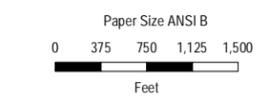
**Samoa Boat Launch
and Campground
(Humboldt County)**

**Manhole #5 at RMT II
to Ocean Outfall
(Harbor District)**

**Fairhaven
Townsite
(PCSD)**

**Finntown
Townsite
(PCSD)**

**Data Disclaimer:
All locations are approximate
and for planning purposes only.**



County of Humboldt
Samoa Peninsula
Wastewater Project
Draft EIR

Project No. SHN017203
Revision No. 00
Date Aug 2018

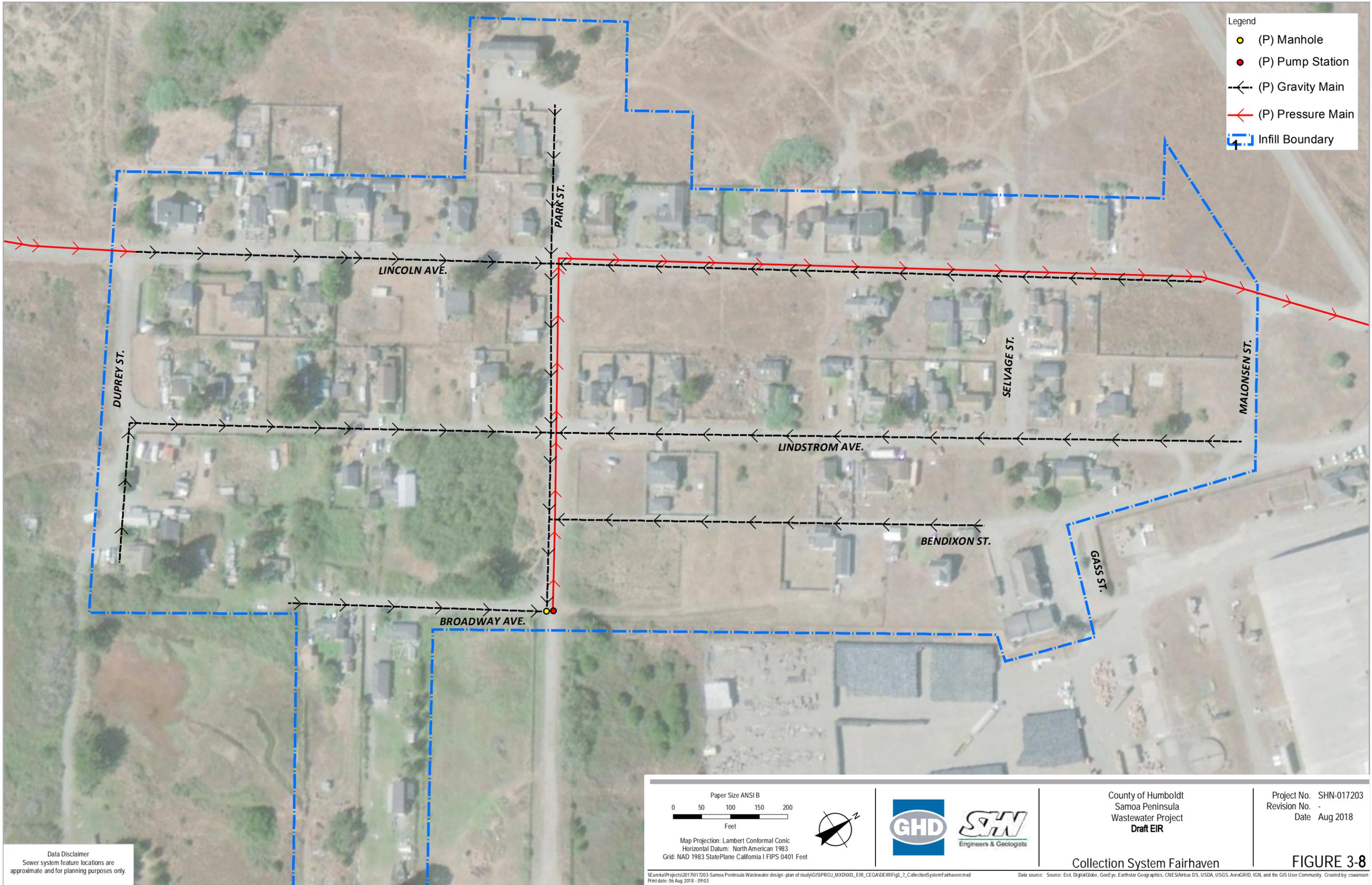
Collection System Overview

FIGURE 3-7

\\Eureka\Projects\2017\017203-Samoa Peninsula Wastewater design - plan of study\GIS\PROJ_MXD\003_EIR_CEOA\DEIR\Fig3_7_PeninsulaCollectionLayout.mxd
Print date: 16 Aug 2018 - 13:36

Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Created by SHN: cswanson

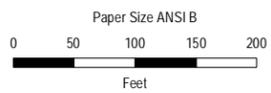
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Legend

- (P) Manhole
- (P) Pump Station
- - - (P) Gravity Main
- (P) Pressure Main
- - - Infill Boundary

Data Disclaimer
 Sewer system feature locations are approximate and for planning purposes only.



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



County of Humboldt
 Samoa Peninsula
 Wastewater Project
Draft EIR

Project No. SHN-017203
 Revision No. -
 Date Aug 2018

Collection System Fairhaven

FIGURE 3-8

\\Eureka\Projects\2017\017203-Samoa Peninsula Wastewater design-plan of study\GIS\PROJ_MXD\003_EIR_CEQA\DEIR\Fig3_7_CollectionSystemFairhaven.mxd
 Print date: 06 Aug 2018 - 09:03

Data source: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community. Created by: cswanson

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- Legend
- (P) Manhole
 - (P) Pump Station
 - (P) Gravity Main
 - (P) Pressure Main

Data Disclaimer
Sewer system locations are approximate and for planning purposes only.

Private laterals may be funded and constructed separately, and are shown for reference only.

Paper Size ANSI A
0 75 150 225 300
Feet

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



County of Humboldt
Samoa Peninsula
Wastewater Project
Draft EIR

Project No. SHN017203
Revision No. -
Date Aug 2018

Collection System Finntown

FIGURE 3-9

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4. Environmental Analysis

Scope of Analysis

This Draft Environmental Impact Report (Draft EIR) provides analysis of impacts for those environmental topics where it was determined in the Notice of Preparation, as provided in Appendix A, or through subsequent analysis that the proposed project would result in “significant impacts.” Sections 4.1 through 4.14 discuss the environmental impacts that may result with approval and implementation of the proposed project.

Each environmental resource area potentially impacted by the project is addressed in the following sections numbered as follows:

- 4.1 Aesthetics
- 4.2 Air Quality
- 4.3 Biological Resources
- 4.4 Cultural and Tribal Resources
- 4.5 Geology, Soils, and Seismicity
- 4.6 Greenhouse Gas Emissions
- 4.7 Hazards and Hazardous Materials
- 4.8 Hydrology and Water Quality
- 4.9 Land Use and Planning
- 4.10 Noise
- 4.11 Population and Housing
- 4.12 Public Services and Recreation
- 4.13 Transportation and Traffic
- 4.14 Utilities and Service Systems

The following resource categories were determined to have no impact during the NOP process, and are therefore not discussed further in this EIR: Agricultural and Forestry, and Mineral Resources. Reference the NOP in Appendix A for a discussion of these resource categories.

Environmental Impact Section Format

Each impact section of Chapter 4 contains the following elements:

Existing Setting. This subsection presents a description of the existing physical environmental conditions in the project area with respect to each resource area at an appropriate level of detail to understand the impact analysis. It describes existing conditions and provides a baseline by which to compare the potential impacts of the proposed project. Consistent with CEQA Guidelines Section 15125, the existing physical environmental conditions in the vicinity of the project, as they exist at the time the Notice of Preparation is published, is considered the baseline physical conditions for this EIR.

Regulatory Framework. This subsection provides a brief discussion of federal, state, and local regulations and policies that are relevant to the resource.

Evaluation Criteria and Significance Thresholds. This subsection provides the significance thresholds for evaluation of environmental impacts. The significance thresholds are based on State CEQA Guidelines Appendix G.

Methodology. The methodology subsection discusses the approach to the analysis.

Impact Analysis describes the environmental changes to the existing physical conditions that may occur if the proposed project is implemented, and evaluates these changes with respect to the thresholds of significance. Potential impacts are identified and characterized, and where feasible, mitigation measures are identified to avoid or reduce significant impacts to a less-than-significant level.

- **Level of Significance** describes the level of impact significance for the project, as a whole, prior to applying mitigation measures.
- **Mitigation Measures** are those specific measures that may be required of the project by the Lead Agency in order to (1) avoid an impact, (2) minimize an impact, (3) rectify an impact by restoration, (4) reduce or eliminate an impact over time by preservation and maintenance operations, or (5) compensate for the impact by replacing or providing substitute resources.
- **Level of Significance after Mitigation** describes the level of impact significance remaining after mitigation measures have been implemented.

Cumulative Impacts. Cumulative impacts are discussed in each environmental resource section following the description of the project-level impacts and mitigation measures. The cumulative impact analysis is based on the same setting, regulatory framework, and significance thresholds presented in each resource topic section. Additional mitigation measures are identified if the analysis determines that the project's contribution to an adverse cumulative impact would be cumulatively considerable and, therefore, significant.

Significance Determination

The lead agency must determine whether a project may result in a significant environmental impact, as required by CEQA Guidelines Section 15064. The lead agency has a duty to prevent or minimize environmental damage through the findings required by CEQA Guidelines Section 15091. If the EIR identifies any significant impacts, for which no feasible mitigation has been identified, CEQA Guidelines Section 15093 requires decision makers in approving a project to adopt a statement of overriding considerations that explains why the benefits of the project outweigh the adverse environmental consequences identified in the EIR.

The level of significance for each impact examined in this Draft EIR was determined by considering the predicted magnitude of the impact against the applicable threshold. Thresholds were developed using criteria from the CEQA Guidelines and checklist; state, federal, and local regulatory schemes; local/regional plans and ordinances; accepted practice; consultation with recognized experts; and other professional opinions. For the impact analyses, the following terms are used to identify the significance of the project's impact:

No Impact if a resource is absent or if a resource exists within the project area, but there is no potential that the project could affect the resource.

Less-than-Significant Impact if there is a potential for some limited impact on a resource, but the impact is not significant under the significance threshold.

Significant Impact applies if there is the potential for a substantial adverse effect in accordance with the significance threshold. This term is used prior to application of mitigation measures.

Less than Significant Impact with Mitigation applies if there is the potential for a substantial adverse effect in accordance with the significance threshold, but mitigation is available to reduce the impact to a less than significant level.

Significant and Unavoidable Impact applies to impacts that are significant, and mitigation has been incorporated, but the mitigation does not reduce the impact to less than significant and there appears, or if no feasible mitigation exists.

Cumulative Impacts

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 Section 15355). Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time.

The cumulative impact analysis for each environmental resource topic is described in the appropriate subsections of this Chapter, following the description of direct project impacts and identified mitigation measures.

Approach to Cumulative Impact Analysis

Two approaches to the definition of the cumulative project scenario are discussed in CEQA Guidelines Section 15130(b). The first approach is a list of past, present, and probable future projects producing related or cumulative impacts. The second approach is a summary of projections contained in an adopted local, regional or statewide plan, such as a general plan or related planning document, or in an adopted or certified environmental document, which describes or evaluates conditions contributing to cumulative effects. This Draft EIR uses a combination of list and plan approach to cumulative impacts.

An information request was submitted to the County of Humboldt for a list of any past, present, and reasonably foreseeable future projects within and near the project area. The County provided a list of all projects within 5 miles of the project site. The projects on that list included small scale uses and land use entitlements with negligible cumulative effects such as a minor subdivision to divide two parcels, a permit renewal, a CDP to demolish and replace an existing dwelling unit with a new dwelling unit, a CDP to remodel a dwelling unit, a lot line adjustment, a Zone Reclassification, etc. The relevant projects in the project vicinity are listed in Table 4-1 (Projects Considered for Cumulative Impacts).

Table 4-1 Projects Considered for Cumulative Impacts

Project Name	Project Description	Estimated Construction Schedule	Project Location
Samoa Townsite Master Plan (STMP)	Master Plan for the Samoa Townsite covers approximately 173 acres on the north end of the Samoa Peninsula. The STMP includes development of the Samoa Wastewater Treatment Facility (WWTF) that would serve development within the STMP boundary	Begin construction for the WWTF in 2020.	In Humboldt County, in the Samoa area, on the west side of New Navy Base Road, just north of the New Navy Base Road Water Pump Station.
Manila CSD Modernization	Coastal Development Permit (CDP) for the Manila Community Services District (CSD) to modernize the CSD water system infrastructure. The approximately sixteen-hundred (1,600) acre CSD service area is located in the California Coastal Commission's Appeal Zone	Unknown	In Humboldt County, north of the Samoa Area, generally west of Samoa Boulevard, north of the intersection of New Navy Base Road and the Samoa Bridge, south of the Humboldt Bay National Wildlife Refuge.
Samoa Airfield Onsite Wastewater Treatment System (OWTS)	Upgrade the existing on-site wastewater treatment system for an existing bed & breakfast and restaurant to allow the facility to operate at full capacity.	Unknown	In Humboldt County, in the Samoa Area, at the Samoa Field Airport, west of New Navy Base Road
Coast Seafoods Project	Construct and operate an onshore shellfish hatchery at the RMT II facility	Unknown	In Humboldt County, in the Samoa Area, at the RMT II facility

Incorporation by Reference

In accordance with CEQA Guidelines Section 15150, an EIR may incorporate by reference all or portions of another document which is a matter of public record or is generally available to the public. Where all or part of another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of the EIR. The County of Humboldt's General Plan certified EIR and the Samoa Townsite Master Plan certified EIR are incorporated by reference. The certified EIRs can be viewed at:

General Plan EIR - <https://humboldt.gov/626/Draft-Environmental-Impact-Report-EIR>

Samoa Townsite Master Plan EIR - County's planning desk at 3015 H St, Eureka, CA 95501

Humboldt County General Plan and Environmental Impact Report

The Humboldt County General Plan Update (GPU) was adopted on October 23, 2017, and the associated Environmental Impact Report was certified (SCH 2007012089). Although the Humboldt Bay Area Plan (HBAP) is the applicable planning document for the project area, and remains a stand-alone document, it is subject to the mapping and policy revisions of the GPU adopted by the County.

As stated in the GPU's certified EIR, the EIR evaluates the impacts associated with the growth expected during the planning horizon lasting until 2040, including new housing to be developed to support the projected population growth within the County. The certified EIR identifies that, if fully developed at the full density allowed for each land use designation as identified in the General Plan, the unincorporated area currently vacant or underdeveloped and without physical constraint would allow for as many as 38,972 additional dwelling units. Physical constraints identified by the certified EIR include steep slopes (slopes >30 percent), 100-year flood zones, wetlands, streamside management areas, earthquake fault zones, and areas of historic landslide occurrence. The EIR distributed the projected growth of 1,721 housing units by 2040 from the Department of Finance and commensurate commercial and industrial growth across the County by Traffic Analysis Zone. Significant impacts were identified for the following resources:

Land Use	Geology and Soils
Noise	Hydrology and Water Quality
Biological Resources	Air Quality
Agricultural and Timber Resources	Cultural Resources
Utilities and Service Systems	Scenic Resources
Transportation	Energy Consumption and Conservation
Hazards and Hazardous Materials	

Impacts were mitigated to less than significant for land use, noise, and biological resources; however, impacts remained significant and unavoidable for the remaining resource topics.

The material incorporated by reference into the proposed Samoa Wastewater Project EIR include the environmental setting from the certified EIR and the growth assumptions of the certified EIR. Growth assumptions in the certified EIR focus potential new residential structures on the core, partially developed area of Fairhaven, including the 62 potential residential units that would be allowed to connect to the Samoa Peninsula Wastewater Project. Therefore, the environmental impacts associated with potential future residential development within the Fairhaven area were previously identified and addressed in the GPU EIR, and no further analysis is warranted.

Samoa Townsite Master Plan and Environmental Impact Report

The Samoa Townsite Master Plan (STMP), prepared by the Samoa Pacific Group (SPG), was approved in 2009 with the STMP Master Environmental Impact Report (EIR) (State Clearinghouse Number: 2003052054) certified on October 27, 2009 by the Humboldt County Board of Supervisors. After certification of the STMP Master EIR, amendment of the Humboldt County General Plan (Humboldt Bay Area Plan [HBAP]) was approved by the County of Humboldt on December 6, 2011. The HBAP amendment incorporates the adopted findings of the California Coastal Commission (LCP Amendment HUM-MAJ-01-08, March 10, 2011).

The material incorporated by reference into the proposed Samoa Wastewater Project EIR from the certified EIR include environmental setting and impacts associated with the Approved Samoa WWTF. The STMP and Master EIR include the Approved Samoa WWTF. See Section 3.3.2 for details regarding the Approved Samoa WWTF. CEQA review and approval has been completed for the

Approved Samoa WWTF, as described and contained in the approved STMP and certified Master EIR. Therefore, this EIR does not include environmental analysis for the Approved Samoa WWTF.

4.1 Aesthetics

This section evaluates the potential impacts related to aesthetics and visual resources during construction and operation of the project.

4.1.1 Existing Setting

Concepts and Terminology

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Depending on the extent to which a project's presence would alter the visual character and quality of the environment, a visual or aesthetic impact may occur. Familiarity with the following terms and concepts will aid the reader in understanding the content of this section.

Visual character, visual quality, and visual sensitivity are terms used throughout the analysis, and are defined below.

Visual Character

Visual character is a general description of the visual attributes of a particular land use setting and the unique set of landscape features. The purpose of defining the visual character of an area is to provide the context within which the visual quality of a particular site or locale is most likely to be perceived by the viewing public. For urban areas, visual character is typically described on the neighborhood level or in terms of areas with common land use, intensity of development, socioeconomic conditions, and/or landscaping and urban design features. For natural and open space settings, visual character is most commonly described in terms of areas with common landscape attributes (e.g., landform, vegetation, water features).

Visual Quality

Visual quality is defined as the overall visual impression or attractiveness of a site or locale as determined by its aesthetic qualities (such as color, variety, vividness, coherence, uniqueness, harmony, and pattern). Natural and built features combine to form perspectives with varying degrees of visual quality, which are rated in this analysis as low, moderate, and high, as follows:

Low: The location is lacking in natural or cultural visual resource amenities typical of the region. A site with low visual quality will have aesthetic elements that are relatively unappealing and perceptibly uncharacteristic of the surrounding area.

Moderate: The location is typical or characteristic of the region's natural or cultural visual amenities. A site with moderate visual quality maintains the visual character of the surrounding area, with aesthetic elements that do not stand out as either contributing to or detracting from the visual character of an area.

High: The location has visual resources that are unique or exemplary of the region's natural or cultural scenic amenities. A site with high visual quality is likely to stand out as particularly appealing and makes a notable positive contribution to the visual character of an area.

Visual Sensitivity

Visual sensitivity is the overall measure of a site's susceptibility to adverse visual changes. Visual sensitivity is rated as high, moderate, or low and is determined based on the combined factors of visual quality, viewer types and volumes, and visual exposure. For example, significant adverse impacts are typically unlikely in a setting with low visual sensitivity.

Affected Viewers and Exposure Conditions

Affected viewers and exposure conditions address the variables that affect viewers and their visual exposure. The identification of viewer types and volumes describes the type and quantity of potentially affected viewers within the area. Land uses that derive value from the quality of their settings are considered potentially sensitive to changes in visual conditions. Sensitive viewers are those who have a strong stake or interest in the quality of the landscape and have a greater level of concern towards changes that degrade or detract from the visual character of an area. Examples of viewers with elevated concern for visual quality include recreationists, pedestrians, and tourists.

Regional Visual Character

As stated within the County's General Plan, Humboldt County's varied and extensive coastline allows for a wide range of scenic vistas from roads and highways, and from beaches, state parks, and coastal access points (Humboldt County 2017). The visual character of the Samoa Peninsula is rural and industrial in nature, with a low hills, a mix of herbaceous dunes, vacant land, industrial and commercial facilities, residential development, few tree stands, and overhead utilities.

Local Visual Character and Visual Sensitivity

The dominant visual character in the project area consists of open coastal dunes with low coastal vegetation interspersed with residential homes, commercial uses, and industrial buildings. Telephone and high-voltage power lines cross the peninsula and are visible from multiple vantage points. Views from the project area include dunes and Pacific Ocean to the west, Humboldt Bay to the east, and coastal vegetation throughout and surrounding the project area. Uses within the project area primarily consist of a mix of residences, industrial, and vacant lots. Residential areas include the communities of Samoa, Fairhaven, and Finntown. Industrial areas include two former pulp mill sites (which have been re-purposed for various commercial and industrial uses), a chip export facility with a marine terminal, a biomass power plant, and vacant industrial properties. Commercial facilities include aquaculture, boat repair, potting soil manufacturing, and a recycling transfer station.

New Navy Base Road provides access to the project area and runs in a predominantly north-south direction connecting to the communities of Arcata and Eureka via State Route (SR) 255. New Navy Base Road is designated by Humboldt County's scenic mapping project as having coastal zone scenic views, and has one lane in each direction through the project area with a shoulder of varying width on both sides. On the northern approach to the project area, views for both northbound and southbound travelers of New Navy Base Road and SR 255 primarily include residences, coastal dunes, and coastal vegetation. Views from New Navy Base Road in the vicinity of the approved Samoa WWTF include residences to the north, commercial uses to the south, a timber yard to the southeast, the Pacific Ocean to the west, and Humboldt Bay to the east.

4.1.2 Regulatory Framework

Federal

There are no federal regulations that apply to the proposed project related to aesthetic or visual resources in Humboldt County.

State

California Scenic Highway Program

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program to preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways. Caltrans designates roadways within each county as “officially designated” scenic highways or “eligible” scenic highway. No “officially” designated state scenic highways are located within Humboldt County. Highway U.S. 101, Route 36, Route 299, and Route 96 are designated as “eligible” state scenic highways; however, those roadways are not in the vicinity of the proposed project, and the project site cannot be seen from them (Caltrans 2011).

California Coastal Act

The Coastal Act encourages local governments to create Local Coastal Programs (LCPs) to govern decisions that determine the short- and long-term conservation and use of coastal resources. These LCPs can be thought of as the equivalent of General Plans for areas within the Coastal Zone. Local Coastal Programs must be consistent with the policies of Coastal Act, and protect public access and coastal resources.

Section 30251 of the Coastal Act states, in part, the following:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas...

Regional and Local

Humboldt County has designated an area west of an approximately 1.8 mile segment of New Navy Base Road as “Coastal Zone Scenic Views”. The designated area extends from the community of Samoa to just south of Bay Street within the project area (Humboldt County 2018).

Humboldt County General Plan.

The following policy from the Humboldt County General Plan is applicable to the project with regard to aesthetic resources:

SR-G1 Conservation of Scenic Resources. *Protect high-value scenic forest, agriculture, river, and coastal areas that contribute to the enjoyment of Humboldt County’s beauty and abundant natural resources.*

Humboldt Bay Area Plan

The following policies from the Humboldt Bay Area Plan (the Local Coastal Program that is included in the General Plan for coastal areas) are applicable to the project with regard to aesthetic resources.

3.40 VISUAL RESOURCE PROTECTION

- 30251 *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

B. DEVELOPMENT POLICIES

2. Protection of Natural Landforms and Features

Natural contours, including slope, visible contours of hilltops and treelines, bluffs and rock outcroppings, shall suffer the minimum feasible disturbance compatible with development of any permitted use, and the following standards shall at a minimum secure this objective:

- a. *In permitted development, land form alteration for access roads and public utilities shall be minimized by running hillside roads and utility corridors along natural contours where feasible, and the optional waiving on minimum street width requirements, where proposed development densities or use of one- way circulation patterns make this consistent with public safety, in order that necessary hillside roads may be as narrow as possible.*

3. Coastal Scenic Area

In the Coastal Scenic Area designated in the Area Plan Map (Indianola area), it is the intent of these regulations that all developments visible from Highway 101 be subordinate to the character of the designated area, and the following uniform standards shall apply to all development within said area, in addition to other applicable policies of this plan:

- a. *New industrial and public facility development shall be limited to:*
- (1) *Temporary storage of materials and equipment for the purpose of road and utility repair or improvement provided that this is necessary to the repair or improvement, and no feasible site for storage of equipment of material is available outside such area.*
 - (2) *Underground utilities, telephone lines, and above-ground lines consistent with Sections 3.14 and 3.26 (Industrial/Electrical Transmission Lines).*

- b. *All permitted development shall be subject to the following standards for siting and design except for structures integral to agricultural use and timberland management subject to CDF requirements for special treatment areas.*
- (1) *Siding and roofing materials shall not be of reflective materials, excepting glass and corrugated roofing. Solar collectors for on-site use shall be permitted and exempt from this standard.*
 - (2) *The highest point of a structure shall not exceed 30' vertically measured from the highest point of the foundation, nor 40' from the lowest point of the foundation.*
 - (4) *Vegetation clearing for new development shall be minimized. New development on ridgelines shall be sited adjacent to existing major vegetation, prohibiting removal of tree masses which might destroy the ridgeline silhouette, and limiting the height of structures so that they maintain present ridgeline silhouettes.*

4. Coastal View Areas

In Coastal View Areas as designated in the Area Plan, it is the intent of these regulations that no development shall block coastal views to the detriment of the public; and the following uniform standards and conditions shall apply to all development other than agricultural development and timberland management subject to CDF regulations for special treatment areas in said areas, and to specified developments in Coastal Scenic Areas, in addition to standards identified in the Area Plans:

- b. *New industrial and public facility development shall be limited to:*
- c. *Where the principle permitted use is commercial or industrial, the proposal shall include a detailed plan for exterior design of all structures and signs, and this plan shall be the subject of public hearings at which the following findings shall be made:*
- (1) *That the development does not block any part of the view to the coast or coastal waterways as viewed from public roads in a vehicle.*
 - (2) *That the exterior design, lighting and landscaping combine to render the overall appearance compatible with the natural setting as seen from the road.*
 - (3) *That no development, other than landscaping, signs, utilities, wells, fences, and a driveway for access to the public road where required, be located within 50 feet of the public road.*
 - (4) *That all feasible steps have been taken to minimize the visibility of parking areas from the public road.*
- e. *Where the principle permitted use is commercial or industrial, the proposal shall include a detailed plan for exterior design of all structures and signs, and this plan shall be the subject of public hearings at which the following findings shall be made:*

The HBAP defines “highly scenic areas” as generally including:

- 1) landscape preservation projects designated by the State Department of Parks and Recreation in the California Coastline Preservation and Recreation Plan;
- 2) open areas of particular value in preserving natural land-forms and significant vegetation, or in providing attractive transitions between natural and urbanized areas; and
- 3) other scenic areas and historical districts designated by cities and counties.

County Code

The Approved Samoa WWTF site is located within the “D” combining zone of the Humboldt County Code, which provides design review for conformance of new development with the policies and standards of the General Plan, and a design review process where neighborhoods within the same zone district desire to preserve or enhance the area’s historical, cultural or scenic values.

4.1.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to aesthetics. The following questions are from CEQA Guidelines’ Appendix G Environmental Checklist Section I. Would the project:

- a. Have a substantial adverse effect on a scenic vista?
 - Major alteration of a view from a scenic vista or major obstruction in viewed area towards a scenic vista
 - Consistency with HBAP Section 3.40 VISUAL RESOURCE PROTECTION, B. DEVELOPMENT POLICIES
 - Affect coastal zone scenic views from New Navy Base Road
- b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?
 - Affect a scenic resource within 200 feet of a roadway designated as scenic by Caltrans
- c. Substantially degrade the existing visual character or quality of the site and its surroundings?
 - High visual contrast or change as defined in Section 4.1.4 (Methodology)
- d. Create a new source of substantial light or glare which would adversely affect day or night-time views in the area?
 - Consistency with Humboldt County General Plan Policy SR-S4 (Light and Glare)

4.1.4 Methodology

The approach to evaluating the effect of the proposed project under the CEQA significance criteria is discussed below:

Scenic Vistas

This evaluation is applicable to project features that would be located on or disrupt access to a scenic vista, or result in significant visual changes within its viewshed. Scenic vistas are viewpoints that provide expansive views of a highly valued landscape. Scenic vistas may be officially recognized or designated, or they may be informal in nature (e.g., mountain peaks, expansive views). The General Plan was reviewed to determine scenic vistas in the project area.

Visual Quality

Visual quality or visual character impacts are assessed by estimating the amount of visual change introduced by a project's components, the degree to which visual changes may be visible to surrounding viewer groups, and the general sensitivity of viewer groups to landscape alterations. As such, visual changes are always considered in the context of a site or locale's visual sensitivity (as described in the setting). Visual changes are assessed from publicly-accessible or neighborhood viewpoints and measured by two factors:

Visual Contrast would be significant if it results in regraded landforms, alteration or elimination of ridgelines, and changes introduced by a project that result in landscape colors, textures, and scale of visual components that are inconsistent with the natural surroundings (changes to form, line, color, texture, and scale in the landscape);

Degradation of Visual Quality would be considered significant if a project severely alters or displaces specific scenic resources composed of striking landform features, aesthetic water bodies, mature stands of native/cultural trees (e.g., historic hedgerows), or historic structures.

These factors were used to evaluate the extent and scale of visual quality alterations relative to the project improvements.

4.1.5 Impact Analysis

Impact AES-1: Would the project have a substantial adverse effect on a scenic vista?

This impact analysis addresses CEQA Guidelines Appendix G checklist item I.a) identified in Section 4.1.3.

A scenic vista is a viewpoint that provides an expansive view of a highly valued landscape. Humboldt County's Web GIS identifies coastal zone scenic views along New Navy Base Road from Samoa south to just south of Bay Street within the project area (Humboldt County 2018).

Construction

Construction equipment, materials, and workers would be located along the proposed sewer pipeline alignment, at the location of the Approved Samoa WWTF, and within the designated staging areas (see Figure 3-3 in Chapter 3).

New Navy Base Road, designated by Humboldt County's scenic mapping project as coastal zone scenic views, is located west of the project construction area. The majority of the project site is not visible from New Navy Base Road. Project construction locations that would be visible from New Navy Base Road include

the Approved Samoa WWTF site and the nearby construction staging area, the in-road collection system south of Fairhaven, and the construction staging area at the Samoa Air Field.

The Approved Samoa WWTF site is partially visible from New Navy Base Road if travelers on the road look landward. However, the Approved Samoa WWTF site and nearby construction staging area are partially obscured by existing vegetation and distance. Similarly, the construction staging area at the Samoa Airfield is partially obscured by vegetation and distance. The temporary presence of the construction materials and workers, as well as the construction activities, would be visibly distant and similar to the existing industrial facilities near the site, and would not adversely affect views of the Pacific Ocean when traveling or stationed along New Navy Base Road. In addition, in-road construction on the southern portion of New Navy Base Road would be temporary and within an area of existing development (the road). These changes to the views along New Navy Base Road would be minor, temporary, and would generally be visible only to the public in the immediate vicinity of the active portion of construction.

Furthermore project construction would not affect natural landforms or features, would follow standards for siting and design, and would be consistent with the HBAP Section 3.40 VISUAL RESOURCE PROTECTION, B. DEVELOPMENT POLICIES. In addition, the project would be subject to the "D" combining zone design review requirements to ensure the conformance of new development with the policies and standards of the General Plan, and to provide for a design review process where neighborhoods within the same zone district desire to preserve or enhance the area's historical, cultural or scenic values.

The impact on scenic vistas from project construction would be **less than significant**.

Operation

The project collection system and disposal system pipelines would be installed in existing roadways. Upon completion of the project within Navy Base Road, there would not be any readily discernible alterations to the visual nature of the roadway or any obstructions to the existing scenic vistas. New Navy Base Road would be repaved and striped consistent with existing conditions.

The project's collection system includes three pump stations, which would be located underground. A small 8-foot by 12-foot building would be constructed near each pump station to house an emergency generator, the power service, and control panel. The project includes concrete basins and other low-lying facilities at the Approved Samoa WWTF, as well as an 8-foot by 12-foot building to support the disposal system pump station.

The project facilities would be located east of New Navy Base Road, while the scenic coastal vista is west of New Navy Base Road. Therefore, the project facilities do not have the potential to block or interfere with the coastal view from New Navy Base Road. In addition, the majority of the project's facilities are located underground or would be physically small and low-lying. The project does

not include any large or tall structures that would block or obscure scenic vistas. Therefore, impact from project operations would be **less than significant**.

Significance

Less than Significant

Mitigation

None Required

Impact AES-2:

Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a State scenic highway?

This impact analysis addresses CEQA Guidelines Appendix G checklist item I.b) identified in Section 4.1.3.

There are no officially designated State Scenic Highways within Humboldt County (Caltrans 2011). There are roadways designated as “eligible” state scenic highways; however, those roadways are not in the vicinity of the proposed project, and the project site cannot be seen from them. Therefore, the project would have **no impact** on a scenic resource within a State scenic highway.

Significance

No Impact

Mitigation

None Required

Impact AES-3:

Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

This impact analysis addresses CEQA Guidelines Appendix G checklist item I.c) identified in Section 4.1.3. The project area is located within a rural setting, with small areas of residential, industrial, and commercial uses within the project area.

Construction

As noted under Impact AES-1 above, during construction, staging areas as well as active construction zones would consist of construction activities, equipment, materials, and workers. The construction activity would occur along portions of Vance Avenue, Bendixsen Street, Lincoln Avenue, New Navy Base Road, and portions of adjoining streets, as well as at the Approved Samoa WWTF site. The construction zones and/or staging areas would be visible or partially visible to the public when utilizing the above listed roadways.

The temporary impact on the visual character of the site and surroundings, during construction, would be **less than significant**.

Operation

Following construction, the project facilities located in-road would be located underground and out-of-sight. As described in Impact AES-1, some project improvements to the Approved Samoa WWTF would be above-ground, however those facilities would be small in footprint and low-lying. The facilities would not be obtrusive to the existing environment, but would be consistent with the existing land use mix of industrial, rural residential, and open space. Therefore, the project’s impact on the visual character of the site and area would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact AES-4: **Create a new source of substantial light or glare which would adversely affect day or night-time views in the area?**

This impact analysis addresses CEQA Guidelines Appendix G checklist item I.d) identified in Section 4.1.3.

Under current conditions, the project area includes lighting typical of residential, commercial, and industrial areas including street lighting and lighting of buildings and parking lots. Nighttime construction is not anticipated; therefore, no lighting would be used during project construction. The project does not include the addition of any new lights or lighted facilities; therefore, the project would not create a new source of substantial light. Finally, the above-ground project components would be constructed of low or non-reflective material, such as concrete or coated metal, and would not result in daytime glare. Therefore, the project would have **no impact** from a new light source or glare.

Significance *No Impact*

Mitigation **None Required**

4.1.6 Cumulative Impacts

Impact: **AES-C-1: Would the project result in a cumulatively considerable contribution to a cumulative impact related to aesthetic resources?**

Project construction and operation would have no impact for affecting scenic resources within a scenic highway or creating a new source of substantial light or glare; therefore, the project would not contribute to a cumulative impact related to these criteria.

Project construction and operation would result in a less than significant impact to scenic vistas and the existing visual character of the project area. The project facilities would be visually consistent with the existing industrial, residential, and open space characteristics of the project area. The Manila CSD Modernization area is not visible from the project area and, therefore, does not contribute to cumulative visual impacts in the project area. The Samoa Airfield Onsite Wastewater Treatment System (OWTS) would be located near the southern portion of the project, and the Samoa Townsite Master Plan (STMP) would be located at the northern boundary of the project. As with the proposed project, the Samoa Airfield OWTS would be largely located underground. The Coast Seafoods project is located near the project site at the RMT II site; which contains existing industrial development. This Draft EIR assumes that the Coast Seafoods project facilities would be aesthetically consistent with the existing industrial facilities at the RMT II site.

The STMP certified EIR identifies aesthetics mitigation consisting of vegetative screening. This screening is anticipated to be placed along Vance Avenue to

screen the Approved Samoa WWTF from off-site view. The vegetation would also screen the project's proposed improvements to the WWTF, further minimizing the project's potential aesthetics impacts. Therefore, visual character would not be significantly altered and it is not anticipated that a cumulatively considerable aesthetic impact would occur. The project's contribution to impacts to a scenic vista or visual character would not be cumulatively considerable.

Significance *Less than Significant*

Mitigation **None Required**

4.1.7 References

California Department of Transportation (Caltrans). 2011. California Scenic Highway Program.

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Humboldt County. 2017. Humboldt County General Plan for the Areas Outside the Coastal Zone. October 23.

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4.2 Air Quality

This section evaluates potential environmental impacts related to air quality during construction and operation of the project. In addition to the analysis provided in this section, the following subjects are related to air quality, but are evaluated in other sections of this EIR:

- Potential impacts to greenhouse gas emissions are addressed in Section 4.6, Greenhouse Gas Emissions.

4.2.1 Existing Setting

North Coast Air Basin

The proposed project would be located in Humboldt County in the North Coast Air Basin (Air Basin). The county covers 3,570 square miles and is bounded on the west by the Pacific Ocean and on the east by mountains that separate the North Coast and Sacramento River Air Basins. The county's east-west width varies from approximately 15 to 46 miles, and its north-south length is approximately 101 miles. Moving inland, the Coast Range Mountains rise quickly and dominate most of the county's interior and include the Eel, Van Duzen, Mattole, and Mad River drainages in the central and southern areas, and the Redwood Creek drainage in the northwest. In the furthest northeastern reaches of the county, the Klamath Mountains represent some of the higher elevations, with steep slopes that feed the Klamath and Trinity rivers. The proposed project is located approximately 41 miles east of Arcata and 101 miles west of Redding.

In general, the climate of northern coastal California is characterized by cool summers and mild winters with frequent fog and significant amounts of rain. In coastal areas, the ocean helps to moderate temperatures year-round. In the project area, summers are warmer and drier and the winters colder and wetter. At higher elevations in inland areas, it is cooler in the summers and snowier in the winter. The average annual rainfall in the county ranges from 38 inches in Eureka to 141 inches in Honeydew. Approximately 90 percent of the annual precipitation falls between October and April. The dry season is between May and September (Humboldt County 2017).

Average temperatures on the coast in Eureka range from the low 60s in the summer to the low 40s during the winter. Average temperatures at inland locations, such as in Willow Creek, range from the 90s to the 30s. On the coast, summer fog is common when inland temperatures rise (Humboldt County 2017)

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to drive the movement and dispersal of air pollutants. Winds control the rate and dispersion of local pollutant emissions. In the North Coast Air Basin, dominant winds exhibit a seasonal pattern, especially in coastal areas. In the summer months, strong north to northwesterly winds are common during the winter, storms from the South Pacific increase the percentage of days that winds are from southerly quadrants. Wind direction often assumes a daily pattern in the river canyons that empty into the Pacific. In the morning hours, cool air from higher elevations flows down the valleys while later in the day as the lower elevation air heats up this pattern is reversed and the airflow heads up the canyon. These airflows are often quite strong. Offshore and onshore flows are also common along the coast and are associated with pressure systems in the area. Onshore flows frequently bring foggy cool weather to the coast, while offshore flows often blow fog away from the coast and bring sunny warm days. (Humboldt County 2017)

Criteria Air Pollutants and Effect

The California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (EPA) currently focus on the following air pollutants as indicators of ambient air quality: ozone, carbon monoxide (CO); nitrogen dioxide (NO₂), sulfur dioxide (SO₂); lead (pb), and particulate matter (PM). Because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, they are commonly referred to as criteria air pollutants. The project region is in attainment for lead, sulfur dioxide, and nitrogen dioxide, and therefore, those pollutants are not further discussed. The two pollutants of greatest concern in the region are ozone and PM (NCUAQMD 2018).

Particulate Matter

Particulate matter is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, and dust. Particles 10 microns or less in diameter are defined as "respirable particulate matter" or PM₁₀. Fine particles are 2.5 microns or less in diameter (PM_{2.5}) and, while also respirable, can contribute significantly to regional haze and reduction of visibility. Inhalable particulates come from smoke, dust, aerosols, and metallic oxides. Although particulates are found naturally in the air, most particulate matter found in the study area is emitted either directly or indirectly by motor vehicles, industry, construction, agricultural activities, and wind erosion of disturbed areas. Most PM_{2.5} is comprised of combustion products such as smoke. Extended exposure to PM can increase the risk of chronic respiratory disease (BAAQMD 2017). PM exposure is also associated with increased risk of premature deaths, especially in the elderly and people with pre-existing cardiopulmonary disease. In children, studies have shown associations between PM exposure and reduced lung function and increased respiratory symptoms and illnesses.

Ozone

Ground-level ozone is the principal component of smog. Ozone is not directly emitted into the atmosphere, but instead forms through a photochemical reaction of reactive organic gases (ROG) and nitrogen oxides, which are known as ozone precursors. Ozone levels are highest from late spring through autumn when precursor emissions are high and meteorological conditions are warm and stagnant. Motor vehicles create the majority of ROG and nitrogen oxide emissions in the Marin County Basins sub-region. Exposure to levels of ozone above current State or federal standards can lead to human health effects such as lung inflammation and tissue damage and impaired lung functioning. Ozone exposure is also associated with symptoms such as coughing, chest tightness, shortness of breath, and the worsening of asthma symptoms (BAAQMD 2017). The greatest risk for harmful health effects belongs to outdoor workers, athletes, children and others who spend greater amounts of time outdoors during periods of high ozone levels (during summer).

Carbon Monoxide (CO)

CO is a non-reactive pollutant that is toxic, invisible, and odorless. It is formed by the incomplete combustion of fuels. The largest sources of CO emissions are motor vehicles, wood stoves, and fireplaces. Unlike ozone, CO is directly emitted to the atmosphere. The highest CO concentrations occur during the nighttime and early mornings in late fall and winter. CO levels are strongly influenced by meteorological factors such as wind speed and atmospheric stability. The health threat from

elevated ambient levels of CO is most serious for those who suffer from heart disease, like angina, clogged arteries, or congestive heart failure. For a person with heart disease, a single exposure to CO at relatively low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. High levels of CO can affect even healthy people. People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. At extremely high levels, CO is poisonous and can cause death.

Toxic Air Contaminants

Toxic air contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer or serious illness) and include, but are not limited to, the criteria air pollutants listed above. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level. The identification, regulation and monitoring of TACs is relatively new compared to that for criteria air pollutants that have established ambient air quality standards. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an ambient air quality standard or emission-based threshold.

Diesel Particulate Matter (DPM), which is a component of diesel exhaust, is the predominant TAC in urban air with the potential to cause cancer. A 10-year research program (ARB 1998) demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. It is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the ARB, diesel exhaust is a complex mixture of gases, vapors and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the ARB, and are listed as carcinogens either under the State's Proposition 65 or under the federal Hazardous Air Pollutants program.

TACs are measured for their increased cancer risk and non-cancer risk on sensitive receptors. Sensitive receptors are locations where an identifiable subset of the general population (children, asthmatics, the elderly, and the chronically ill) that is at greater risk than the general population to the effects of air pollutants are likely to be exposed. These locations include residences, schools, playgrounds, childcare centers, retirement homes, hospitals, and medical clinics.

Odor

Odors are generally regarded as a nuisance or annoyance rather than a health hazard, although individuals can have a strong physical response to specific odors. Odor intensity depends on the concentration of the substance in the air. The ability to detect odors varies considerably among the population. The detection of odors is subjective, where some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. Reactions to odors vary significantly as well.

Air Pollutant Standards and Existing Conditions

Table 4.2-1, summarizes the California Ambient Air Quality Standards (CAAQS or State standards) and National Ambient Air Quality Standards (NAAQS or federal standards), and the attainment designations of Humboldt County. Humboldt County is designated 'attainment' for all NAAQS. With regard to the CAAQS, Humboldt County is designated attainment for all pollutants except PM₁₀.

Table 4.2-1 Ambient Air Quality Standards and Attainment Status

Pollutant	Averaging Time	California Standards	California Attainment Status	National Standards	National Attainment Status
Ozone	8-hour	0.070 ppm (137 µg/m ³)	Attainment	0.075 ppm (147 µg/m ³)	Attainment
	1-hour	0.09 ppm (180 µg/m ³)	Attainment	None	—
Carbon Monoxide	1-hour	20 ppm (23 mg/m ³)	Attainment	35 ppm (40 mg/m ³)	Attainment
	8-hour	9.0 ppm (10 mg/m ³)	Attainment	9 ppm (10 mg/m ³)	Attainment
Nitrogen Dioxide	1-hour	0.18 ppm (339 µg/m ³)	Attainment	0.100 ppm (188 µg/m ³)	Unclassified
	Annual	0.030 ppm (57 µg/m ³)	—	0.053 ppm (100 µg/m ³)	Attainment
Sulfur Dioxide	1-hour	0.25 ppm (655 µg/m ³)	Attainment	0.075 ppm (196 µg/m ³)	Attainment
	24-hour	0.04 ppm (105 µg/m ³)	Attainment	0.14 ppm (365 µg/m ³)	Attainment
	Annual	None	—	0.03 ppm (56 µg/m ³)	Attainment
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	Nonattainment	150 µg/m ³	Unclassified
	Annual	20 µg/m ³	Attainment	None	—
Fine Particulate Matter (PM _{2.5})	24-hour	None	—	35 µg/m ³	Attainment
	Annual	12 µg/m ³	Attainment	15 µg/m ³	Attainment

Notes: ppm = parts per million
 mg/m³ = milligrams per cubic meter
 µg/m³ = micrograms per cubic meter

The Eureka-Jacobs ambient air quality monitoring station is located approximately 1.5 miles east of the project site, and is the monitoring station closest to the project site. Table 4.2-2 reports data from the Eureka-Jacobs station for ozone, PM₁₀, and PM_{2.5}, measured over the three most recent years in which data was available (2015 to 2017). In 2017, measured air pollutants concentrations at the monitoring station exceeded the federal standard for PM_{2.5} (ARB 2018).

Table 4.2-2 Ambient Air Quality Monitoring Summary

Pollutant	Averaging Time	Metric	Year		
			2015	2016	2017
Ozone ¹	1-Hour	Max 1 Hour (ppm)	0.054	0.047	0.063

		Days > CAAQS (0.09 ppm)	0	0	0
	8-Hour	Max 8 Hour (ppm)	0.045	0.045	0.045
		Days > NAAQS (0.070 ppm)	0	0	0
Respirable Particulate Matter (PM ₁₀)	24-Hour ¹	Max 24 Hour (µg/m ³)	54.9	53.6	114.1
		Est. Days > CAAQS (50 µg/m ³)	*	*	*
		Days > NAAQS (150 µg/m ³)	0.0	0.0	*
	Annual	Annual Average (µg/m ³)	18.0	16.2	17.5
Fine Particulate Matter (PM _{2.5})	24-Hour ²	Max 24 Hour (µg/m ³)	18.6	20.0	49.0
		Days > NAAQS (35 µg/m ³)	0.0	0.0	3.1
	Annual ²	Annual Average (µg/m ³)	5.8	6.0	8.3

Notes: * means there was insufficient data available to determine the value.

ppm = parts per million

mg/m³ = milligrams per cubic meter

µg/m³ = micrograms per cubic meter

Sensitive Receptors

Sensitive receptors are people who are particularly susceptible to the adverse effects of air pollution. The ARB has identified the following people who are most likely to be affected by air pollution: children, the elderly, the acutely ill, and the chronically ill, especially those with cardio-respiratory diseases. Residential areas are considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, day care facilities, hospitals, and schools.

Existing sensitive receptors include residences in the communities of Finntown and Fairhaven. Additionally, sensitive receptors are located approximately 1,000 feet from the Approved Samoa WWTF site.

4.2.2 Regulatory Framework

The federal Clean Air Act of 1977 governs air quality in the U.S. In addition to being subject to federal requirements, air quality in California also is governed by more stringent regulations under the California Clean Air Act. At the federal level, the U.S. EPA administers the Clean Air Act. The California Clean Air Act is administered by the ARB by the Air Quality Management Districts at the regional and local levels. The North Coast Unified Air Quality Management District (NCUAQMD) regulates air quality at the regional level, which includes Humboldt County.

Federal

Federal Clean Air Act

The federal Clean Air Act of 1977 governs air quality in the United States. At the federal level, the U.S. EPA is responsible for enforcing the federal Clean Air Act which establishes the National Ambient Air Quality Standards. The U.S. EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The U.S. EPA has jurisdiction over emission sources and establishes various emission standards, including those for vehicles sold in states other than California.

State and Regional

California Clean Air Act

The California Clean Air Act is administered by the ARB at the state level, and by the NCUAQMD at the regional level (described below). In California, the ARB, which is part of the California Environmental Protection Agency, is responsible for meeting the State requirements of the federal Clean Air Act, administering the California Clean Air Act, and establishing the State standards. The California Clean Air Act, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the California Ambient Air Quality Standards. The ARB regulates mobile air pollution sources, such as motor vehicles. It is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. The ARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

North Coast Unified Air Quality Management District

The NCUAQMD, one of 35 air districts in California, has jurisdiction over Humboldt, Del Norte, and Trinity counties. The NCUAQMD's primary responsibility is for controlling air pollution from stationary sources and it is committed to achieving and maintaining healthful air quality throughout the tri-county jurisdiction. The NCUAQMD has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits, impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The NCUAQMD monitors air quality; enforces local, State and federal air quality regulations for counties within its jurisdiction; inventories and assess the health risks of TACs, and adopts rules that limit pollution.

As noted earlier, the NCUAQMD is listed as "attainment" or "unclassified" for all the federal and state ambient air quality standards except for the state 24-hour particulate (PM₁₀) standard. In 1995, the NCUAQMD provided a study to identify the contributors of PM₁₀ which is summarized in the Particulate Matter PM10 Attainment Plan draft report. The NCUAQMD's website cautions the reader when referencing the report as it "is not a document that is required in order for the NCUAQMD to come into attainment for the state standard" and that the NCUAQMD is planning to update the document.

The NCUAQMD has not formally adopted significance thresholds that would apply to projects such as the proposed project. For construction emissions, the Air District has indicated that construction emissions are not considered regionally significant for projects whose construction will be of relatively short duration (less than one year) (NCUAQMD 2015).

Construction activities are subject to Rule 104 (Prohibitions) Section D (Fugitive Dust Emission). Pursuant to 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: 1) covering open bodied trucks when used for transporting materials likely to give rise to airborne dust; and 2) the use of water during the grading of roads or the clearing of land.

For operational activities, Rule 110 (New Source Review [NSR] And Prevention of Significant Deterioration) establishes the pre-construction review requirements for new and modified stationary sources of air pollution and to provide mechanisms by which authorities to construct for such sources may be granted without interfering with the attainment or maintenance of ambient air quality standards.

Humboldt County General Plan

The following are the policies from the Humboldt County General Plan Air Quality Element that are applicable to the project.

Policy AQ-P2. Reduce Localized Concentrated Air Pollution. Reduce or minimize the creation of "hot spots" or localized places of concentrated automobile emissions.

Policy AQ-P4. Construction and Grading Dust Control. Dust control practices on construction and grading sites shall achieve compliance with NCUAQMD fugitive dust emission standards.

Policy AQ-P5. Air Quality Impacts from New Development. During environmental review of discretionary permits, reduce emissions of air pollutants from new commercial and industrial development by requiring feasible mitigation measures to achieve the standards of the NCUAQMD.

Policy AQ-P6. Buffering Land Uses. During environmental review of discretionary commercial and industrial projects, consider the use of buffers between new sources of emissions and adjacent land uses to minimize exposure to air pollution.

Policy AQ-P7. Interagency Coordination. Coordinate with the NCUAQMD early in the permit review process to identify expected regulatory outcomes and minimize delays for projects involving:

A. CEQA environmental review

Rely on the air quality standards, permitting processes, and enforcement capacity of the NCUAQMD to define thresholds of significance and set adequate mitigations under CEQA to the maximum extent allowable.

4.2.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to air quality. The following questions are from CEQA Guidelines' Appendix G Environmental Checklist Section III. Would the project:

- a. Conflict with or obstruct implementation of the applicable air quality plan?
 - Consistency with the Particulate Matter Attainment Plan of 1995.
 - Compliance with NCUAQMD Rule 104 Section D.
- b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
 - Management of construction-period fugitive dust emissions.
- c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
 - Result in construction-generated or operational-generated criteria pollutants or precursor emissions that exceed NCUAQMD-recommended mass emissions thresholds of 80 pounds per day (lb/day) for PM₁₀ and an annual mass emissions threshold of 15 tons per year (tons/year) for PM₁₀;
- d. Expose sensitive receptors to substantial pollutant concentrations?
 - Generation of substantial air pollutant emissions near existing sensitive receptors.
- e. Create objectionable odors affecting a substantial number of people?
 - Creation of a new odor source near existing sensitive receptors.

4.2.4 Methodology

As noted earlier, the NCUAQMD considers construction activities that last for less than one year to have a less than significant impact (NCUAQMD 2015). However, the California Emissions Estimator Model (CalEEMod) version 2016.3.2 was used to estimate air pollutant emissions from project construction and operation (Appendix D). For the purposes of the modeling, project construction is assumed to begin in early 2020 with construction complete in less than one year. The default construction equipment assumptions contained in the CalEEMod model were used for all construction activities except for pipeline, pump station, and repaving, which were determined based on project-specific parameters. Additionally, construction related fugitive dust emissions are discussed qualitatively. Impacts related to construction dust are considered significant if dust is allowed to leave the site (NCUAQMD 2015).

Operational emissions were estimated using CalEEMod, using the land use types and amounts identified in Chapter 3, Project Description, and the solids hauling trip generation rate and trip distance. Impacts from operational emissions are also discussed in the context of compliance with the air district regulations for new source emissions.

Wastewater treatment facilities can produce odors. Odors are generally considered an annoyance rather than a health hazard. The ability to detect and respond to odors varies considerably among the population and is quite subjective. There are existing residences approximately 1,000 feet of the Approved Samoa WWTF site. Odors are analyzed qualitatively, based on the potential for the project to generate objectionable odors off-site and wind patterns in the area.

4.2.5 Impact Analysis

Impact AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

This impact analysis addresses CEQA Guidelines' Appendix G checklist item III.a) identified in Section 4.2.3.

To address non-attainment for PM₁₀, the NCUAQMD adopted a Particulate Matter Attainment Plan in 1995. This plan presents available information about the nature and causes of PM₁₀ standard exceedances and identifies cost-effective control measures to reduce PM₁₀ emissions to levels necessary to meet CAAQS. However, the NCUAQMD states that the plan, "should be used cautiously as it is not a document that is required in order for the District to come into attainment for the state standard" (NCUAQMD 2018).

Construction

NCUAQMD Rule 104 Section D requires the handling, transporting, or open storage of materials in such a manner that does not allow unnecessary amounts of particulate matter to become airborne. Reasonable precautions shall be taken to prevent particulate matter from becoming airborne, including, but not limited to: 1) covering open bodied trucks when used for transporting materials likely to give rise to airborne dust; and 2) the use of water during the grading of roads or the clearing of land.

Therefore, compliance with applicable NCUAQMD PM₁₀ rules is applied as the threshold of significance for the purposes of analysis. NCUAQMD Rule 104 Section D, Fugitive Dust Emissions, is applicable to the project.

If not managed properly dust generated during construction could leave the project site creating an impact to neighboring properties. Potential impacts from dust generated during construction are considered **significant**.

Operation

Operation of the project would result in emissions from new on-site stationary sources (diesel generator, etc.) and mobile sources (maintenance trips). Implementation of the project would add approximately three to six worker trips per week to the site. This small increase to mobile source emission is considered less than significant. The new on-site stationary sources would be regulated by Rule 110 - New Source Review and Prevention of Significant Deterioration. Under Rule 110 the NCUAQMD could not authorize the construction of a new stationary source that exceeded the established standards. If a new source did exceed a standard, either best available control technology would be applied to the source or offsets (reductions from existing emission sources) equal to the exceedance would be required. Because there is existing regulation that would prohibit the construction of new sources in exceedance of standards, or that did not provide offsets, there would not be a significant impact to air quality standards and, therefore, project operations would not conflict with an applicable air quality

plan. Therefore, project operations would result in no impact for conflicting with an applicable air quality plan.

Summary

As shown above, the project may result in fugitive PM₁₀ emissions during construction, which would violate Rule 104 and, therefore, conflict with the 1995 Particulate Matter Attainment Plan. This is a **significant** impact. Project operations would not conflict with air quality plan; project operations would result in **no impact**.

Significance

Significant

Mitigation

AQ-1: Implement Air Quality Construction Control Measures

The PCSD shall limit dust during construction by implementing the following NCUAQMD recommended best management practices in all construction contract specifications for the project:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas and unpaved access roads) shall be watered as necessary to prevent fugitive dust emissions during dusty conditions.
2. All haul trucks transporting soil, sand, or other loose material on- or off-site shall be covered or maintain at least two feet of freeboard.
3. During construction, the contractor will designate an area of the project site for equipment and vehicle cleaning in proximity to the temporary water source. The contractor will establish a temporary drive off road consisting of cobbles, which will mitigate bulk soil and mud accumulation on adjacent roads. Visible mud or dirt tracked-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 shall be prohibited.
4. All vehicle speeds on unpaved areas shall be limited to 15 miles per hour.
5. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points explaining these measures.
6. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
7. A publicly visible sign shall be posted with the telephone number and person to contact at the PCSD regarding dust complaints. This person shall respond and take corrective action within 48 hours. The North Coast Unified Air Quality Management District phone number shall also be visible to ensure compliance with applicable regulations.

After Mitigation *Less than Significant with Mitigation*

Implementation of Mitigation Measure AQ-1 enhances compliance with Rule 104 by incorporating qualitative control measures recommended by other air districts. Therefore, the project complies with applicable rules, and would not conflict with or obstruct implementation of the applicable air quality plan.

Impact AQ-2: Would the project violate an air quality standard or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

This impact analysis addresses CEQA Guidelines' Appendix G checklist items III.b) and III.c) identified in Section 4.2.3.

Construction

Construction activities would include pipeline construction, asphalt paving, pump station construction, and improvements to the Approved Samoa WWTF.

Fugitive Dust

Generally, the most substantial air pollutant emissions would be dust (PM₁₀ and PM_{2.5}) generated from grading and excavation. If uncontrolled, these emissions could lead to both health and nuisance impacts. Construction activities would also temporarily create emissions of equipment exhaust and other air contaminants.

As stated in Section 4.2.2, the NCUAQMD does not have formally adopted thresholds of significance for fugitive, dust-related particulate matter emissions. However, multiple air districts have determined that application of common dust control measures reduces a project's potential to generate a construction-period fugitive dust impact to less than significant. For the purposes of analysis, this document uses the following qualitative approach to determining significance for fugitive dust emissions from project construction. If all appropriate fugitive dust control measures commonly recommended are implemented, then fugitive dust emissions during construction are considered less than significant. The project does not incorporate the commonly recommended fugitive dust controls and, therefore, would generate a **significant** impact.

Equipment Exhaust

For construction equipment exhaust emissions, 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 project's construction is anticipated to require approximately 12 months to complete and would not require above average intensity with regard to equipment and area disturbed. For the most part, the project is a linear project involving trenching for

installation of a pipeline. Improvements at the Approved Samoa WWTF would mostly modify existing structures. Therefore, the project's construction duration does not exceed the NCUAQMD's unofficial screening guidance of one year or above average intensity. However, emissions modeling was conducted for project construction, as detailed below.

Table 4.2-3 summarizes construction-related emissions. As shown in the table, the project's construction emissions would not exceed the NCUAQMD's stationary sources emission thresholds. Therefore, the project's impact from construction emissions would be **less than significant**.

Table 4.2-3 Construction Regional Pollutant Emissions

Parameter	Emissions (tons)			
	ROG	NO _x	CO	PM ₁₀
Project Construction	0.2	1.9	1.9	0.2
NCUAQMD Stationary Source Thresholds	40	40	100	15
Significant Impact?	No	No	No	No

Operation

Operation of the project would result in emissions from new on-site stationary sources (emergency backup diesel generators, etc.), on-road mobile sources (employee trips and solids hauling), and off-road mobile sources (front end loader or backhoe for solids handling). The project would generate four truckloads of solids per year, which would be hauled to the Anderson Landfill approximately 162 miles from the Approved Samoa WWTF site. For the purposes of this analysis, it is assumed that the project would add one employee round-trip per day.

Annual operational emissions estimates are shown in Table 4.2-4. As shown in the table, the project's operational emissions would not exceed the NCUAQMD's stationary sources emission thresholds. Therefore, the project's operational impact from emissions would be **less than significant**.

Table 4.2-4 Operational Regional Pollutant Emissions

Parameter	Emissions (tons)			
	ROG	NO _x	CO	PM ₁₀
Solids Handling and Hauling	<0.01	<0.01	<0.01	<0.01
Area Emissions	0.02	<0.01	<0.01	<0.01
Employee Trips	<0.01	<0.01	<0.01	<0.01
Stationary Sources (generators)	0.08	0.23	0.21	0.01
Total Project	0.11	0.23	0.22	0.01
NCUAQMD Stationary Source Thresholds	40	40	100	15
Significant Impact?	No	No	No	No

Summary

Project construction exhaust emissions would not exceed the NCUAQMD's stationary source thresholds, and would result in an impact that is **less than significant**. However, construction may generate fugitive dust which could impact nearby properties if BMPs are not implemented; this is a **significant** impact. Project operations would not exceed the NCUAQMD's stationary source thresholds. Therefore, the impact from project operations would be **less than significant**.

Significance

Significant

Mitigation

AQ-1: Implement Air Quality Construction Control Measures

Refer to AQ-1 Implement Air Quality Construction Control Measures, above, for the full text of this mitigation measure.

After Mitigation

Less than Significant with Mitigation

Implementation of Mitigation Measure AQ-1 includes the commonly recommended fugitive dust control measures and provides supplemental, additional control of fugitive dust emissions that enhances compliance with Rule 104 Section D. Therefore, the project would result in a less than significant impact for construction-period PM₁₀ generation.

Impact AQ-3:

Would the project expose sensitive receptors to substantial pollutant concentrations?

This impact analysis addresses CEQA Guidelines' Appendix G checklist item III.d) identified in Section 4.2.3.

Construction

Construction of the pipeline is anticipated to occur at a rate of approximately 100 feet of pipe per day, thus the construction activities would continually be shifting

with exposure at any one location lasting for only a few days during the three months of construction for this part of the project. Because of the limited construction period and the continuous shifting of the construction activities, exposure of sensitive receptors to substantial pollutant concentrations would be **less than significant**.

There are no sensitive receptors near the proposed improvements to the Approved Samoa WWTF. The nearest location of sensitive receptors are residences located more than 1,000 feet north of the Approved Samoa WWTF site. Therefore, construction at the Approved Samoa WWTF site would not result in sensitive receptor exposure to construction-related emissions, and this impact is considered **less than significant**.

Operation

Project operations include regular testing of emergency backup generators and use of the improvements at the Approved Samoa WWTF. For reasons discussed in more detail under Impact AQ-1, impacts to sensitive receptors from substantial pollutant concentrations are considered less than significant as the project would be regulated under Rule 110 and would have few mobile source emissions.

Summary

Neither project construction nor project operation would expose sensitive receptors to substantial pollutant concentrations. This impact is **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact AQ-4: Would the project create objectionable odors affecting a substantial number of people?

This impact analysis addresses CEQA Guidelines’ Appendix G checklist item III.e) identified in Section 4.2.3.

Construction

Minor odors from the use of equipment during construction activities would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance. This impact is **less than significant**.

Operation

The treatment and handling of wastewater has the potential to cause odors. Potential odor issues would be a function of the strength of the odors emanating from the project, combined with the distance to the receptors (i.e., residences), number of receptors, and meteorological conditions. There are no residences, commercial facilities, or large employers within 1,000 feet of the Approved Samoa WWTF site. There are existing residences approximately 1,000 feet north of the Approved Samoa WWTF site.

Potential objectionable odors specific to this project could occur during maintenance of the SBR and solids drying. During maintenance of the SBR, this normally closed system would be open. Treated solids would be stored on a concrete pad with a cover that would allow additional drying to occur. However, both these activities would be infrequent, occurring once per year. Maintenance would last for one day and solids drying would last about one week, with the first day of drying being the most pungent. Also, a dry crust would form as the solids dry, which would help encapsulate odors. Because of the infrequency of these activities that could result in objectionable odors leaving the project site, and because of the lack of receptors near the Approved Samoa WWTF site, the project's normal operational odor impact would be **less than significant**. However, maintenance activity, such as solids handling, during wind events could result in project-generated odor reaching residences north of the site. This impact is considered **significant**.

Summary

Project impact to odors from construction would be **less than significant**. Project impact to odors from normal operation would be **less than significant**, but **significant** during **wind events**.

Significance

Significant

Mitigation

AQ-4: Curtail Operational Odor-Generating Maintenance Activities during Wind Events

The PCSD shall avoid and limit odor-generating maintenance activity at Approved Samoa WWTF during wind events, defined as winds southern winds 15 miles per hour or greater. Additionally, a publicly visible sign shall be posted with the telephone number and person to contact at the PCSD regarding odor complaints. This person shall respond and take corrective action within 48 hours. The North Coast Unified Air Quality Management District phone number shall also be visible to ensure compliance with applicable regulations.

After Mitigation

Less than Significant with Mitigation

Implementation of Mitigation Measure AQ-4 reduces potential odor impacts by requiring the PCSD avoid maintenance when weather conditions would result in the impacts to adjacent residential uses when winds are forecast in a direction that would carry odors toward the nearest residences.

4.2.6 Cumulative Impacts

Impact AQ-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to air quality?

By its nature, air pollution is largely a cumulative impact, in that individual projects are rarely sufficient in size to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions may contribute to cumulative adverse air quality impacts. The NCUAQMD's stationary source thresholds, applied to the construction and operation of this project, take into account the Air

Basin's attainment status, continued attainment of the standards, and attainment of the daily PM₁₀ CAAQS. Therefore, the stationary source thresholds, when used as regional thresholds of significance for criteria and precursor air pollutants, are the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified regional significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Finally, consistency with an attainment plan is a cumulative analysis, as it analyzes a project in regards to an adopted plan that is based on growth projections for the region. Therefore, the project-level analysis above also would constitute the cumulative impact analysis, and no additional cumulative impacts analysis is required.

As detailed in Impact AQ-3, the project would not expose sensitive receptors to substantial pollutant concentrations. However, the project would conflict with or obstruct implementation of the applicable air quality plan during project construction (Impact AQ-1). As summarized in Impact AQ-2, although project construction would generate fugitive dust that may affect surrounding properties, no other projects, as identified in the cumulative project list in Chapter 4.0, Environmental Setting, would be under construction at the same time and close enough to the project site such that the project would contribute to a cumulative impact. Therefore, implementation of the project would not contribute to a cumulative impact for these criteria.

Significance *Less than Cumulatively Considerable (Less than Significant)*

Mitigation **AQ-1: Implement Air Quality Construction Control Measures**

Refer to AQ-1 Implement Air Quality Construction Control Measures, above, for the full text of this mitigation measure.

After Mitigation *Less than Significant with Mitigation*

Implementation of Mitigation Measure AQ-1 includes the commonly recommended fugitive dust control measures and provides supplemental, additional control of fugitive dust emissions beyond that which would occur with Rule 104 Section D compliance alone. Therefore, with mitigation the project would not conflict with the applicable air quality plan and the project's generation of construction-period dust is reduced to less-than-significant levels.

4.2.7 References

- California Air Resources Board (ARB). 1998. The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Website: <http://www.arb.ca.gov/toxics/dieseltac/factsht1.pdf>. Accessed July 18, 2013.
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- Bay Area Air Quality Management District (BAAQMD). 2017. CEQA Air Quality Guidelines. May.
- Humboldt County. 2017. Humboldt County General Plan Update Revised Draft Environmental Impact Report. April 19.

North Coast Unified Air Quality Management District. 2015. Personal Communication: Jason Davis, Permitting & Planning Manager. April 17.

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4.3 Biological Resources

This section evaluates the potential impacts related to biological resources during construction and operation of the project. Information in this section is based in part on the special-status plant and animal species surveys that were conducted by SHN in March and July 2017 and April, May, and June 2018. In addition to the field surveys, literature reviews, including the Resource Protection Maps of the Humboldt Bay Area Plan (HBAP) were conducted to determine if any recent records of sensitive biological resources have been recorded on or in the vicinity of the project site. The natural inventories included resources identified in the California Natural Diversity Database (CNDDDB), California Department of Fish and Wildlife (CDFW) Special Animals List, and California Native Plant Society (CNPS) Electronic Inventory. The findings of the field surveys and literature reviews are provided in the two Natural Resources Assessment reports that collectively cover the project area - *Natural Resources Assessment Samoa Peninsula Wastewater Project* (SHN 2018a) and *Natural Resources Assessment RMT II Samoa Effluent Pipeline Project document* (SHN 2017a). Two wetland delineations were prepared that collectively cover the project area – Wetland and Other Waters Delineation Report Samoa Peninsula Wastewater Project (SHN 2018b) and Wetland Delineation RMT II Samoa Effluent Pipeline (SHN 2017b). The following subjects are related to biological resources, but are evaluated in other sections of this EIR.

- Potential impacts to aesthetics from tree removal are evaluated in Section 4.1, Aesthetics.
- Potential impacts to water quality are addressed in Section 4.8, Hydrology and Water Quality.

4.3.1 Setting

The following describes existing conditions of the proposed project area with emphasis on biological resources.

Regional Setting

The project area is located on the Samoa Peninsula, a sandy spit of land 2,000 to 4,000 feet wide between the Pacific Ocean and Humboldt Bay, extending 12.5 miles from the Mad River in the north to the entrance to Humboldt Bay. The project area is located within former industrial land and roadways; the majority of these lands were historically dune and deflation plain wetland, and brackish marsh habitat. Natural dune and wetland habitat exists within and adjacent to portions of the study area (Figure 3.3 Project Boundary) which extends to 10 feet off pavement edges along the proposed pipeline alignment. The study area is situated at an approximate 7- to 32-foot elevation above mean sea level. The average 30-year precipitation for this area (Eureka Station) from October 1 through August 24 is 40.33 inches (NOAA 2018), with most of precipitation occurring between October and April. Temperatures on the Samoa Peninsula range from an average low of 46.2 degrees Fahrenheit (°F) in December to an average high of 59.6°F in September; extremes in temperatures are relatively uncommon due to the regional maritime influence.

Local Setting

The majority of the project area (including the Approved Samoa WWTF site) includes active roadways, and is covered in old asphalt, fractured concrete, compacted gravel, former log decks obscured by fragmented bark, and railroad infrastructure. Installation of the wastewater collection system is proposed to occur within the existing roadways to minimize impacts to sensitive coastal habitat. Site visits were conducted to identify suitable habitats for special-status species, and map sensitive and non-sensitive habitats on March 24 and 25, and July 26, 2017 and April 11 and 17,

May 31, and June 12, 2018. These survey efforts determined that two special-status plant species and five special-status animal species are present within the project area.

Marine Setting

Off the coast of northern California, sea temperatures average 52°F year-round (NOAA, 2018). North Coast marine waters have high productivity and exceptional biodiversity due to upwelling that brings cold, nutrient-rich waters to the surface, which support blooms of phytoplankton that form the foundation of a diverse and complex food web. Extensive kelp forests support many species of fishes and invertebrates. Further offshore, stretches of soft sandy bottoms and submarine canyons provide habitat and foraging areas for fish, marine mammals, and invertebrates, including deepwater corals (CDFW 2017).

Coastal currents along the Northern California coastline trend southward. The existing RMT II diffuser extends 1.5 miles into the ocean and approximately 82 feet below the water surface perpendicular to the coastline which would result in currents running perpendicular to the diffuser at an angle of 90 degrees (SHN 2016). The outfall location does not fall in a Marine Life Protection Zone (MLPZ) or Area of Special Biological Significance (ASBS). The Samoa State Marine Conservation Area (SMCA) is approximately four miles to the north of the RMT II ocean outfall.

Annual maintenance of the ocean outfall infrastructure occurs and North Coast Regional Water Quality Control Board (NCRWQCB) monitors waste discharge in accordance with the *California Ocean Plan* (State Water Resources Control Board 2015) and NPDES standards.

Vegetation

Vegetation composition within the study area varies widely, but is representative of coastal dune and wetland habitat as well as disturbed and developed coastal areas (see Figures 4.3-1a, 4.3-1b, 4.3-1c, and 4.3-1d). A large portion of the study area is characterized by a mix of disturbance-adapted, primarily non-native, herbaceous species, and other early seral disturbance-adapted shrubby species such as coyote brush (*Baccharis pilularis* ssp. *consanguinea*). Small areas of semi-natural dune and wetland habitat occur between the vacant industrial lands in areas that are used as drainages, or along property lines. These areas are mostly dominated by native vegetation. Native dune habitat and areas of larger undisturbed wetlands occur adjacent to the project site, and are composed of native vegetation communities. Wetland areas and deflation swales are primarily dominated by coastal willow (*Salix hookeriana*) and wax myrtle (*Morella californica*), among others. Many relatively undisturbed sandy areas exist alongside the proposed project alignment, and constitute dune habitat; however large portions of these areas are dominated by non-native species such as European beach grass (*Ammophila arenaria*) or non-native annual grasses.

Critical Habitat

Critical habitat is designated by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (FESA). Critical habitat refers to any specific geographic area that contains features essential for conservation of a threatened or endangered species and that may require special management and protection. This designation may include an area that is not currently occupied by the species, but that will be needed for recovery. According to the USFWS Information, Planning, and Conservation system database, there is no designated critical habitat for threatened and endangered species within the study area.

Sensitive Natural Communities

Sensitive habitats include: a) areas of special concern to resource agencies, b) areas protected under the California Environmental Quality Act (CEQA), c) areas designated as sensitive natural communities by CDFW, and d) areas protected under local regulations and policies. Sensitive biological communities include habitats that fulfill special functions or have special values, such as, streams, riparian, or wetlands habitat. These habitats may be protected under federal regulations, such as the Clean Water Act; state regulations, such as, the Porter-Cologne Water Quality Control Act, and the CDFW Streambed Alteration Program; or local ordinances or policies, such as, county tree ordinances. Other sensitive biological communities include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in its CNDDDB [CDFW, 2018a]. Sensitive plant communities are also provided in list format (CDFW 2018a). CNDDDB vegetation alliances are ranked 1 through 5 based on NatureServe's (2009) methodology (see Table 4.3-1), with those alliances ranked globally (G) or statewide (S) with status of 1 through 3 considered to be of special concern, as well as imperiled (CDFG 2007; CDFW 2018b).

Table 4.3-1 Score Value Ranges for NatureServe Conservation Status Ranks

Calculated Score Value Range	Calculated Status Rank	Status Description	Definition	Threat Rank
score \leq 1.5	G1S1	Critically Imperiled	Less than 6 elemental occurrences or less than 1,000 individuals or less than 2,000 acres	S1.1 = very threatened S1.2 = threatened S1.3 = no current threats known
1.5 < score \leq 2.5	G2S2	Imperiled	6-20 EOs or 1,000-3,000 individuals or 2,000-10,000 acres	S2.1 = very threatened S2.2 = threatened S2.3 = no current threats known
2.5 < score \leq 3.5	G3S3	Vulnerable	21-100 EOs or 3,000-10,000 individuals or 10,000-50,000 acres	S3.1 = very threatened S3.2 = threatened S3.3 = no current threats known
3.5 < score \leq 4.5	G4S4	Apparently Secure	This rank is clearly lower than S3 but factors exist to cause some concern; i.e. there is some threat, or somewhat narrow habitat.	No threat rank
score > 4.5	G5S5	Secure	Demonstrably secure to ineradicable	No threat rank

The application of global ranking (G#) for determination of sensitive communities is summarized in Table 4.3-1 (NatureServe, 2009). Additionally, CDFW high-priority natural community elements are reserved for those areas exhibiting high-quality occurrences based on criterion such as:

1. lack of invasive species;

2. no evidence of human-caused disturbance, such as, roads or excessive livestock grazing, or high grade logging; or
3. evidence of reproduction present (sprouts, seedlings, adult individuals of reproductive age), and no significant insect or disease damage, etc.

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA and other state, federal, and local laws, regulations, and ordinances. These non-sensitive communities may, however, provide suitable habitat for some special-status plant or wildlife species and are part of the general existing site conditions.

Nine sensitive natural communities (defined as vegetation communities) were observed within the study area (see Figures 4.3-1a, 4.3-1b, 4.3-1c, and 4.3-1d). These vegetation communities are considered environmentally sensitive habitat areas (ESHAs) by the California Coastal Commission and are discussed below.

Dune Mat

The dune mat vegetation community is formed from sand dunes of coastal bars, river mouths and spits along the immediate coast. Dominant species varies widely within this vegetation community, as was observed within the study area. Deflation plains and other depressions not wet enough to support willow growth were dominated by Brewer's rush (*Juncus breweri*). More upland areas and sloping sandy areas were dominated by a wide range of species including sea thrift (*Armeria maritima* ssp. *californica*), beach primrose (*Camissoniopsis cheiranthifolia*), California plantain (*Plantago californica*), creamcups (*Platystemon californicus*), dune knotweed (*Polygonum paronychia*), and sandmat (*Cardionema ramosissimum*). Primary dominants in this vegetation community were non-native including large quaking grass (*Briza maxima*), European beach grass (*Ammophila arenaria*), and other upland non-native grasses. Areas with sandy undisturbed soils dominated by non-native species are still mapped as this vegetation community. Dune mat vegetation community has a rarity ranking of G3S3 meaning that there are less than 100 viable occurrences globally, and less than 100 viable occurrences statewide (NatureServe 2009). This vegetation community is considered ESHA by the California Coastal Commission and qualifies for consideration under CEQA Guidelines Appendix G checklist IVb. This vegetation community was the second most common natural community within the study area, and included areas dominated by non-native species growing on undisturbed soils. Not included in this vegetation community are non-native dominated areas on disturbed or developed soils that was also common throughout the study area.

Wax Myrtle Scrub

Wax myrtle scrub is located in wetlands within coastal dunes, along coastal streams, and on coastal bluffs. This vegetation community is restricted to moist areas along the coast and, consequently, is not very common (Sawyer 2009). Changes in hydrology, fire, and introduction of non-native species have further limited viable occurrences of this vegetation community. Wax myrtle scrub has a rarity ranking of G3S3, meaning this vegetation community occurs on 6,400 to 32,000 acres and is known from 21 to 100 viable occurrences globally and statewide. This vegetation community is considered ESHA by the California Coastal Commission and qualifies for consideration under CEQA Guidelines Appendix G checklist IVb. This vegetation community was observed in three places within the study area, with the largest occurrence to the west of Vance Avenue, south of the chip export facility.

Coastal Brambles Vegetation Community

Coastal brambles vegetation community is located in coastal bluffs, headlands, exposed slopes, and gaps in forests. This vegetation community is restricted to coastal areas, which limits the area in which this vegetation community can be found (Sawyer 2009). Consequently, coastal brambles have a rarity ranking of G4S3, meaning that there are more than 100 viable occurrences globally, but fewer than 100 viable occurrences statewide. This vegetation community is considered ESHA by the California Coastal Commission and qualifies for consideration under CEQA Guidelines Appendix G checklist IVb. Within the study area, this vegetation community was dominated exclusively by the California blackberry, and was documented throughout the study area commonly surrounding coastal dune hollows, as well as in isolated thickets throughout the study area.

Coastal Dune Willow Thicket

Coastal dune willow thicket is located in areas near the ocean within the summer fog belt, where water stands and seasonally floods, such as, deflation plains and swales among coastal dunes, lagoon margins, and floodplains. This vegetation community is restricted to moist areas along the coast and, consequently, is not very common (Sawyer 2009). The coastal dune willow thicket has a rarity ranking of G4S3, meaning that there are more than 100 viable occurrences globally, but fewer than 100 viable occurrences statewide. This vegetation community is considered ESHA by the California Coastal Commission and qualifies for consideration under CEQA Guidelines Appendix G checklist IVb. The coastal dune willow thicket vegetation community is the most common natural vegetation community within the study area, and corresponds closely with coastal dune deflation plain wetlands and other wet depressions. This vegetation community occurs throughout the study area; however, the greatest example of this vegetation community is immediately south of the intersection of Lincoln Avenue and New Navy Base Road south of Fairhaven.

Salt Rush Swales

Salt rush swales are located in seasonally-wet slightly brackish marshes at the upper edge of salt marshes or behind dikes in former salt marsh at intermediate elevations (Sawyer 2009). Salt rush swales have a rarity ranking of G3S2, meaning that there are fewer than 100 viable occurrences globally, and between 6 and 20 viable occurrences statewide, although additional research is needed. This vegetation community is considered ESHA by the California Coastal Commission and qualifies for consideration under CEQA Guidelines Appendix G checklist IVb. This vegetation community was observed in one location within the study area, on the southern edge of a salt marsh approximately 1,700 feet north of the entrance to the Samoa RV park and boat launch.

Slough Sedge Swards

Slough sedge swards are found in seasonally-flooded swales in old deflation plains and sand dune complexes, as well as shallowly inundated woods, meadows, roadside ditches, coastal swamps, lakeshores, marshes, and riverbanks (Sawyer 2009). Slough sedge swards have a rarity ranking of G4S3, meaning that there are more than 100 viable occurrences globally, but fewer than 100 viable occurrences statewide. This vegetation community is considered ESHA by the California Coastal Commission and qualifies for consideration under CEQA Guidelines Appendix G checklist IVb. This vegetation community was observed in numerous locations within and adjacent to the study area, and corresponds closely with coastal dune deflation plain wetlands and other wet depressions.

Pacific Silverweed Marshes

Pacific silverweed marshes are found in seasonally-flooded brackish marshes at intermediate tidal elevations. Pacific silverweed marshes have a rarity ranking of G4S2, meaning that there are more than 100 viable occurrences globally, but only between 6 and 20 viable occurrences statewide. This vegetation community is considered ESHA by the California Coastal Commission and qualifies for consideration under CEQA Guidelines Appendix G checklist IVb. This vegetation community was observed in one location within the study area at the base of the eastern embankment of New Navy Base Road within a salt marsh approximately 1,700 feet north of the entrance to the Samoa RV park and boat launch.

Salt Grass Flats

Salt grass flats are found within coastal salt marshes within Humboldt County. Salt grass flats have a rarity ranking of G5S4 meaning that this vegetation community is demonstrably secure globally and relatively secure statewide with over 100 viable occurrences. As such this vegetation community does not qualify for consideration under CEQA Guidelines Appendix G checklist IVb. Although the saltgrass vegetation community is relatively common statewide coastal occurrences of this vegetation community are found within salt marsh which is considered ESHA by the California Coastal Commission. This vegetation community was observed in one location within the study area to the east of New Navy Base Road within a salt marsh approximately 1,700 feet north of the entrance to the Samoa RV park and boat launch.

Beach Pine Forest

Beach pine forest is found within coastal dune habitat, seaside bluffs, and exposed rocky headlands with salt spray and winds (Sawyer 2009). Beach pine forest has a rarity ranking of G5S3, meaning that this vegetation community is demonstrably secure globally, but has fewer than 100 viable occurrences statewide. This vegetation community is considered ESHA by the California Coastal Commission and qualifies for consideration under CEQA Guidelines Appendix G checklist IVb. This vegetation community was observed in three locations within the northern portion of the study area along Vance Avenue; however, the best example of this vegetation community within the study area is located at the Bay Street and Vance Avenue intersection, south of Bay Street and East of Vance Avenue.

Table 4.3-2 Sensitive Natural Communities Summary

Vegetative Community	Acres within Study Area	Rarity Ranking	Qualify as ESHA?	Qualify for Consideration under CEQA?
Dune mat	0.77	G3S3	Yes	Yes
Wax myrtle scrub	0.08	G3S3	Yes	Yes
Coastal brambles vegetation community	0.94	G4S3	Yes	Yes
Coastal dune willow thicket	1.09	G4S3	Yes	Yes
Salt rush swales	0.02	G3S2	Yes	Yes
Slough sedge swards	0.15	G4S3	Yes	Yes
Pacific silverweed marshes	0.00	G4S2	Yes	Yes
Salt grass flats	0.00	G5S4	Yes	No
Beach pine forest	0.02	G5S3	Yes	Yes

Wetlands and Jurisdictional Waters

The definition and regulatory framework of wetlands and jurisdictional waters are described in the Clean Water Act (CWA) (see Section 4.3.2, Regulatory Framework, below).

Wetland delineation was completed by SHN in March 2017 for the northern portion of the project study area (SHN 2017b) and in August 2018 for the remainder of the project study area (SHN 2018b). Wetland areas and deflation swales within the study area are primarily dominated by coastal willow (*Salix hookeriana*) and wax myrtle (*Morella californica*). Under the California Coastal Act wetland definition, 36 wetlands were found within or immediately adjacent to the study area meeting at least one parameter. Under the United States Army Corps of Engineers (USACE) 3-parameter guidelines, 10 potentially jurisdictional USACE wetlands are located within or immediately adjacent to the study area (See Figures 4.3-2a, 4.3-2b, 4.3-2c, and 4.3-2d). No ordinary high water mark (OHWM) was observed within the study area, as all 36 wetlands delineated were ground-water fed seasonal wetlands without any flowing surface waters.

Wildlife Corridors

Wildlife corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link undisturbed areas that would otherwise be fragmented. Maintaining the continuity of established wildlife corridors is important to:

- a. sustain species with specific foraging requirements,
- b. preserve a species' distribution potential, and
- c. retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource.

The study area is composed of a mixture of developed and undeveloped coastal dune and wetland habitat on a narrow spit of land between Humboldt Bay and the Pacific Ocean. It is unlikely that large scale terrestrial linkages exist; however local wildlife movement corridors exist across the Samoa Peninsula and are expected to be concentrated along shrubby and vegetated areas including wetlands and vegetated swales. The study area is also known to be an important flyover

location for shorebirds and other marine bird species, although it is unlikely that these species would stop within the study area.

Special-status Species

Sensitive biological resources evaluated as part of this analysis include special-status species, which are plants and animals in the following categories:

- listed or proposed for listing as threatened or endangered under FESA or candidates for possible future listing;
- listed or candidates for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA);
- listed as Fully Protected under the California Fish and Game Code;
- taxa identified by CDFW as species of special concern or rare;
- plants assigned a CNPS California Rare Plant Rank (CRPR) 1A, 1B, 2A, or 2B. The ranking system is summarized as follows:
 - CRPR 1A Plants presumed extirpated in California and either rare or extinct elsewhere;
 - CRPR 1B Plants that are rare, threatened, or endangered in California and elsewhere;
 - CRPR 2A Plants presumed extirpated in California, but common elsewhere;
 - CRPR 2B Plants that are rare, threatened, or endangered in California but more common elsewhere;
 - CRPR 3 Plants about which more information is needed (a review list); and
 - CRPR 4 Plants of limited distribution (a watch list).
- considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (State CEQA Guidelines, Appendix G); or
- otherwise meets the definition of rare or endangered under CEQA §15380(b) and (d).

Special-Status Plant Species

Special-status plant species surveys were conducted in 2017 and 2018 to determine the presence of federal, state, and California Native Plant Society CRPR plant species. The *Natural Resources Assessment, Samoa Peninsula Wastewater Project* (SHN 2018a) and *Natural Resources Assessment RMT II Samoa Effluent Pipeline Project* (SHN 2017a) summarize the potential for occurrence of special-status plant species that are recorded as occurring in the project area and beyond (SHN 2017a Appendix A, SHN 2018a Appendix 1). Twenty-seven species have a moderate or high potential of occurring at the project site; however, only two were identified within the project area (see Table 4.3-3) during the seasonally-appropriate floristic surveys. Species descriptions for the special-status plant species identified as having a moderate or high potential to occur are summarized in Table 4.3-3.

The remaining plant species recorded as potentially occurring in the project area are unlikely or have no potential to occur due to one or more of the following reasons:

- Hydrologic conditions (for example, marsh habitat, perennial streams) necessary to support some specific special-status plant(s) are not present in the project sites;

- Edaphic (soil) conditions (for example, serpentine, volcanics) necessary to support some special-status plant(s) are not present in the project sites;
- Topographic positions and landforms (for example, north-facing, slopes) necessary to support some special-status plant(s) are not present at the project sites;
- Associated vegetation communities (for example, chaparral, coastal prairie, coastal dune, coastal bluff) necessary to support some special-status plant(s) are not present at the project sites;
- The degree of disturbance and/or presence of extensive highly competitive, non-native plant species (for example, dense non-native annual grassland);
- The project sites are outside of the known elevation and/or localized distribution of some special-status plant(s) (for example, coastal, montane); and/or,
- Special-status seasonally-appropriate plant surveys were conducted within the appropriate time of year to identify species with moderate or high potential to occur at the project sites, and determined absence of these species.

No special-status species were observed during seasonally-appropriate botanical surveys in 2017. During the special-status plant surveys conducted on April 11, April 17, May 31, and June 12, 2018, two California Rare Plant Ranked plant species were present within the study area; Dark-eyed gilia (*Gilia millefoliata*) and Short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*). These two species are described in detail following Table 4.3-3.

Dark-eyed gilia (*Gilia millefoliata*) is an annual herb in the Polemoniaceae family. It is neither state nor federally listed, but has a CRPR of 1B.2 and a heritage rank of G2S2. Its elevation range is reported from 1 to 60 meters above sea level. Within its range statewide, its blooming period is reported as April through July. This species is reported from coastal dune habitat. Within the nine-quad search, numerous Rarefind occurrences were reported, several adjacent to, and within the study area. This species was observed within the study area along the western side of the access road leading to the Samoa airstrip, with several individuals present directly adjacent to the road.

Short-leaved evax (*Hesperevax sparsiflora* var. *brevifolia*) is an annual herb in the Asteraceae family. It is neither state nor federally listed, but has a CRPR of 1B.2 and a heritage rank of G4T3S2. Its elevation range is reported from 0 to 215 meters above sea level. Within its range statewide, its blooming period is reported as March through June. This species is reported from coastal bluff scrub, coastal dunes, and coastal prairie where it is found primarily on sandy bluffs and flats. Within the nine-quad search, numerous Rarefind occurrences were reported, several adjacent to, and within the study area. This species was observed within the study area along the eastern side of New Navy Base Road, between the roadway and Humboldt Bay, just north of the Samoa boat launch and RV park.

Table 4.3-3 Special-Status Plant Species with Moderate to High Potential to Occur at Project Site

Scientific Name	Common Name	FedList	CalList	GRank	Srank	Rplant Rank	Bloom Period	General Habitat	Micro-Habitat	Potential of Occurrence
<i>Abronia 4.3-10mbellate</i> <i>var. breviflora</i>	pink sand- verbena	None	None	G4G5-T2	S1	1B.1	June-Oct.	Coastal dunes and coastal strand.	Foredunes and interdunes with sparse cover. Usually the plant closest to the ocean. 0-10 m ⁽¹⁾ .	Moderate
<i>Angelica lucida</i>	sea-watch	None	None	G5	S3	4.2	May-Sept.	Coastal strand	Coastal bluff scrub, coastal dunes, coastal scrub, coastal salt marshes. 0-150 m	High
<i>Astragalus</i> <i>pycnostachyus</i> var. <i>pycnostachyus</i>	coastal marsh milk-vetch	None	None	G2T2	S2	1B.2	April-Oct.	Coastal dunes, marshes & swamps, coastal scrub.	Mesic sites in dunes or along streams or coastal salt marshes. 0-155 m.	Moderate
<i>Bryoria</i> <i>pseudocapillaris</i>	false gray horsehair lichen	None	None	G3	S2	3.2	Lichen	Coastal dunes, N. Coast conifer forest (immediate coast).	Usually on conifers. 0-90 m.	High
<i>Bryoria spiralifera</i>	twisted horsehair lichen	None	None	G3	S1S2	1B.1	Lichen	North coast conifer forest.	Usually on conifers. 0-30 m.	Moderate
<i>Carex arcta</i>	northern clustered sedge	None	None	G5	S1	2B.2	June-Sept.	Bogs and fens, north coast conifer forest.	Mesic sites. 60-1405 m.	Moderate
<i>Carex lyngbyei</i>	Lyngbye's sedge	None	None	G5	S3	2B.2	April-August	Marsh & swamp (brackish or freshwater).	0-200 m.	Moderate
<i>Castilleja ambigua</i> var. <i>humboldtensis</i>	Humboldt Bay owl's-clover	None	None	G4T2	S2	1B.2	April-August	Marshes and swamps.	Coastal saltmarsh with Spartina, Distichlis, Salicornia, Jaumea. 0-20 m.	Moderate
<i>Castilleja litoralis</i>	Oregon coast paintbrush	None	None	G3	S3	2B.2	June	Coastal bluff scrub, coastal dunes, coastal scrub.	Sandy sites. 5-255 m.	Moderate
<i>Chloropyron maritimum</i> <i>ssp. palustre</i>	Point Reyes salty bird's-beak	None	None	G4?T2	S2	1B.2	June-Oct.	Coastal salt marsh.	Usually in coastal salt marsh with Salicornia, Distichlis, Jaumea, Spartina, etc. 0-10 m.	Moderate

Biological Resources

Scientific Name	Common Name	FedList	CalList	GRank	Srank	Rplant Rank	Bloom Period	General Habitat	Micro-Habitat	Potential of Occurrence
<i>Collinsia corymbosa</i>	round-headed Chinese-houses	None	None	G1	S1	1B.2	April-June	Coastal Dunes	Coastal dunes from 10-30 m	Moderate
<i>Eleocharis parvula</i>	small spikerush	None	None	G5	S4	4.3	July-August	Marsh & swamp, salt marsh, wetland	In coastal salt marshes. 1-3020 m.	Moderate
<i>Erysimum menziesii</i>	Menzies' wallflower	E	E	G1	S1	1B.1	March-Sept.	Coastal dunes.	Localized on dunes and coastal strand. 0-35 m.	High
<i>Gilia capitata</i> ssp. <i>pacifica</i>	Pacific gilia	None	None	G5T3	S2	1B.2	April-August	Coastal bluff scrub, chaparral, coastal prairie, valley & foothill grassland.	5-1345 m.	Moderate
<i>Gilia millefoliata</i>	dark-eyed gilia	None	None	G2	S2	1B.2	April-July	Coastal dunes.	1-60 m.	Present
<i>Glehnia littoralis</i> ssp. <i>leiocarpa</i>	American glehnia	None	None	G5T5	S3	4.2	May-August	Coastal Dunes	0-20 m.	High
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	None	None	G4T3	S2	1B.2	March-June	Coastal bluff scrub, coastal dunes, coastal prairie.	Sandy bluffs and flats. 0-215 m.	Present
<i>Hosackia gracilis</i>	harlequin lotus	None	None	G4	S3	4.2	March-July	Broadleaf upland forest, coast bluff scrub, coast prairie, coast scrub, closed-cone conifer forest, meadow, seep, marsh & swamp, N. coast conifer forest, valley & foothill grassland.	Wetlands and roadsides. 0-700 m.	Moderate
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	None	None	G3T2	S2	1B.2	Jan.-Nov.	Coastal bluff scrub, coastal dunes, coastal scrub.	5-185 m.	Moderate
<i>Lathyrus japonicus</i>	seaside pea	None	None	G5	S2	2B.1	May-August	Coastal dunes.	3-65 m.	High

Scientific Name	Common Name	FedList	CalList	GRank	Srank	Rplant Rank	Bloom Period	General Habitat	Micro-Habitat	Potential of Occurrence
<i>Lathyrus palustris</i>	marsh pea	None	None	G5	S2	2B.2	March-August	Bogs & fens, lower montane conifer forest, marsh & swamp, north coast conifer forest, coastal prairie, coastal scrub.	Moist coastal areas. 2-140 m.	Moderate
<i>Layia carnosa</i>	beach layia	E	E	G2	S2	1B.1	March-July	Coastal dunes, coastal scrub.	On sparsely vegetated, semi-stabilized dunes, usually behind foredunes. 0-30 m.	High
<i>Montia howellii</i>	Howell's montia	None	None	G3G4	S2	2B.2	Feb.-May	Meadows and seeps, north coast coniferous forest, vernal pools.	Vernally wet sites; often on compacted soil. 10-1005 m.	Moderate
<i>Oenothera wolfii</i>	Wolf's evening-primrose	None	None	G2	S1	1B.1	May-Oct.	Coastal bluff scrub, coastal dunes, coastal prairie, low montane conifer forest.	Sandy substrates; usually mesic sites. 0-125 m.	Moderate
<i>Sidalcea malachroides</i>	maple-leaved checkerbloom	None	None	G3	S3	4.2	March-August	Broadleaf upland forest, coast prairie, coast scrub, N. coast conifer forest, riparian.	Woodlands and clearings near coast; often in disturbed areas. 0-730 m.	Moderate
<i>Sidalcea malviflora</i> ssp. <i>patula</i>	Siskiyou checkerbloom	None	None	G5T2	S2	1B.2	May-August	Coastal bluff scrub, coastal prairie, north coast conifer forest.	Open coastal forest; roadcuts. 5-1255 m.	Moderate
<i>Spergularia canadensis</i> var. <i>occidentalis</i>	western sand-spurrey	None	None	G5T4	S1	2B.1	June-August	Marshes and swamps (coastal salt marshes).	0-3 m.	Moderate

FP: fully protected

PT: proposed threatened

SSC: species of special concern

T: threatened

WL: watch list

G4S4: apparently secure

G5S5: secure

Table 4.3-4 Special-Status Animal Species with Moderate to High Potential for Occurrence within or Immediate Vicinity to Project Site

Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	GenHab	MicroHab	Potential of Occurrence
Amphibians									
<i>Rana aurora</i>	northern red-legged frog	None	None, SSC	G4	S3	Klamath/N. coast flowing waters, riparian forest, riparian woodland	Humid forests, woodlands, grasslands, & streamsides in NW California, usually near dense riparian cover.	Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.	High
Birds									
<i>Ardea alba</i>	great egret	None	None	G5	S4	Brackish marsh, estuary, freshwater marsh, marsh & swamp, riparian forest, wetland	Colonial nester in large trees.	Rookery sites located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes.	High
<i>Ardea herodias</i>	great blue heron	None	None	G5	S4	Brackish marsh, estuary, freshwater marsh, marsh & swamp, riparian forest, wetland	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.	Present
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	T	None, SSC	G3T3	S2S3	Great Basin standing waters, Sand shore, Wetland	Sandy beaches, salt pond levees & shores of large alkali lakes.	Needs sandy, gravelly or friable soils for nesting.	Moderate
<i>Circus cyaneus</i>	northern harrier	None	None, SSC	G5	S3	Coastal scrub, Great Basin grassland, Marsh & swamp, Riparian scrub	Coastal salt & fresh-water marsh. Nest & forage in grasslands, from salt grass in desert sink to mountain cienagas.	Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	Present

Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	GenHab	MicroHab	Potential of Occurrence
<i>Egretta thula</i>	snowy egret	None	None	G5	S4	Marsh & swamp, meadow & seep, riparian forest, riparian woodland, wetland	Colonial nester, with nest sites situated in protected beds of dense tules.	Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	High
<i>Elanus leucurus</i>	white-tailed kite	None	None, FP	G5	S3S4	Cismontane woodland, marsh & swamp, riparian woodland, valley & foothill grassland, wetland	Rolling foothills and valley margins w/scattered oaks & river bottomlands or marshes next to deciduous woodland.	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Moderate
<i>Falco columbarius</i>	merlin	None	None, WL	G5	S3S4	Estuary, Great Basin grassland, Valley & foothill grassland	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands & deserts, farms & ranches.	Clumps of trees or windbreaks are required for roosting in open country.	Present
<i>Falco peregrinus anatum</i>	American peregrine falcon	DL	DL, FP	G4T4	S3S4	Many open habitats, however, more likely along coastlines, lake edges, mountain edges.	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures.	Nest consists of a scrape or a depression or ledge in an open site.	Present
<i>Haliaeetus leucocephalus</i>	bald eagle	DL	E, FP	G5	S3	Lower montane conifer forest, Oldgrowth	Ocean shore, lake margins, & rivers for both nesting & wintering. Most nests within 1 mi of water.	Nests in large, old-growth, or dominant live tree w/open branches, especially ponderosa pine. Roosts communally in winter.	Moderate
<i>Nycticorax nycticorax</i>	black-crowned night heron	None	None	G5	S4	Marsh & swamp, riparian forest, riparian woodland, wetland	Colonial nester, usually in trees, occasionally in tule patches.	Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	High

Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	GenHab	MicroHab	Potential of Occurrence
<i>Pandion haliaetus</i>	osprey	None	None, WL	G5	S4	Riparian forest	Ocean shore, bays, fresh-water lakes, and larger streams.	Large nests built in tree-tops within 15 miles of a good fish-producing body of water.	Present
<i>Pelecanus occidentalis californicus</i>	California brown pelican	DL	DL, FP	G4T3	S3	Estuaries and coastal marine habitat.	Colonial nester on coastal islands just outside the surf line.	Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	High (flyover)
<i>Phalacrocorax auritus</i>	double-crested cormorant	None	None	G5	S4	Riparian forest, Riparian scrub, Riparian woodland	Colonial nester on coastal cliffs, offshore islands, & along lake margins in the interior of the state.	Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	High (flyover)
<i>Poecile atricapillus</i>	black-capped chickadee	None	None, WL	G5	S3	Riparian woodland	Inhabits riparian woodlands in Del Norte and northern Humboldt counties.	Mainly found in deciduous tree-types, especially willows and alders, along large or small watercourses.	Moderate
Insects									
<i>Bombus caliginosus</i>	obscure bumble bee	None	None	G4?	S1S2	Nests underground or above ground in abandoned bird nests.	Coastal areas from Santa Barbara county to north to Washington state.	Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	High
<i>Bombus occidentalis</i>	western bumble bee	None	None	G2G3	S1	Pollinates a wide variety of flowers. Will gnaw through flowers to obtain nectar their tongues are too short to reach.	Once common & widespread, species has declined precipitously from central CA to southern B.C., perhaps from disease.	Nest in cavities or abandoned burrows.	Moderate

Scientific Name	Common Name	FedList	CalList	GRank	SRank	Habitats	GenHab	MicroHab	Potential of Occurrence
<i>Cicindela hirticollis gravida</i>	sandy beach tiger beetle	None	None	G5T2	S2	Coastal dunes	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco Bay to northern Mexico.	Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	None
Mammals									
<i>Myotis evotis</i>	long-eared myotis	None	None	G5	S3	Roosts in a wide range of substrate.	Found in all brush, woodland & forest habitats from sea level to 9000 ft. prefers coniferous woodlands & forests.	Nursery colonies in buildings, crevices, spaces under bark, & snags. Caves used primarily as night roosts.	Moderate

1. Species indicator status as assigned by Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), and California Department of Fish and Wildlife (CDFW)

- | | | |
|--------------------------------------|---------------------------------|-----------------------|
| C: candidate | FP: fully protected | SNR: State not ranked |
| CT: candidate threatened | PT: proposed threatened | NR: not ranked |
| D: delisted | SSC: species of special concern | |
| DPS: distinct population segment | T: threatened | |
| E: endangered | WL: watch list | |
| ESU: evolutionarily significant unit | FP: fully protected | |

2. Species Heritage rank as assigned by California Department of Fish and Wildlife (CDFW)

- G1S1: critically imperiled
- G2S2: imperiled
- G3S3: vulnerable
- G4S4: apparently secure
- G5S5: secure

Special-Status Wildlife

Based on review of species' life history and geographic distribution data, habitat requirements, and other available species information, several special-status wildlife species have a potential for occurrence within the project vicinity. However, site-specific investigations show that actual habitat at the project site provides low suitability for many of these species; therefore, they are not expected to be present at the site and are not considered further. Wildlife with a potential for occurrence within or near the project area, based on review of available data, are presented in Table 4.3-4 and discussed further below.

Five special-status wildlife species were observed within the study area during the 2017 and 2018 Natural Resource Assessments (SHN 2017a, SHN 2018a); osprey (*Pandion haliaetus*), American peregrine falcon (*Falco peregrinus anatum*), merlin (*Falco columbarius*), northern harrier (*Circus cyaneus*), and great blue heron (*Ardea herodias*). Eighteen species have a moderate to high potential to occur near or within the project site. For the remaining species, the study area either lacks potentially suitable habitat or may contain potential habitat, but the habitat is disturbed to the extent that the occurrence of special-status species is unlikely. Table 4.3-4 summarizes the special-status wildlife species with moderate to high potential to occur within the study area. Special-status wildlife species observed within the study area are also presented in Table 4.3-3 and are discussed in further detail following the table.

Great blue heron (*Ardea herodias*) is a bird in the Ardeidae family. It is not listed under either federal or California endangered species acts, but is considered a sensitive species by CDFW and has a heritage ranking of G5S4. This species occurs in shallow estuaries and emergent wetlands. It is less common along riverine, rocky marine shores, and pastures. The great blue heron searches for prey in shallow water and open fields. It nests in colonies in tops of secluded large snags/live trees. Within the nine-quad search, numerous Rarefind occurrences were reported, with the nearest across Humboldt Bay approximately 1.6 miles to the northeast of the study area. This species was observed within the study area to the east of Vance Avenue foraging in a man-made water feature associated with the former pulp mill.

Northern harrier (*Circus cyaneus*) is a bird in the Accipitridae family. It is not listed under either FESA or CESA, but is considered a species of special concern by CDFW and has a heritage ranking of G5S3. This species occurs in coastal scrub, Great Basin grassland, marshes, swamps, and riparian scrub. The northern harrier nests and forages in grasslands usually near wet areas, with nesting usually occurring at a marsh edge. This species feeds primarily on rodents and small birds, hunting over open areas. Within the nine-quad search, one Rarefind occurrence was reported across Humboldt Bay approximately 2.5 miles to the northeast of the study area. This species was observed hunting adjacent to the study area.

Merlin (*Falco columbarius*) is a bird in the Falconidae family. It is not listed under either FESA or CESA, but is on the CDFW watch list and has a heritage ranking of G5S3S4. This species occurs along the coast, and tidal estuaries, savannahs, edges of grasslands and deserts, farms and ranches, and within open woodlands. Clumps of trees or windbreaks are required for roosting in open country. Nesting can occur within trees, or clefts of cliffs, or on the ground in pre-existing nests. Merlins hunt small birds, large insects, and less commonly, bats. There is no Rarefind occurrence for this taxon within the nine-quad search. This species was observed hunting adjacent to the study area.

American peregrine falcon (*Falco peregrinus anatum*) is a bird in the Falconidae family. It has been delisted from both FESA and CESA, but is considered a fully protected species by CDFW and has a heritage ranking of G4T4 S3S4. This species occurs within many open habitats; however, it is more likely along coastlines, lake edges, and mountain edges. It is most common near wetlands, lakes, rivers, or other water. It often nests on cliffs, banks, dunes, and mounds; also, human-made structures, with the nest consisting of a scrape, depression, or ledge in an open area. The American peregrine falcon hunts birds, which it will surprise by diving out of the sky to capture or stun. There is no Rarefind occurrence for this taxon within the nine-quad search. This species was observed hunting adjacent to the study area.

Osprey (*Pandion haliaetus*) is a bird in the Pandionidae family. It is not listed under either FESA or CESA, but is on the CDFW watch list and has a heritage ranking of G5S4. This species occurs near rivers, lakes, and coast where large numbers of fish are present. Ospreys are most common around major coastal estuaries and salt marshes. Within the nine-quad search, numerous Rarefind occurrences were reported surrounding Humboldt Bay, with the nearest approximately 2.3 miles to the east of the study area. This species was observed nesting within the study area during the field investigations. Nesting season generally is considered to be March 15 through August 1. Three nests were observed within the study area (see Figure 4.3-1b), two of which were active nests with young observed and feeding occurring. The third nest appeared abandoned; however, it could be reused in coming nesting seasons. All three nests were atop power poles with one of the nests on a platform designed for osprey nests.

Other Raptors and Migratory Birds

Trees within the project area provide potential nest sites for common raptors that could also forage within the study area. Migratory birds also forage and nest in a variety of habitats, including landscaped and developed areas.

4.3.2 Regulatory Framework

Federal

Federal Endangered Species Act

The FESA of 1973 (16 United States Code [USC] 1531 et seq.) establishes a national policy that all federal departments and agencies provide for the conservation of threatened and endangered species and their ecosystems. The Secretary of the Interior and the Secretary of Commerce are designated in the FESA as responsible for:

1. maintaining a list of species likely to become endangered within the foreseeable future throughout all or a significant portion of its range (threatened) and that are currently in danger of extinction throughout all or a significant portion of its range (endangered);
2. carrying out programs for the conservation of these species; and
3. rendering opinions regarding the impact of proposed federal actions on listed species.

The FESA also outlines what constitutes unlawful taking, importation, sale, and possession of listed species and specifies civil and criminal penalties for unlawful activities.

Pursuant to FESA requirements, an agency reviewing a proposed project within its jurisdiction must determine whether any federally listed or proposed species may be present in the project region, and whether the proposed project would result in a “take” of such species. The FESA prohibits

“take” of a single threatened and endangered species except under certain circumstances and only with authorization from the USFWS or the NOAA Fisheries through a permit under Section 7 (for federal entities) or 10(a) (for non-federal entities) of the act. “Take” under the FESA includes activities such as, “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” USFWS regulations define harm to include “significant habitat modification or degradation.” On June 29, 1995, a U.S. Supreme Court ruling further defined harm to include habitat modification “...where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”

In addition, the agency is required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under the FESA, or result in the destruction or adverse modification of critical habitat for such species (16 USC 1536[3][4]). If it is determined that a project may result in the “take” of a federally-listed species, a permit would be required under Section 7 or Section 10 of the FESA.

Clean Water Act

The Clean Water Act (CWA 1977, as amended) establishes the basic structure for regulating discharges of pollutants into waters of the U.S. It gives the U.S. Environmental Protection Agency (EPA) the authority to implement pollution control programs, including setting wastewater standards for industry and water quality standards for contaminants in surface waters. The CWA makes it unlawful for any person to discharge any pollutant from a point source into navigable waters, without a permit under its provisions.

Discharge of fill material into “waters of the U.S.,” including wetlands, is regulated by the USACE under Section 404 of the CWA (33 USC 1251-1376). USACE regulations implementing Section 404 define “waters of the U.S.” to include intrastate waters (such as, lakes, rivers, streams, wetlands, and natural ponds) that the use, degradation, or destruction of could affect interstate or foreign commerce. Wetlands are defined for regulatory purposes as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 Code of Federal Regulations [CFR] 328.3; 40 CFR 230.3). The placement of structures in “navigable waters of the U.S.” is also regulated by the USACE under Section 10 of the Federal Rivers and Harbors Act (33 USC 401 et seq.). Projects are approved by USACE under standard (that is, individual) or general (that is, nationwide, programmatic, or regional) permits. The type of permit is determined by the USACE and based on project parameters.

The USACE and the EPA announced the release of the Clean Water Rule on May 27, 2015 (80 Federal Register [FR] 124: 37054-37127). The Rule is intended to ensure waters protected under the CWA are more precisely defined, more predictable, easier to understand, and consistent with the latest science. The intent is to:

1. clearly define and protect tributaries that impact the quality of downstream waters,
2. provide certainty in how far safeguards extend to nearby waters,
3. protect unique regional waters,
4. focus on streams instead of ditches,
5. maintain the status of waters associated with infrastructure (that is, sewer systems), and
6. reduce the need for case-specific analysis of all waters.

The U.S. Court of Appeals for the Sixth Circuit stayed implementation of the Clean Water Rule pending further action of the court in October 2015. In response, the USACE and EPA resumed case-by-case analysis of waters of the U.S. determinations. Implementation of the Clean Water Rule is pending ongoing litigation.

The Fish and Wildlife Coordination Act requires consultation with the USFWS, NOAA Fisheries, and responsible state wildlife agency for any federally authorized action to control or modify surface waters. Therefore, any project proposed or permitted by the USACE under the CWA Section 404 must also be reviewed by the federal wildlife agencies and CDFW.

Section 401 of the CWA requires any applicant for a federal license or permit, which involves an activity that may result in a discharge of a pollutant into waters of the U.S., obtain a certification that the discharge will comply with applicable effluent limitations and water quality standards. CWA 401 certifications are issued by Regional Water Quality Control Boards (RWQCBs) under the California Environmental Protection Agency.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711) established federal responsibilities for the protection of nearly all species of birds, their eggs, and nests. A migratory bird is defined as any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle. The MBTA prohibits the take, possession, buying, selling, purchasing, or bartering of any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21).

State

California Environmental Quality Act

CEQA requires that biological resources be considered when assessing the environmental impacts resulting from proposed actions. Lead agencies are charged with evaluating available data and determining what specifically should be considered an “adverse effect.”

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act provides for statewide coordination of water quality regulations by establishing the California State Water Resources Control Board. The State Board is the statewide authority that oversees nine separate RWQCBs that collectively oversee water quality at regional and local levels. California RWQCBs issue CWA, Section 401 Water Quality Certifications for possible pollutant discharges into waters of the U.S. or state.

State Water Resources Control Board - California Ocean Plan

The Water Quality Control Plan, Ocean Waters of California, California Ocean Plan (Ocean Plan) was adopted and has been effective since 1972 (SWRCB 2015). There have been multiple amendments of the Ocean Plan since its adoption. The following provisions of the Ocean Plan are applicable to the project:

Part III. A. 2: General Requirements For Management Of Waste Discharge To The Ocean

- a) *Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.*

Waste discharged to the ocean must be essentially free of:

- (1) Material that is floatable or will become floatable upon discharge.*
 - (2) Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.*
 - (3) Substances which will accumulate to toxic levels in marine waters, sediments or biota.*
 - (4) Substances that significantly decrease the natural light to benthic communities and other marine life.*
 - (5) Materials that result in aesthetically undesirable discoloration of the ocean surface.*
- b) *Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.*
- c) *Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:*
- (1) Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports.*
 - (2) Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.*
 - (3) Maximum protection is provided to the marine environment. Waste that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfishing and water-contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard should be used.*

California Coastal Act

The California Coastal Act includes specific policies that address issues such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works. The policies of the Coastal Act constitute the statutory standards applied to planning and regulatory decisions made by the California Coastal Commission and by local governments, pursuant to the Coastal Act.

Coastal Act Chapter 3 – Coastal Resources Planning and Management Policies

Section 30230 states that marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30233 states that the diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, limited to particular activities that include (as applicable to the proposed project) public service purposes such as burying pipes and outfall lines.

Coastal Act Section 30121 defines the term “wetland” as: [L]ands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.

California Code of Regulations Title 14 (14 CCR) establishes a “one parameter definition” that only requires evidence of a single parameter to establish wetland conditions: Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (14 CCR Section 13577) The Commission’s one parameter definition is similar to the USFWS wetlands classification system, which states that wetlands must have one or more of the following three attributes: (1) at least periodically the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year.

Section 30240 states that ESHA shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas. Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts that would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

California Department of Fish and Wildlife

The CDFW enforces and permits actions regulated by the California Fish and Game Code, which governs the taking or possession of birds, mammals, fish, amphibians and reptiles, as well as natural resources, such as, wetlands and waters of the state. The code includes the CESA (Sections 2050-2115), Lake or Streambed Alteration Agreement regulations (Section 1600-1616), Native Plant Protection Act (Section 1900-1913), and Natural Community Conservation Planning (NCCP) Act (Section 2800 et seq.) as well as provisions for legal hunting and fishing, and tribal agreements for activities involving take of native wildlife.

California Endangered Species Act

The CESA includes provisions for the protection and management of species listed by the State of California as endangered, threatened, or designated as candidates for such listing (California Fish and Game Code Sections 2050 through 2085). The CESA generally parallels the main provisions of the FESA and is administered by the CDFW, who maintains a list of state threatened and endangered species, as well as candidate and species of special concern. The CESA prohibits the “take” of any species listed as threatened or endangered unless authorized by the CDFW in the form of an Incidental Take Permit. Under California Fish and Game Code, “take” is defined as to “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

The species of special concern (SSC) are broadly defined as species that are of concern to the CDFW, because of population declines and restricted distributions and/or they are associated with habitats that are declining in California. Impacts to special-status plants and animals may be considered significant under CEQA.

State Species of Special Concern

The CDFW maintains a list of species and habitats of special concern. These are broadly defined as species that are of concern to the CDFW because of population declines and restricted distributions, and/or they are associated with habitats that are declining in California; the criteria used to define special-status species are described by the CDFW. Impacts to special-status plants, animals, and habitats may be considered significant under CEQA.

State Species of Special Concern include those plants and wildlife species that have not been formally listed; yet are proposed or may qualify as endangered or threatened, or are candidates for such listing under the CESA. This affords protection to both listed species and species proposed for listing. In addition, CDFW Species of Special Concern, which are species that face extirpation in California if current population and habitat trends continue, USFWS Birds of Conservation Concern, and CDFW special-status invertebrates are considered special-status species by CDFW. Plant species included within the CNPS Inventory of Rare and Endangered Plants (Inventory) with CRPR of 1 and 2 are also considered special-status plant species. Few Rank 3 or Rank 4 plants meet the definitions of Section 1901 Chapter 10 of the Native Plant Protection Act (see below) or Sections 2062 and 2067 of the California Fish and Game Code that outlines the CESA. There are occasions where CRPR List 3 or 4 species might be considered of special-concern particularly for the type locality of a plant, for populations at the periphery of a species range, or in areas where the taxon is especially uncommon or has sustained heavy losses, or from populations exhibiting unusual morphology.

Also under the jurisdiction of CDFW and considered sensitive are vegetation alliances with a state (S) ranking of S1 through S3 in the List of Vegetation Alliances (CDFG 2009). CDFG ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in its CNDDDB.

Fully Protected Species

The California Fish and Game Code also accords “fully protected” status to a number of specifically identified fish (Section 5515), reptiles and amphibians (Section 5050), birds (Section 3511), and mammals (Section 4700). As fully protected species, the CDFW cannot authorize any project or action that would result in “take” of these species even with an incidental take permit.

Native Plant Protection Act

The CDFW administers the California Native Plant Protection Act (Sections 1900–1913 of the California Fish and Game Code). These sections allow the California Fish and Game Commission to designate rare and endangered plant species and to notify landowners of the presence of such species. Section 1907 of the California Fish and Game Code allows the commission to regulate the “taking, possession, propagation, transportation, exportation, importation, or sale of any endangered or rare native plants.” Section 1908 further directs that “[n]o person shall import into this state, or take, possess, or sell within this state, except as incident to the possession or sale of the real property on which the plant is growing, any native plant, or any part or product thereof, that the Commission determines to be an endangered native plant or rare native plant.”

California Species Preservation Act

The California Species Preservation Act (California Fish and Game Code Sections 900–903) includes provisions for the protection and enhancement of the birds, mammals, fish, amphibians, and reptiles of California. The administering agency is the CDFW.

Natural Community Conservation Planning Act

The CDFW is the principal state agency responsible for implementing the Natural Community Conservation Planning (NCCP) Act of 1991. The act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land use. The NCCP plans developed in accordance with the act seek to ensure the long-term conservation of multiple species, while allowing for compatible and appropriate economic activity to proceed.

California Fish and Game Code–Section 3503 (Birds of Prey)

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Subsection 3503.5 specifically prohibits the take, possession, or destruction of any birds in the orders Falconiformes (hawks and eagles) or Strigiformes (owls) and their nests. These provisions, along with the MBTA, essentially serve to protect nesting native birds of prey.

Regional and Local

Humboldt Bay Area Plan of the Local Coastal Program

Relevant natural resources protection policies from the HBAP are described below. Section 3.30 (Natural Resources Protection Policies and Standards) states in part:

30240. (a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade such areas, and shall be compatible with the continuance of such habitat areas.

30233. (a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division,

where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

(5) Incidental public service purposes, including, but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

Section 3.30(B)(1) states in part:

1. Identification of Environmentally Sensitive Habitats

a. Environmentally sensitive habitats within the Humboldt Bay Planning Area include:

(1) Wetlands and estuaries, including Humboldt Bay to the mouth of the Mad River.

2) Vegetated dunes along the North Spit to the Mad River and along the South Spit.

(3) Rivers, creeks, gulches, sloughs, and associated riparian habitats, including Mad River Slough, Ryan Slough, Eureka Slough, Freshwater Slough, Liscom Slough, Fay Slough, Elk River, Salmon Creek, and other streams.

(4) Critical habitats for rare and endangered species listed on state or federal lists.

Section 3.30(B)(6) states in part:

6. Wetland Buffer

a. No land use or development shall be permitted in areas adjacent to coastal wetlands, called Wetland Buffer Areas, which degrade the wetland or detract from the natural resource value. Wetland buffer areas shall be defined as:

(1) The area between a wetland and the nearest paved road, or the 40 foot contour line (as determined from the 7.5' USGS contour maps), whichever is the shortest distance, or,

(2) 250 feet from the wetland, where the nearest paved road or 40 foot contour exceed this distance, or

(3) Transitional Agricultural lands designated Agriculture Exclusive shall be excluded from the wetland buffer.

d. Outside an urban limit line, the setback shall be between 100 and 200 feet, depending upon the size and sensitivity of the wetland, drainage boundaries, vegetation, adjacent uses, and the potential impacts of the project on the wet habitat values. The precise width of the setback shall be sufficient to prevent significant impacts to the wetland.

e. In both urban and rural areas, setbacks of less than the distance specified above may be permitted only when the prescribed buffer would prohibit development of the site for principal use for which it is designated. Any such reduction in setback shall still retain the maximum setback feasible, and may require mitigation measures, in

addition to those specified below, to ensure new development does not adversely affect the wetland's habitat values.

f. All new development within the wetland buffer shall include the following mitigation measures:

(6) Development and construction shall minimize cut and fill operations and erosion and sedimentation potentials through construction of temporary and permanent sediment basins, sediment basins, seeding or planting bare soil, diversion of runoff away from graded areas and areas heavily used during construction, and when feasible, avoidance of grading during the rainy season (November through April).

g. The County shall request the Department of Fish and Game to review plans for development within 200 feet of the boundary of a wetland.

Section 3.30(B)(8) states in part:

8. Coastal Streams, Riparian Vegetation and Marine Resources

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Use of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 3.30(B)(14) states:

14. Menzies Wallflower

Adverse impacts to Menzies Wallflower shall be mitigated. If feasible, mitigation for adverse impacts to the Menzies Wallflower shall be accomplished within the dune restoration study area located south of the Coastal Dependent Industrial designation or within the proposed BLM native plant protection area. If mitigation within these areas is not feasible, an alternative mitigation program may be approved by the County and the State Coastal Commission in consultation with the Department of Fish and Game and the U.S Fish and Wildlife Service.

Humboldt County Zoning Code

The Humboldt County Zoning Code is the Implementation Program for the Humboldt County Local Coastal Program. In particular, Chapters 2 (Administration, Procedures, Amendments and Enforcement) and 3 (Regulations Inside the Coastal Zone) establish the Principal and Combining

Zones that are applied consistent with the HBAP to protect to ensure coastal access and priority coastal uses and to protect coastal resources. In particular, the “W-Coastal Wetland Areas” combining zone is applied to lands containing wetlands to provide that any development in coastal wetlands will not degrade the wetland, but will maintain optimum populations of marine or freshwater organisms and, where feasible, will enhance wetland resources. Chapter 2 contains supplemental findings (in Section 312- 39.14 Coastal Wetlands) that must be made for development to be approved on lands with the “W-Coastal Wetland Areas” combining zone.

4.3.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to biological resources. According to the CEQA Guidelines Appendix G, Environmental Checklist, Section IV to determine whether impacts to biological resources are significant environmental effects, the following questions are analyzed and evaluated. 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 Wildlife or U.S. Fish and Wildlife Service?
 - Direct loss or harm of a special-status species
 - Loss or alteration of habitat that could result in the ‘take’ of a special-status species
 - Indirect disturbance (e.g., construction noise) that could disrupt essential activities (e.g., nesting) of a special-status species
- 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 Wildlife or U.S. Fish and Wildlife Service?
 - Direct removal of riparian habitat, ESHA, or other sensitive natural community (except wetlands)
 - Substantial degradation of riparian habitat, ESHA, or other sensitive natural community
 - Indirect disturbance (for example, erosion or sedimentation from construction activities) that could reduce function and value of riparian habitat, ESHA, or other sensitive natural community
- c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
 - Placement of fill in California Coastal Act wetlands, waters of the U.S., or waters of the state
 - Indirect disturbance that could substantially affect hydrology or contribute to erosion and/or negatively impact water quality of California Coastal Act wetlands, waters of the U.S., or waters of the state
- 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?

- Create a substantial barrier to movement resulting in loss or harm to native resident or migratory fish or wildlife species
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
 - Conflict with requirements of the HBAP
- 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?
 - Conflict with the provisions of an adopted habitat conservation plan; natural community conservation plan; or other approved local, regional, or state habitat conservation plan.

4.3.4 Methodology

Potential impacts resulting from implementation of the project were evaluated based on field reconnaissance surveys performed by qualified biologists on March 23 and 24 and July 26, 2017, and April 11 and 17, May 31, and June 12, 2018, and a review of the following sources:

- a. Existing resource maps and aerial photographs of Fairhaven, Finntown, the town of Samoa, and the greater area
- b. Database searches for the Arcata South, Cannibal Island, McWhinney Creek, Tyee City, Arcata North, and Fields Landing U.S. Geological Survey (USGS) 7.5-minute topographic quadrangles, which include the project site and vicinity, from the CNDDDB (CDFW 2018a), CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2018), and USFWS (USFWS 2018) databases
- c. Other available literature regarding the natural resources of the area, such as, the “List of California Vegetation Alliances, Vegetation Classification and Mapping Program” (CDFG 2009), Natural Communities–Background Information on the “List of Vegetation Alliances and Associations” (CDFW 2014), and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast (USACE 2010).

For purposes of this EIR, the analysis considered the following three principal components of the guidelines and criteria outlined above:

- a. Magnitude of the impact (for example, substantial/not substantial)
- b. Uniqueness of the affected resource (rarity)
- c. Susceptibility of the affected resource to perturbation (sensitivity)

The evaluation of significance must consider the interrelationship of these three components. For example, a relatively small magnitude impact to a state or federally listed species would be considered significant because the species is very rare and is believed to be very susceptible to disturbance. Conversely, a plant community (such as, California annual grassland) is not necessarily rare or sensitive to disturbance. Therefore, a much larger magnitude of impact would be required to result in a significant impact. Impacts are generally considered “less than significant” if the habitats and species affected are common and widespread in the region and the state.

4.3.5 Impact Analysis

Impact BIO-1: Would the project 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 Wildlife or U.S. Fish and Wildlife Service?

This impact analysis addresses CEQA Guidelines Appendix G checklist item IV.a) identified in Section 4.3.3.

Construction

Special-status Plants

The proposed project site includes active roadways, and many areas are covered with old asphalt, fractured concrete, compacted gravel on former log decks, and railroad infrastructure. Installation of the wastewater collection system is proposed to occur within the existing roadways to minimize impacts to sensitive coastal habitat, although ground disturbance may occur out to 10 feet beyond existing edge of pavement. At the WWTF site, the exact areas to be disturbed are not known at this time. It is therefore assumed that the entire area may be subject to ground disturbance, either from construction, access, and/or staging activities. The dark-eyed gilia (rare plant rank 4.2, heritage rank G5T5S3) and short-leaved evax (rare plant rank 1B.2, heritage rank G5T5S3) were the only state special-status plant species detected within the study area. Dark-eyed gilia was observed along the western side of the access road leading to the Samoa airstrip, with several individuals present directly adjacent to the road (SHN 2018a) (see Figure 4.3-1d). This road is proposed to be used to access a staging area during project construction. Short-leaved evax was observed along the eastern side of New Navy Base Road, between the roadway and Humboldt Bay, just north of the Samoa RV park and boat launch (SHN 2018a) (see Figure 4.3-1d). Construction of collection system piping is proposed to occur in this roadway. Ground disturbance related to construction activities has the potential to impact these species by direct impact from construction vehicles parking off the pavement where individuals of this species are present. Disturbance or take of special-status plant species would be a **significant** impact.

American Peregrine Falcon, Merlin, and Northern Harrier

American peregrine falcon (state Fully Protected, heritage rank G4T4S3S4), merlin (Watch List, heritage rank G5S3S4), and northern harrier (state Species of Special Concern, heritage rank G5S3) were observed foraging adjacent to the project area, and great blue heron (state Sensitive, heritage rank G5S4) was observed foraging within the project area. Suitable foraging habitat exists for these species adjacent to the project area and suitable foraging and nesting habitat exists around Humboldt Bay. If disturbed during nesting, project construction would have a **significant** impact to these species.

Osprey

Osprey (state Watch List, heritage rank G5S4) was found to have three nests (two active and one apparently abandoned) at the northern end of the project area (see Figure 4.3-1b). Osprey tend to return to the same nest year after

year. If construction were to occur within 500 feet of an active nest, construction activities could disturb or cause the osprey to abandon the nest. This would be **a significant impact**.

Marine Species

Project construction includes improvements that would connect to the existing Redwood Marine Terminal (RMT II) ocean outfall and diffuser system which is considered an outfall line per section 30233 of the Coastal Act. Project construction does not include any in-water infrastructure installation or near-water construction activities; therefore, there would be **no impact** to marine special-status species.

Operation

Project operation would collect, process, and dispose of wastewater from existing facilities (Short-Term Phase) and potential future infill development consistent with HBAP and zoning (Long-Term Phase). Operation of the improvements to the WWTF would not impact land-based special-status species (a discussion of marine impacts follows). With implementation of the improvements, there would be few changes to the operation of the Approved Samoa WWTF such that it would result in substantial impacts to special-status species. The pipelines would be underground, and neither noise nor lighting would increase to an extent that would be noticeable let alone create a substantial impact. Impacts from operation would be **less than significant**.

Currently, DG Fairhaven Power, located between Fairhaven and Samoa, discharges approximately 170,000 gallons per day (gpd) of processed water, following treatment, through the RMT II ocean outfall. The Short-Term phase would add approximately 23,000 gpd, bringing the total estimated daily flow through the outfall to approximately 193,000 gpd. The Long-Term phase would add approximately 45,000 gpd, bringing the total estimated daily flow through the outfall to approximately 237,000 gpd.

If unregulated, biological resources in the vicinity of the outfall diffuser including benthic and pelagic organisms may be impacted by changes to water quality, discharges of settleable particles or nutrients, and changes to water currents.

Increased nutrient inputs in an aquatic environment promote excessive growth of phytoplankton and macro algae which can block sunlight to submergent vegetation. Changes in naturally occurring amounts of nutrients can potentially cause blooms of toxic algae which eventually die off, then the bacteria decomposing the algae consume oxygen, reducing oxygen availability for other organisms. Offshore winds cause colder deep water to replace surface water that has been warmed by the sun. The ocean water is constantly churning underneath, bringing nutrients up to the top. Therefore, impacts to water quality may not only affect ocean floor marine organisms, but could affect surface feeding animals as well. However, the Approved Samoa WWTF would be required to obtain an NPDES permit which would specify an acceptable level of a pollutant or pollutant parameter including physical properties, solids, biologicals, and chemicals in a discharge and make sure that the state's

mandatory standards for clean water and the federal minimums are met. The NPDES permit would be required to be amended to accommodate increased flow from the project.

The anticipated effluent water quality limits, established to protect the beneficial uses of the ocean including marine habitat and fish migration, are shown in Table 4.3-5. These are the regulated standards that would be required to be met during operation, prior to discharge through the ocean outfall pipe.

The NPDES permit would require monitoring to determine compliance with established effluent limitations, establish a basis for enforcement actions, assess treatment efficiency, characterize effluents, and characterize the receiving water. The NPDES regulations require the permittee to maintain records and periodically report on monitoring activities. Because ocean outfall is regulated by existing standards established for the purpose of protecting the ocean, and the additional flow from the project would contribute a small fraction of the existing discharge and Approved Samoa WWTF discharge, the impact to the ocean environment from increased discharge from the project would be **less than significant**.

Table 4.3-5 Effluent Water Quality Limits - Approved Samoa Peninsula Wastewater Treatment Facility

Parameter	Units	Monthly Average (except where noted)	Weekly Average	Instantaneous Maximum	Source
Biochemical Oxygen Demand	mg/L ¹	30	45	NA ²	TBEL ³
Total Suspended Solids	mg/L	30	45	NA	TBEL
Grease and Oil	mg/L	25	40	75	COP 2015 ⁴
Settleable Solids	ml/L ⁵	1.0	1.5	3.0	COP 2015
Turbidity	NTU ⁶	75	100	225	COP 2015
Total Coliform	MPN/100 ml ⁷	70 ⁸	NA	230	COP 2015
pH	Units	Within limit of 6.0 to 9.0 at all times			COP 2015

- 1. mg/L: milligrams per liter
- 2. NA: not applicable
- 3. TBEL: technology based effluent limitations
- 4. California Ocean Plan, 2015. Source: Table 2 Effluent Limitations
- 5. ml/L: milliliters per liter
- 6. NTU: nephelometric turbidity units
- 7. MPN/100 ml: most probable number per 100 milliliters
- 8. Monthly median

Summary

Construction-related impacts to land-based special-status biological resources may occur and would be **significant**.

The project’s construction would not cause any impacts to the marine environment with no activities proposed within the ocean.

The project’s operational throughput (both Short-Term and Long-Term phases) would continue to be required to meet regulatory requirements of the NPDES

permit, governed by the requirements and approval of the NCRWQCB. Therefore, impacts from operation would be **less than significant**.

Significance

Significant

Mitigation

BIO-1a: Protect Nesting Birds

The PCSD shall ensure that preconstruction nesting bird surveys shall be conducted by a qualified biologist if construction begins in the breeding season (January 15 to August 31 to include raptors and all other migratory birds). Surveys are to be conducted within seven days of construction activities and repeated if construction ceases for seven days in the same location, prior to construction resuming. An area of at least 500 feet within the construction area will be surveyed for nesting birds. If active nests are found, the biologist will monitor the nest(s) and establish protective buffers (no-disturbance area around the nest) determined with consultation with CDFW and based on the nesting species, its sensitivity to disturbance, and type of and duration of disturbance expected.

Any work conducted within 500 feet of an osprey nest will either be conducted outside of the nesting season (March through August) or a qualified biologist in consultation with CDFW will observe the nests prior to the commencement of construction within the vicinity of the nests to ensure that juveniles have fledged, and that the nest is empty during construction, or determine an adequate buffer that will not impact the nest or nestlings.

BIO-1b: Protect Rare Plants during Construction

The PCSD shall protect rare plants during construction. Prior to the start of construction, where construction activities occur within close proximity (100 feet) to identified special-status plant species during preconstruction surveys, high visibility construction fencing shall be erected to establish a no-disturbance buffer that would be adequate for the protection of the plants, determined by a qualified biologist. The fencing will be checked weekly by a biological monitor to ensure its continued correct placement and stability.

After Mitigation

Less Than Significant with Mitigation

Impacts to special-status species can be minimized by mitigation measures implemented prior to and during construction by identifying the locations of natural resources and establishing and maintaining a protective buffer around them through the duration of the project activities. Minimizing the impact of construction activities by adhering to the above mitigation measures during the breeding season will prevent “take” of special-status species and avoid jeopardizing local wildlife and plant populations.

Impact BIO-2: Would the project 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 Wildlife or U.S. Fish and Wildlife Service?

This impact analysis addresses CEQA Guidelines Appendix G checklist item IV.b) identified in Section 4.3.3.

Construction

The following S3 communities (as assigned by CDFW) exist within the study area for this project and are considered ESHA by the California Coastal Commission: beach pine forest, salt grass flats, Pacific silverweed marshes, slough sedge swards, salt rush swales, dune mat vegetation, coastal dune willow thicket, coastal brambles vegetation, and wax myrtle scrub (SHN 2017a and SHN 2018a) (see Figures 4.3-1a, 4.3-1b, 4.3-1c, and 4.3-1d). In addition, numerous wetlands were documented throughout the study area (SHN 2017b and 2018b) (see Impact BIO-3, below, for an analysis of the project's impacts on wetlands). The project site includes active roadways, and many areas are covered with old asphalt, fractured concrete, compacted gravel on former log decks, and railroad infrastructure. Installation of the wastewater collection system is proposed to occur within the existing roadways to minimize impacts to sensitive coastal habitat, although ground disturbance may occur out to 10 feet beyond existing edge of pavement. At the WWTF site, the exact areas to be disturbed are not known at this time. It is therefore assumed that the entire area of approximately 74,000 square feet may be subject to ground disturbance, either from construction, access, and/or staging activities. The plan to limit installation of the pipelines to within the existing roadways would generally avoid ESHA. However, construction activities have the potential to impact ESHAs that are immediately adjacent to the work area where ground disturbance may occur out to 10 feet beyond existing pavement. This would be a **significant impact**.

At the Approved Samoa WWTF site, it is assumed that the entire area may be subject to ground disturbance, either from construction, access, and/or staging activities. Impacts to the special status habitats and ESHA documented at the WWTF (coastal brambles, coastal dune willow thickets, and wax myrtle scrub) would be a **significant impact**.

The ocean outfall location is not a sensitive natural community and no construction is proposed at the ocean outfall, so **no impact** would occur there.

Operation

Project operation would collect, process, and dispose of wastewater from existing facilities. Operational activities would not impact ESHAs. Long-term operations and maintenance of the collection system will take place within the paved and developed areas of the project. Operation of the project would result in **no impact**.

Summary

Direct short-term impacts to riparian habitat, ESHAs, or other sensitive natural communities may occur during project construction along roadways. Direct permanent impacts to (removal of) ESHA or other sensitive natural communities is likely at the WWTF site. This would be a **significant** impact. **No impact** would occur during operation of the Project.

Significance

Significant

Mitigation

BIO-2a: Protect ESHAs and Sensitive Natural Communities

The PCSD shall implement the following measures to protect sensitive natural communities:

- Prior to the start of construction a qualified biologist will develop and distribute educational materials to construction crews at a “tail-gate” meeting identifying sensitive natural resources within the project area. This will include (but is not limited to) hard copy information about sensitive plant community identification and defining protective buffer flagging or fencing to explain where the buffers are placed and what they are intended to protect.
- Except where direct impact (removal) is proposed at the WWTF site, establish and maintain appropriate buffers, and BMPs in accordance with Mitigation Measure HWQ-1 Manage Stormwater during Construction, for the duration of construction. Vegetation communities with a Species Heritage rarity ranking of S3 (vulnerable), S2 (imperiled), or S1 (critically imperiled), as assigned by CDFW, shall be demarcated with high visibility fencing to avoid ground disturbance. A biologist or biological monitor shall inspect the sensitive areas and the protective buffers once a week for the duration of construction to ensure the buffers and BMPs are adequately protecting the ESHA and/or Sensitive Natural Communities. Modifications to the buffers and BMPs, recommended by the Qualified Biologist, shall be implemented as soon as feasible.

BIO-2b: Replace or Restore ESHAs or Other Sensitive Natural Communities Removed during Construction

The PCSD shall prepare and implement a plan to identify and compensate for removal of ESHAs or other sensitive natural communities that cannot be avoided during construction. The Plan will include the following components, and must adequately replace habitat and be approved by the California Coastal Commission and California Department of Fish & Wildlife:

- Identify, map, and quantify the impacted ESHA and/or Sensitive Natural Community.
- Determine the appropriate replacement or restoration ratio to impact.

- Identify suitable location for creating replacement habitat or restoring a site that previously had the equivalent ESHA and/or Sensitive Natural Community.
- Determine success criteria against which the replacement/restoration site would be judged to successfully have replaced or restored the ESHA and/or Sensitive Natural Community.
- Determine appropriate ongoing monitoring for the respective ESHA and/or Sensitive Natural Community. Monitoring shall include the timing and frequency of inspections, and documentation of inspections, until it is determined the success criteria has been met.
- If during monitoring it is found that the replacement and/or restoration is not succeeding, the PCSD shall consult with California Coastal Commission and California Department of Fish & Wildlife to determine appropriate corrective actions.

*After Mitigation**Less than Significant with Mitigation*

Establishing, maintaining, and monitoring protective buffers around sensitive natural communities during construction of the project would protect the sensitive natural communities and reduce the potential indirect impact during construction to less than significant. Creating a plan to determine and implement appropriate compensatory mitigation for ESHA or other sensitive natural community (where avoidance is not possible), would reduce the impact to less than significant.

Impact BIO-3:

Would the project have a substantial adverse effect on protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

This impact analysis addresses CEQA Guidelines Appendix G checklist item IV.c) identified in Section 4.3.3.

Construction

A total of 10 USACE-jurisdictional three-parameter wetlands were delineated with an additional 36 Coastal Act-defined wetland areas having one or two parameters identified (SHN 2017b and 2018b) (see Figures 4.3-2a, 4.3-2b, 4.3-2c, and 4.3-2d). Most of these wetlands are located along the roadways. However, two wetland areas at the WWTF site may be filled (eliminated) during construction of the WWTF improvements, if not already filled by the Approved Samoa WWTF. This would be a **significant impact**. Sediment transfer from construction activities could indirectly impact roadside wetlands and violate water quality standards, which would also be a **significant impact**.

No improvements would be made to the existing ocean outfall, therefore **no impact** would occur in the ocean.

Operation

Operational activities would not impact wetlands. Long-term operations and maintenance of the collection system would take place within the paved and developed areas of the project. **No impact** to wetlands would occur from operation of the project improvements.

Summary

Two wetland areas at the WWTF site may be filled during construction of the WWTF improvements. Sediment transfer from construction activities could indirectly impact roadside wetlands and violate water quality standards. Potential impacts to wetlands would be **significant**. Project operations would not affect wetlands and would result in **no impact**.

Significance

Significant

Mitigation

BIO-3a: Protect Wetlands during Construction

Excluding wetlands that will be filled by project construction, the PCSD shall protect jurisdictional wetlands during construction. Prior to the start of construction, where construction activities occur within close proximity (100 feet) to delineated wetlands, high visibility construction fencing shall be erected to establish a no-disturbance buffer that would be adequate for the protection of the wetlands, determined by a qualified biologist. The fencing shall be checked weekly by a biological monitor to ensure its continued correct placement and stability.

BIO-3b: Create Compensatory Mitigation Wetlands

The PCSD shall avoid fill of seasonal wetlands and waters, to the extent feasible. If fill cannot be avoided, the PCSD shall compensate for the loss of seasonal wetland habitat through the creation of on-site seasonal wetlands at a ratio of 3:1, so that there is no net loss in wetlands. Required permits and approvals from the U.S. Army Corp of Engineers, the North Coast Regional Water Quality Control Board, the California Department of Fish and Wildlife, and the California Coast Commission shall be received prior to the start of any on-site construction activity. The County shall ensure any additional measures outlined in the permits are implemented.

HWQ-1: Manage Stormwater during Construction

Refer to Section 4.8 Hydrology and Water Quality for the complete description of this mitigation measure. Mitigation Measure HWQ-1 requires the PCSD to prepare a stormwater pollution prevention plan (SWPPP) specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ).

After Mitigation

Less than Significant with Mitigation

Avoiding wetlands where feasible through the appropriate use of BMPs, protective setbacks, and requiring the creation of replacement wetlands to be approved by the California Coastal Commission, CDFW, USACE, and RWQCB, would reduce the impact on wetlands to less than significant.

Impact BIO-4: Would the project interfere substantially with the movement of any native resident or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

This impact analysis addresses CEQA Guidelines Appendix G checklist item IV.d) identified in Section 4.3.3.

Humboldt Bay is along the Pacific Flyway and is considered an internationally important area for migratory birds by the American Bird Conservancy and the Western Hemisphere Shorebird Reserve Network. Dune forest and riparian areas around Humboldt Bay provide habitat for breeding and non-breeding migratory birds. The project area is composed of a mixture of developed and undeveloped coastal dune and wetland habitat on a narrow spit of land between Humboldt Bay and the Pacific Ocean. It is unlikely that large scale terrestrial linkages exist; however local wildlife movement corridors exist across the Samoa Peninsula and wildlife movement is expected to be concentrated along shrubby and vegetated areas including wetlands and vegetated swales. There are no identified wildlife nursery sites within the project area.

Construction

No vegetation removal would occur along the pipeline alignments. Minimal vegetation removal may occur at the pump station locations. Vegetation removal may occur at the WWTF site, which includes a mix of disturbance-adapted, primarily non-native, herbaceous species, along with some shrub-dominated areas and areas with higher native vegetation cover. Due to the disturbed and developed nature of the areas proposed for construction, impacts on the movement of wildlife or migratory corridors would be **less than significant**.

Project construction does not include any in-water infrastructure installation, equipment use, or otherwise create any barrier or impediment that would interfere with marine wildlife movement or the use of native marine wildlife nursery sites. Therefore, there would be **no impact** on the marine environment.

Operation

Project operation will not create any significant barrier that would prevent wildlife movement through the project area; there is **no impact** to avian or other wildlife movement.

Project operations would not include any in-water infrastructure installation, equipment use, or otherwise create any barrier or impediment that would interfere with marine wildlife movement or the use of native marine wildlife nursery sites. With regard to water quality in general, and its potential impact on species occurring in the vicinity of the outfall, refer to the analysis under Impact BIO-1. The impact would be **less than significant**.

Summary

Due to the disturbed and developed nature of the areas proposed for construction, impacts on the movement of wildlife or migratory corridors from construction would be **less than significant**.

Because project operations will not create any significant barrier that would prevent wildlife movement through the project area, or create any barrier or impediment that would interfere with marine wildlife movement or the use of native marine wildlife nursery sites, the impact from operations would be **less than significant**.

Significance *Less Than Significant*

Mitigation **None Required**

Impact BIO-5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

This impact analysis addresses CEQA Guidelines Appendix G checklist item IV.e) identified in Section 4.3.3.

Construction

Installation of the wastewater collection system is proposed to occur within the existing roadways to minimize impacts to sensitive coastal habitat. At the WWTF site, the exact areas to be disturbed are not known at this time. It is therefore conservatively assumed that the entire area may be subject to ground disturbance, either from construction, access, and/or staging activities. Wetlands and other ESHAs may be subject to potential disturbance and/or removal (especially at the WWTF site), which would conflict with HBAP Section 3.30(B)(6) which requires establishment of buffers between development and wetlands, as described in the regulatory framework section 4.3.2, above.

Operation

Operation and maintenance would be consistent with local policies and ordinances protecting natural resources. **No impact** would occur.

Significance *Significant*

Mitigation **BIO-2a: Protect ESHAs and Sensitive Natural Communities**

See Impact BIO-2, above, for the complete description of this mitigation measure.

BIO-2b: Replace or Restore ESHAs or Other Sensitive Natural Communities Removed during Construction

See Impact BIO-2, above, for the complete description of this mitigation measure.

BIO-3a: Protect Wetlands during Construction

See Impact BIO-3, above, for the complete description of this mitigation measure.

BIO-3b: Create Compensatory Mitigation Wetlands

See Impact BIO-3, above, for the complete description of this mitigation measure.

HWQ-1: Manage Stormwater during Construction

Refer to Section 4.8 Hydrology and Water Quality for the complete description of this mitigation measure.

After Mitigation *Less than Significant with Mitigation*

By adhering to the HBAP of the Humboldt County Local Coastal Program to the degree possible as it pertains to protection of biological resources (Section 3.30), and through implementation of Mitigation Measures BIO-2a, BIO-2b, BIO-3a, BIO-3b, and HWQ-1, the project’s conflict with the HBAP would be reduced to less than significant.

Impact BIO-6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan?

This impact analysis addresses CEQA Guidelines Appendix G checklist item IV.f) identified in Section 4.3.3.

The proposed project is not located within the boundaries of an adopted habitat conservation plan; natural community conservation plan; or other approved local, regional, or state habitat conservation plan. As such, the project would not conflict with the provisions of an adopted habitat conservation plan. **No impact** would occur.

Significance *No Impact*

Mitigation **None Required**

4.3.6 Cumulative Impacts

Impact BIO-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to biological resources?

Known projects that may, or are currently proposed to occur in the area of the proposed project, consist of the Coast Seafoods onshore shellfish hatchery and the Samoa Townsite Master Plan (STMP) project in Samoa.

The Coast Seafoods proposed project (Coastal Development Plan [CDP] 9-16-0033) would construct and operate an onshore shellfish hatchery at the RMT II facility. If this project was developed at a future date, its development would be on a site that has been historically developed for commercial and industrial uses, and implementation of the project is not expected to have significant impact on biological resources. Discharge of any wastewater from the facility would only be allowed through other regulatory permits developed specifically for that project. Details of this project are not known at this time, and future

analysis of this project would be required through other CEQA documents and associated regulatory permits.

The Humboldt County Planning Commission has approved the Samoa Pacific Group, LLC Coastal Development Permit, Conditional Use Permit, and Planned Development Permit for activities related to the STMP. Those activities include:

- reconstruction and sections of new construction for Vance Avenue from the north end of Samoa near Cookhouse Road southerly to the south end of the Samoa Pacific Group property. The work will include sidewalk construction, shoulder widening and installation of underground utilities;
- development of an 80-unit affordable housing project which includes ten buildings, including a community building with kitchen, office and meeting room;
- construction of a water storage tank for domestic water and fire suppression for Samoa; and
- construction of a new wastewater treatment and effluent disposal system for the town of Samoa (construction will be the first phase of a system that will be enlarged incrementally as new development progresses in Samoa).

The proposed development activities of the STMP project have been previously analyzed by separate CEQA documentation and approvals issued by Humboldt County. While these developments may have the potential to impact biological resources, implementation of site specific mitigation measures for this project have been developed to reduce impacts to less than significant levels.

When evaluating the proposed project, in light of the other approved and known potential projects in the immediate vicinity, the proposed project is not anticipated to contribute to a cumulatively considerable impact to biological resources. This is because the other projects impacts have been fully evaluated and mitigated to less than significant.

While the proposed project could impact biological resources, the implementation of uniform development standards from federal, state and local plans, policies and regulations, in addition to project specific mitigation measures would result in biological impacts being avoided, minimized and otherwise reduced to a less than significant level and the project's contribution to the cumulative impact would not be considerable.

Significance *Less Than Cumulatively Considerable (Less than Significant)*

Mitigation **None Required**

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EXPLANATION	
	STUDY AREA
	COASTAL BRAMBLES
	COASTAL DUNE WILLOW THICKETS
	COYOTE BRUSH SCRUB
	LANDSCAPING
	WASTEWATER TREATMENT POND
	WAX MYRTLE SCRUB

<p>Paper Size ANSI B</p> <p>0 75 150 225 300</p> <p>Feet</p> <p>Map Projection: Lambert Conformal Conic Horizontal Datum: North American 1983 Grid: NAD 1983 StatePlane California I FIPS 0401 Feet</p>	   <p>Engineers & Geologists</p>	<p>County of Humboldt Samoa Peninsula Wastewater Project Draft EIR</p> <p>Vegetation Communities - Approved Samoa WWTF Site to Manhole 5</p>	<p>Project No. SHN017203 Revision No. - Date Dec 2018</p> <p>FIGURE 4.3-1a</p> <p><small>Data source: Created by SHN: hhumme1</small></p>
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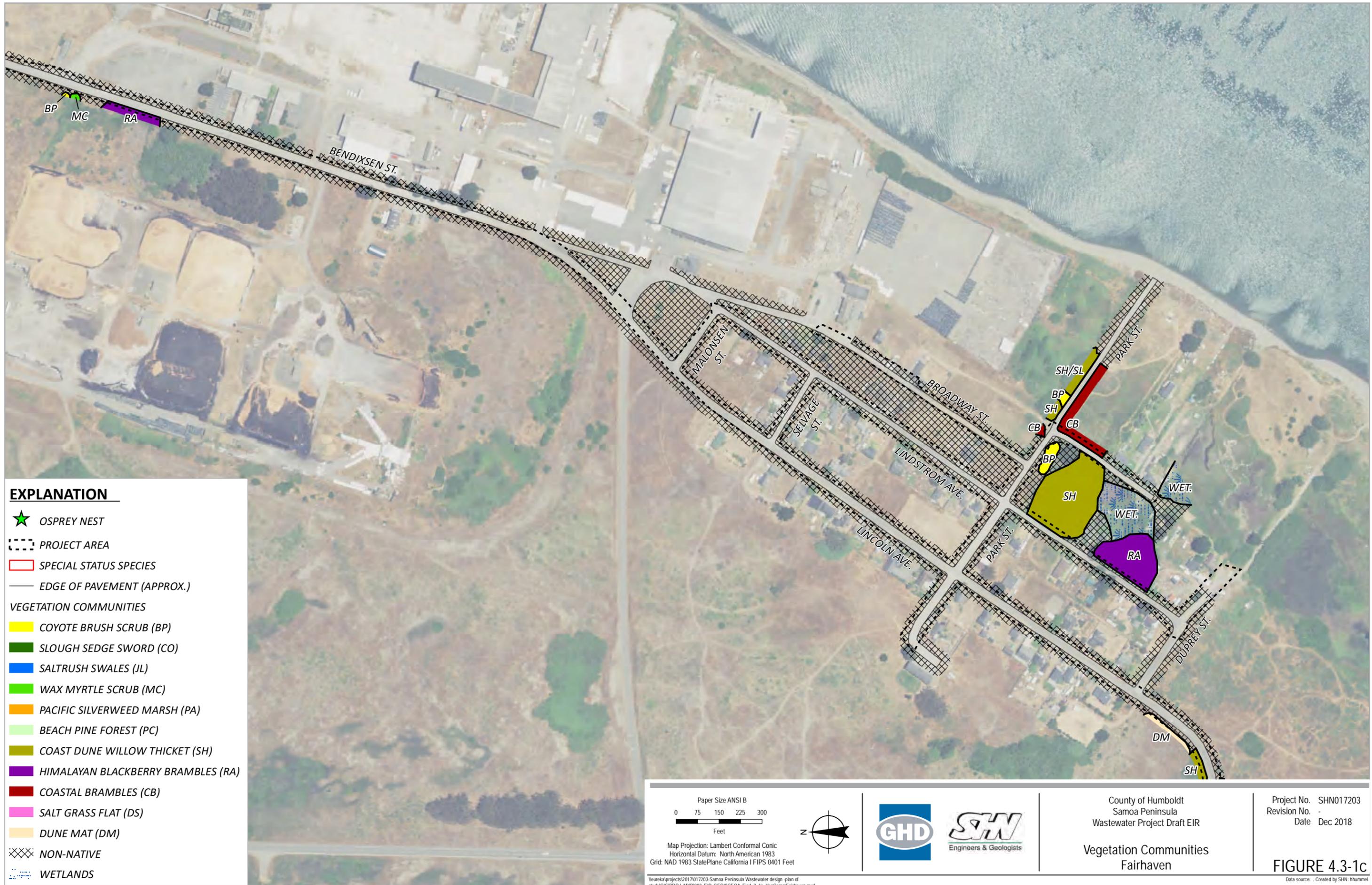
EXPLANATION

- ★ OSPREY NEST
- PROJECT BOUNDARY
- SPECIAL STATUS SPECIES
- EDGE OF PAVEMENT (APPROX.)
- VEGETATION COMMUNITIES**
- COYOTE BRUSH SCRUB (BP)
- SLOUGH SEDGE SWORD (CO)
- SALTRUSH SWALES (JL)
- WAX MYRTLE SCRUB (MC)
- PACIFIC SILVERWEED MARSH (PA)
- BEACH PINE FOREST (PC)
- COAST DUNE WILLOW THICKET (SH)
- HIMALAYAN BLACKBERRY BRAMBLES (RA)
- COASTAL BRAMBLES (CB)
- SALT GRASS FLAT (DS)
- DUNE MAT (DM)
- NON-NATIVE
- WETLANDS

<p>Paper Size ANSI B</p> <p>0 75 150 225 300</p> <p>Feet</p> <p>Map Projection: Lambert Conformal Conic Horizontal Datum: North American 1983 Grid: NAD 1983 StatePlane California I FIPS 0401 Feet</p>		<p>Engineers & Geologists</p>	<p>County of Humboldt Samoa Peninsula Wastewater Project Draft EIR</p> <p>Vegetation Communities Finntown</p>	<p>Project No. SHN017203 Revision No. - Date Dec 2018</p>
<p>FIGURE 4.3-1b</p> <p><small>Data source: Created by SHN: hhumme</small></p>				

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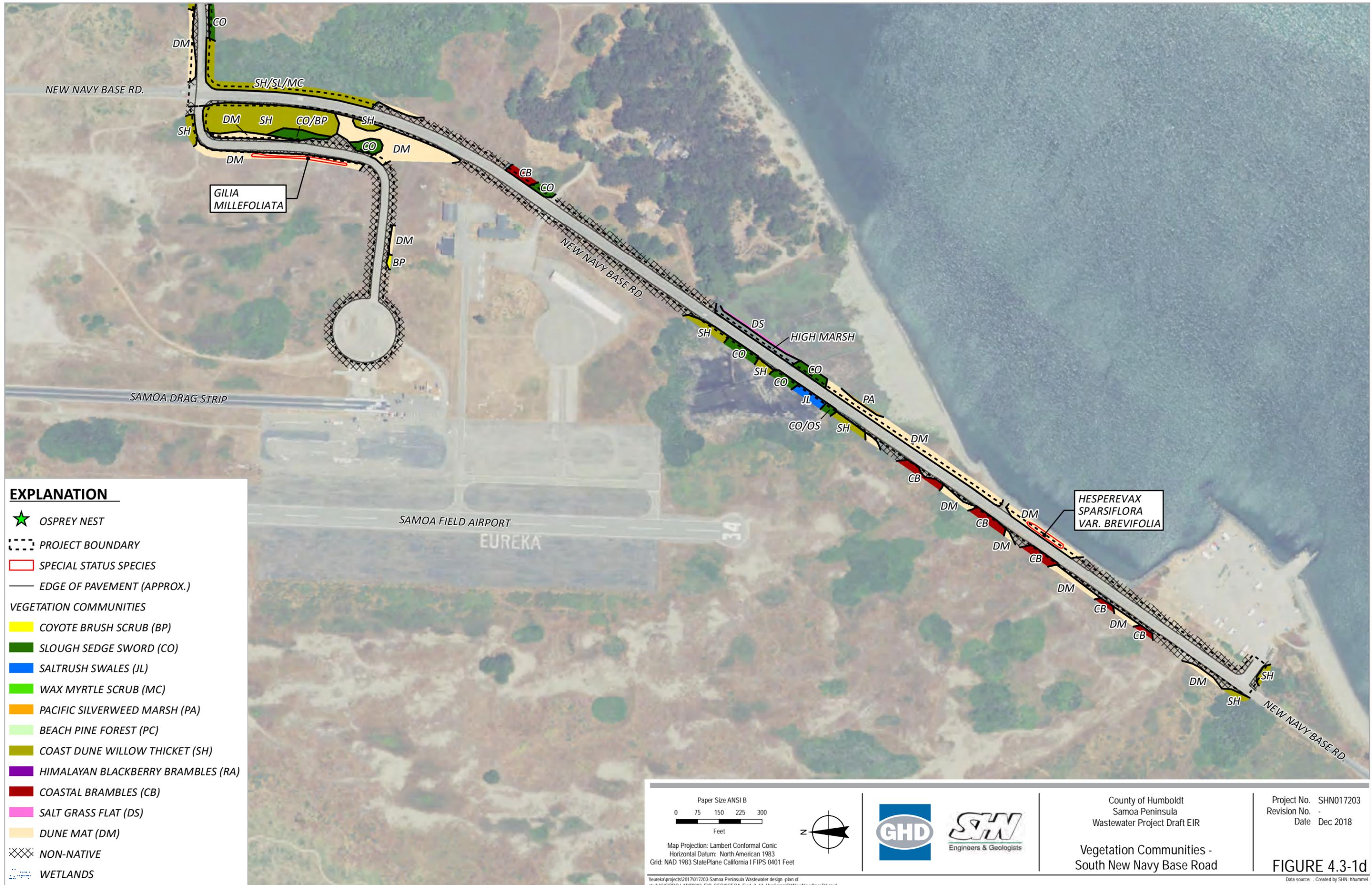


EXPLANATION

- ★ OSPREY NEST
- PROJECT AREA
- ▭ SPECIAL STATUS SPECIES
- EDGE OF PAVEMENT (APPROX.)
- VEGETATION COMMUNITIES**
- ▭ COYOTE BRUSH SCRUB (BP)
- ▭ SLOUGH SEDGE SWORD (CO)
- ▭ SALTRUSH SWALES (JL)
- ▭ WAX MYRTLE SCRUB (MC)
- ▭ PACIFIC SILVERWEED MARSH (PA)
- ▭ BEACH PINE FOREST (PC)
- ▭ COAST DUNE WILLOW THICKET (SH)
- ▭ HIMALAYAN BLACKBERRY BRAMBLES (RA)
- ▭ COASTAL BRAMBLES (CB)
- ▭ SALT GRASS FLAT (DS)
- ▭ DUNE MAT (DM)
- ▭ NON-NATIVE
- ▭ WETLANDS

<p>Paper Size ANSI B</p> <p>0 75 150 225 300</p> <p>Feet</p> <p>Map Projection: Lambert Conformal Conic Horizontal Datum: North American 1983 Grid: NAD 1983 StatePlane California I FIPS 0401 Feet</p>		<p>Engineers & Geologists</p>	<p>County of Humboldt Samoa Peninsula Wastewater Project Draft EIR</p> <p>Vegetation Communities Fairhaven</p>	<p>Project No. SHN017203 Revision No. - Date Dec 2018</p>
<p>FIGURE 4.3-1c</p> <p><small>Data source: Created by SHN: hhumme</small></p>				

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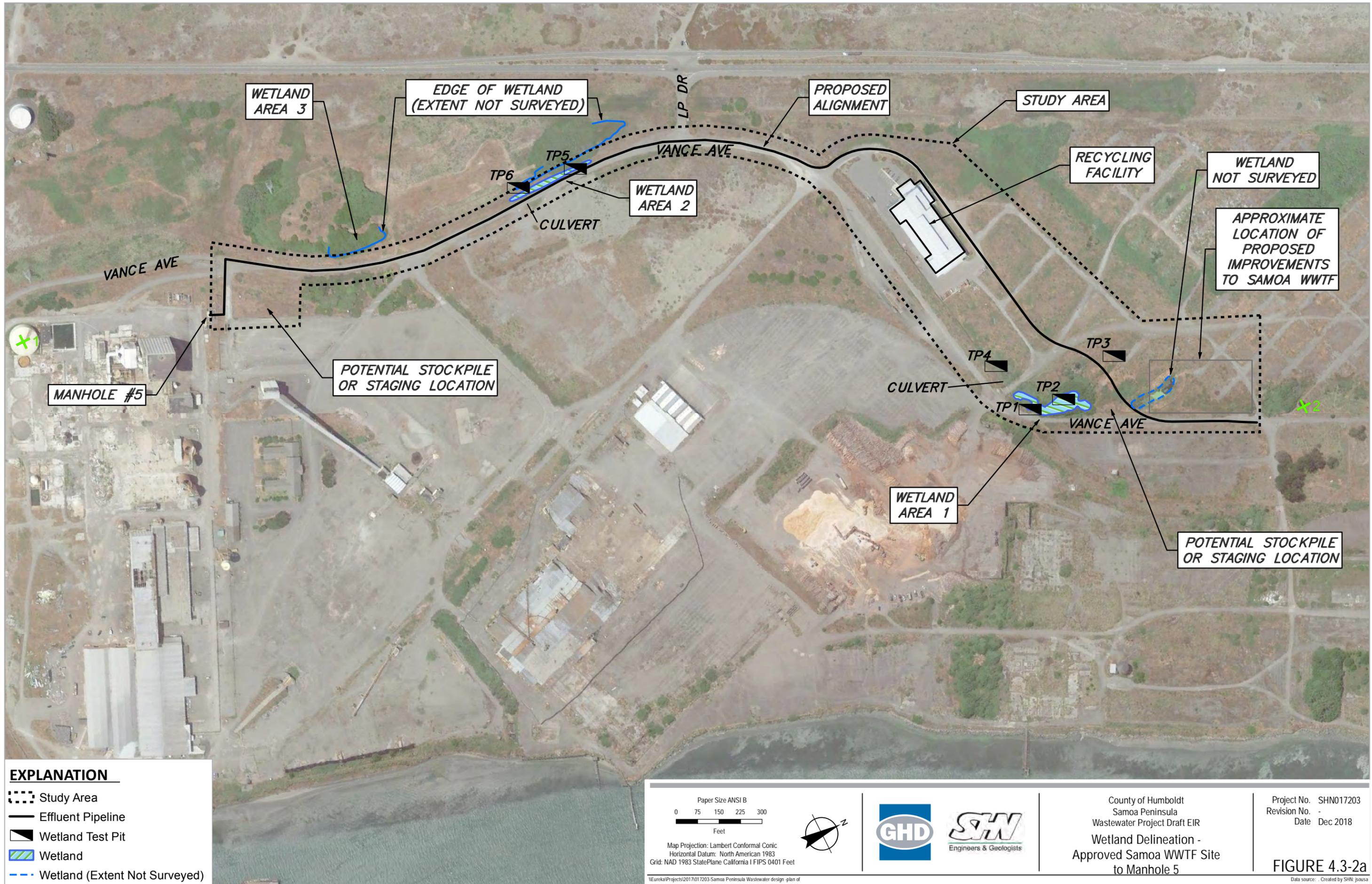


EXPLANATION

- ★ OSPREY NEST
- PROJECT BOUNDARY
- ▭ SPECIAL STATUS SPECIES
- EDGE OF PAVEMENT (APPROX.)
- VEGETATION COMMUNITIES
- COYOTE BRUSH SCRUB (BP)
- SLOUGH SEDGE SWORD (CO)
- SALTRUSH SWALES (JL)
- WAX MYRTLE SCRUB (MC)
- PACIFIC SILVERWEED MARSH (PA)
- BEACH PINE FOREST (PC)
- COAST DUNE WILLOW THICKET (SH)
- HIMALAYAN BLACKBERRY BRAMBLES (RA)
- COASTAL BRAMBLES (CB)
- SALT GRASS FLAT (DS)
- DUNE MAT (DM)
- XXXX NON-NATIVE
- WETLANDS

<p>Paper Size ANSI B</p> <p>0 75 150 225 300</p> <p>Feet</p> <p>Map Projection: Lambert Conformal Conic Horizontal Datum: North American 1983 Grid: NAD 1983 StatePlane California I FIPS 0401 Feet</p>		 Engineers & Geologists	County of Humboldt Samoa Peninsula Wastewater Project Draft EIR	Project No. SHN017203 Revision No. - Date Dec 2018
Vegetation Communities - South New Navy Base Road			FIGURE 4.3-1d <small>Data source: Created by SHN: hhumel</small>	

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EXPLANATION

- Study Area
- Effluent Pipeline
- ▣ Wetland Test Pit
- ▨ Wetland
- - - Wetland (Extent Not Surveyed)

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<p>FIGURE 4.3-2a</p> <p><small>Data source: - Created by SHN; jsousa</small></p>				

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EXPLANATION

--- Project Boundary

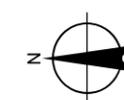
● Test Pit Location

Wetlands

— 3-Parameter

— 2-Parameter

— 1-Parameter

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EXPLANATION

--- Project Boundary

● Test Pit Location

Wetlands

— 3-Parameter

— 2-Parameter

— 1-Parameter

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County of Humboldt
Samoa Peninsula
Wastewater Project Draft EIR

**Wetland Delineation -
Fairhaven**

Project No. SHN017203
Revision No. -
Date Dec 2018

FIGURE 4.3-2c
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EXPLANATION

--- Project Boundary

● Test Pit Location

Wetlands

— 3-Parameter

— 2-Parameter

— 1-Parameter

<p>Paper Size ANSI B</p> <p>0 75 150 225 300</p> <p>Feet</p> <p>Map Projection: Lambert Conformal Conic Horizontal Datum: North American 1983 Grid: NAD 1983 StatePlane California I FIPS 0401 Feet</p>			<p>County of Humboldt Samoa Peninsula Wastewater Project Draft EIR</p> <p>Wetland Delineation - South New Navy Base Road</p>	<p>Project No. SHN017203 Revision No. - Date Dec 2018</p> <p>FIGURE 4.3-2d</p> <p><small>Data source: Created by SHN: hhummel</small></p>
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4.4 Cultural and Tribal Cultural Resources

This section evaluates the potential impacts related to cultural and tribal resources during construction and operation of the project. This section is based on the Archaeological Survey Report for the Samoa Peninsula Wastewater Project, prepared for this project (Roscoe and Associates 2018).

4.4.1 Existing Setting

The following sections describe the environmental setting for cultural resources within the project area. Potential impacts to cultural resources would be confined to the actual project site, but the setting of both the project site and immediate vicinity are described to account for uncertainties about potential locations of buried cultural and paleontological resources.

Cultural Chronology

Initial Northwest California archaeological research was focused on identifying Native American assemblages and delineating a pre-contact chronology. Recent studies address such issues as paleo-environmental reconstruction, technology and adaptive responses to environment, trade, and the shifting focus from terrestrial to marine resources during early coastal occupations of California.

Early research in Northwest California includes excavations at Late or Emergent Period sites near Humboldt Bay (CA-HUM-67); Patrick's Point (CA-HUM-118), Trinidad Bay (CA-HUM-169); and on Stone Lagoon (CA-HUM-129). The seminal work defining early period assemblages in the North Coast Ranges of California however is the Pilot Ridge-South Fork Mountain (PR-SFM) project sponsored by Six Rivers National Forest for logging and road building undertakings. These studies have provided insight into some of the major environmental and archaeological trends within the region over the past 8000 years. This pre-contact cultural sequence for the region is summarized below.

Paleo-Indian Period (Prior to 8,500 B.P.)

No known sites dating from this period occur in Humboldt County's coastal and interior wetlands. Characteristic artifacts of this period include large, lanceolate, concave-base, fluted projectile points, and chipped stone crescents. No evidence exists for the presence of a developed plant food milling technology. Subsistence adaptation was highly mobile hunting and plant gathering. Exchange between groups presumably took place on an individual, one-to-one basis, with social groups not being heavily dependent upon exchange.

Lower Archaic (8,500 to 5,000 B.P.)

The Borax Lake Pattern, characterized as generalized hunting and gathering by small, highly mobile family groups, defines the Lower Archaic period in the Northwest coast. Provisional dates of 3000 to 6000 years B.P. were assigned to the Borax Lake Pattern sites at PR-SFM based on obsidian hydration data, although radiocarbon dates were not obtained at that time. Subsequent data based on corrected dates documented by Fitzgerald and Hildebrandt (2001) from carbon found in a soil sample at site CA-HUM-573 on Pilot Ridge, date the pattern to 7120 +/- 50 radiocarbon years. This is one of the earliest archaeological deposits to be dated in Northwest California.

The pattern includes relatively large wide-stemmed projectile points (typically made of locally available chert), handstones, milling slabs, and ovoid- and dome- scrapers. Borax Lake Pattern sites typically contain a similar array of artifact types, implying each served as a base camp where similar activities

took place, with a lack of specialization. Obsidian is poorly represented in the pattern; suggesting exchange networks with obsidian rich areas (southern North Coast Ranges, Northeast California) were not established.

This adaptive pattern corresponded to a significant exothermic warming trend that followed the Ice Age, when higher elevations could have been occupied for a longer portion of the year. Palynological studies demonstrated that the upland environments within the PR-SFM survey area had been affected by mid-Holocene warm periods (between 7500 and 6300 cal BP and between 5900 cal BP and 3800 cal BP) with the result of an upward migration of the oak woodland environment. Borax Lake Pattern Sites have been identified in upland areas on Pilot Ridge, Dow's Prairie near McKinleyville, along the Trinity River near Big Bar, and on the Smith River near Hiouchi Flat.

Middle Archaic Period (5,000 to 2,500 B.P.)

The Middle Archaic Period within Northwestern California is represented by smaller projectile point forms as proposed by Hildebrandt and Hayes (1983, 1984). This adaptive pattern was oriented towards use of low elevation villages located along salmon bearing streams near acorn crops which were occupied by relatively large concentrations of people during the winter months. Compared to the earlier Borax Lake Pattern, this technological change is hypothetically linked to the advent of storage facilities, particularly for fish and acorns to feed growing populations. It represents an adaptive shift where resources were collected and returned to a permanent settlement area, resulting in a variety of functionally different site types that reflect more specialized activities. This shift coincided with a significant cooling trend, the Neo-glacial, approximately 3300 years ago, which particularly affected the resource base of interior Northwest California. The variety and productivity of upland resources declined; whereas annual salmon runs were more productive and reliable in local rivers.

Archaeologically, Mendocino Pattern sites are marked by a greater variety of generally smaller projectile point forms (Willits Series, Trinity Series, and Oregon Series), distinct unifacial flake tools (McKee Uniface), and greater reliance on mortars and pestles (associated with acorn processing) over milling slabs and handstones. Middle Period components excavated on the high elevation PR-SFM implied specialized activities, including the establishment of native burning practices to maintain open prairies as implied by Palynological dates. Hildebrandt and Hayes (1983) noted that Mendocino Pattern components at lower elevations in interior northwest California contained a diversity of artifacts including bowl mortars, pestles, non-utilitarian items, and well-developed middens. Initial use of coastal resources is evident by Mendocino Pattern components investigated at sites located at the mouth of the Mattole River and the mouth of Randall Creek. Mendocino Pattern time markers and obsidian hydration data support the finding of a Middle Archaic Period component on the northern margin of Humboldt Bay at the Arcata Sports Complex Site (CA-HUM-351).

Upper Archaic Period (2,500 to 1,100 B.P.)

The artifacts and assemblages of this period generally represent a continuation of the patterns developed in the Middle Archaic Period. Sites are found throughout the central North Coast Ranges in moderate density. Large side- and corner-notched projectile points continue to occur. Medium-to-large, shouldered, lanceolate points appear. Leaf shaped points also are present. Bowl mortars and pestles, indicating initial development and elaboration of the "acorn complex"; replace mano-metate grinding technology. Bone tools such as fishing equipment are present. In general, artifact numbers become greater, artifact categories become broader, and tool kit variability higher. Obsidian becomes the preferred tool stone in many parts of the central North Ranges, often manifested by an

elaborate obsidian biface reworking industry. This is reflective of greater complexity in exchange systems, characterized by occurrence of regular, sustained exchange between social groups.

The Upper Archaic Period is marked by the development of non-utilitarian features and artifacts (e.g., beads, pendants, and rock art) that begin to be manufactured in substantial numbers. In particular, shell beads become an important grave good artifact, and may be indicators of sustained exchange and social status differentiation. During this period, the growth of sociopolitical complexity is demonstrated by the apparent development of status distinctions based upon wealth, and emergence of group-oriented religions.

Late or Emergent Period (1,100 to 150 B.P.)

The Late Period in Northwestern California exemplifies some of the most socially complex hunter-gatherer populations who relied on marine and/or riverine resources in California. The Tuluwat Pattern (formerly the Gunther Pattern) characterizes the Late Period adaptation in north-coastal California. The Tuluwat Pattern dates from ca. 1100 years B.P. to historic contact around 150 years B.P., and characterizes the material culture of the ethnographically described Sinkyone, Wiyot, Yurok, Tolowa and other north coast tribes. Sites dating to this time are found throughout the western North Coast Ranges in moderate density.

The Late Period assemblage was first described by Loud (1918) based on data collected during an archaeological excavation of CA-HUM-67, the Wiyot village of Tuluwat on Gunther Island in Humboldt Bay. Tuluwat evidences several specialized tool kits intended for a variety of subsistence activities, including sea and terrestrial mammal hunting, fishing, and vegetal resource procurement and storage. Significant traits include a well-developed wood-working technology, riverine fishing specialization, wealth consciousness, and distinctive artifact types including zoomorphs, large obsidian ceremonial blades, antler spoons, steatite bowls and pipes, and small distinctive barbed projectile points. Late period Wiyot populations were concentrated in permanent villages situated around Humboldt Bay and coastal lagoons, protected coastal terraces, and adjacent to rivers and stream intersections. This adaptation is similar to, but a more refined and specialized form of, the preceding adaptation. Exchange networks had become regularized in the Late Period. Trade is documented both archaeologically and ethnographically, with exchange relationships reaching north to Vancouver Island for dentalium shells, east to the Warner Mountains and Medicine Lake Highlands for obsidian, and south to the San Francisco Bay region for obsidian and clam shell disc beads.

Late period sites on the Samoa Peninsula have recently been investigated near Samoa, 1.0 mile northeast of the project site, and at Manila, 2.7 miles northeast of the project site. Site CA-HUM-0023 (P-12-000081), located 0.5 mile northwest of the town of Samoa on the east side of the peninsula, contains the remains of the ethnographic Wiyot site of Wikti (Loud 1918:231, 274-275). The ceremonial village site was first documented by L.L. Loud in 1918 and subsequently by Gladys Nomland and Alfred Kroeber (1936), and by Sonia Tamez in 1975, C. Hart Merriam in 1976 and Bob Benson in 1977 (Tushingham et al. 2016). The excavation of a single 1x1 meter unit at this site revealed an assemblage “consistent with those recovered at other shell middens around Humboldt Bay”.

The excavation at Manila was important in its identification of the first evidence on California’s north coast of mass-harvesting of fish (particularly smelt) and shellfish, and of site components which exceed in age by several hundred years those at the Wiyot village of Tuluwat (CA-HUM-0067) on Indian Island, which was excavated by Loud in 1918. The Manila site (CA-HUM-0321) was found to contain an intact, stratified midden deposit up to a depth of 205 centimeters.

Both of these sites contain intact midden deposits capable of yielding data which would make them eligible for inclusion on the NRHP under Criterion D. The Samoa site (CA-HUM-0023) was an important ceremonial site for the Wiyot people and is also likely eligible under Criterion A for being associated with important events (the occurrence of ceremonial dances significant to the Wiyot people).

Post Contact (150 B.P. to Present Day)

Generally, traditional Native Californian material, economic, social, and ideological culture was disrupted by contact with Russian traders, Spanish sea vessels, Euro-American settlement, and U.S. government policy. This produced significant depopulation and relocation of Native Californians from most of the lands they occupied as Euro-American culture became dominant. As a result, Native American populations reacted and their material culture changed through a system of pressured assimilation and acculturation into Euro-American society. These pressures resulted in a change in settlement patterns and procurement strategies; as well as a synthesis of adaptive material culture expressed by projectile points and tools made from flaked window glass, tin cans converted to uses other than food storage (candle holders, strainers), and the presence of glass beads.

Ethnographic Context

The project is located on the Samoa Peninsula, one mile west of Eureka, California. This is within the traditional territory of Wiyot Tribe, which once encompassed several hundred square miles extending from the Bear River Mountains in the south to the Little River in the north; and in general, the first mountain range crest to the east. The territory was divided into three regions, with the inhabitants of each speaking a mutually intelligible language: lower Mad River (batwat), Humboldt Bay, including the project area (wiki), and lower Eel River (wiyot). It is the name of the Eel River division, which is now used exclusively in accounts pertaining to the entire group.

The Wiyot language has been categorized as Algonquian-based. In it, the people called themselves the Soolah- te-luk. The name “Wiyot” itself is derived from the Yurok term “weyet or “weyot”; the Yurok, who lived to the north, also spoke a language classified as Algonkian. Although the Wiyot and Yurok languages are distinctly different, linguists have linked the two in “a provisional group called Ritwan” that is alternatively classified as Algic.

Specific ethno-geographical information for the project vicinity is provided by L. Loud (1918) and is summarized below.

Ethnographic sites in the project vicinity which were mapped by Loud in 1918, include CA-HUM-0014, -15, -16, -17, -18, -19, -20, -21, -22, and -23. All of these sites, which were mapped by Loud roughly equidistant from each other, were plotted on the east side of the Peninsula, close to the shore of the Humboldt Bay channel. These sites are located within the project’s study area (defined as the project site and the area within 0.5 mile of the project site); however, none of these sites are within the project site. All of the sites with the exception of the two southernmost, HUM-15 and -16, were plotted in areas now occupied by abandoned lumber storage yards and other industrial facilities. These sites are described below, listed from north to south.

Site CA-HUM-0023, a mile northeast of the project site, is believed to have been one of the largest shellmounds in the area and a significant gathering place for dances. The site is located within the travel line between Tuluwat (Gunther Island) and Mad River Slough. Loud (1918) mentions that in more recent times, native peoples built signal fires here to attract

the attention of individuals on Tuluwat. The latter would then cross the bay by boat to collect the signalers. A large shell midden still remains from this site along Vance Ave north of State Route 255.

Site CA-HUM-0022 was recorded by Loud about 0.4 mile northeast of the project site, where the Hammond Lumber Company lumber storage yards were later built. The village was called *djō'mak* and “according to tradition once had a large population”. Along with the larger site #23 to the northeast, this was one of a very few villages on the North Spit of “which informants said there were stories of the people who used to live on them... ‘a long time ago’”.

Site CA-HUM-0021 was mapped adjacent to the northern end of the project site, between the proposed project and Humboldt Bay, beneath what is now concrete foundations associated with lumber storage yards formerly operated by L-P. The only description of this site is the name *watšeLwatšk*.

Site CA-HUM-0020, is mapped on the east side of the peninsula, at the south end of the former plywood mill built by Georgia-Pacific Corporation in 1958. This site was plotted between the proposed project site and the bay-shore, but not otherwise mentioned in Loud's ethno-geographic review.

Site CA-HUM-0019 was mapped in the vicinity of the project site at the intersection of Bay Street and Fay Street, in an area now asphalt-paved and formerly used as sawdust storage for the G-P plywood mill. If correctly mapped, this site would today be beneath the concrete foundation formerly used by Louisiana-Pacific Corporation (L-P) for shipping wood chips and other forest products. The site was reportedly named *tsērketšok*. Both this and site HUM-21 were described as village or camp sites used by Wiyot people as late as 1850. No other description of either of these sites is provided; and no evidence of Loud's site #19 has been reported since 1918.

Site CA-HUM-0018 was mapped by L.L. Loud between the project site and the bay-shore, where the Georgia-Pacific pulp mill was later built, but not otherwise mentioned by him or by any other known ethnographer or archaeologist. This site was likely destroyed during construction of the pulp mill.

Site CA-HUM-0017 was described as being located about a quarter-mile south of the shipyards at Fairhaven, close to the bay-shore east of the project site near the old Rolph schoolhouse in Fairhaven, in an area now also asphalt-paved. This village was listed as one of the six “chief centers of population” in the Eureka area. The village's name was recorded as *iugutkuk* but may also have been *hiegetgak* or *hieratgak*. Loud also reported that shells of various species, including soft shell mussel, is scattered here over a considerable area with three main centers of deposit. When L.K. Wood's exploring party came down the coast “riding on the backs of big elks having long tails,” they stopped two days near this village. When they found their advance southward blocked by the entrance to the harbor, they turned back and were guided around the north end of the bay by an Indian from this village, who was killed by the whites some years later. Captain Jim, the mauweema, made this village his headquarters a great deal of the time, he and his relatives occupying four or five houses. He was living here in 1873 and for four or five years afterwards, having escaped the Gunther island massacre, although his wife was killed there.

Site CA-HUM-0016 was mapped in the vicinity of the project site near the Eureka City Airport, between New Navy Base Road and the bay-shore. Its name was *laliL-wak* which means “stream-at”, reportedly a reference to a small slough and marsh which were present at this site and mapped on contemporary US Coast and Geodetic Survey charts. This area is still marshy today.

Site CA-HUM-0015 was described as the village of *walepL*, directly west of the US Coast Guard Station south of the project site, but no other information was provided.

Site CA-HUM-0014, mapped at the extreme southern end of the North Peninsula, close to a mile southwest of the project site, was a camping spot of the name *hotwaiyorwok* or *katawayawik*. It was described “at the entrance to the harbor, was sometimes used as a camping place for clam roasting. Soldiers also detained the Wiyot Indians here for a time after the massacre of February, 1860, before taking them to the reservations. Some died and were buried here at that time, and drifting sands have since exposed skeletons with blue cloth and soldier buttons”.

Sites -17, -18, -19, -20, -21 and -22 were plotted in areas now paved in asphalt for use in lumber storage and other industrial activities. It is likely that the six northernmost ethnographic Wiyot village sites mapped by Loud in the vicinity of the project site were damaged and possibly ultimately destroyed during construction activities throughout the 20th century. Sites CA-HUM-0016 and -15, although in close proximity to historic-period activities including construction of the railroad, New Navy Base Road, the Coast Guard Station and the Eureka City Airport (formerly the US Navy LTA Base), may yet have intact, unidentified deposits in the vicinity of the project site.

Despite being subject to massacres and other depredations aimed at Indian peoples, the Wiyot survived and today live on the Table Bluff Reservation, the Bear River Band of the Rohnerville Rancheria, the Blue Lake Rancheria and in other communities in the area. The 2010 census revealed a combined population of 884, up from 674 recorded in the 2000 census.

Historic Context

The North Peninsula or so-called Samoa Peninsula was developed fairly early in Humboldt County’s history, due to its proximity to the lumber mills and shipping ports along Humboldt Bay, particularly Eureka which is situated directly across the bay from the towns of Samoa and Fairhaven. Samoa took its name from the Samoa Land and Improvement Company, a business formed in 1889 to promote a small resort on the peninsula. That name in turn was used to promote the resort in the wake of the U.S. takeover of the South Pacific island nation of Samoa. Prior to that the land was operated as a diary ranch by James Henry Brown, who established the ranch in 1859. The Samoa “resort” operated by Eureka businessman David Page Cutten and his associates featured a heated swimming pool and a bath house, but was sold only four years after it was built to Eureka lumberman John Vance.

Named Samoa after the failed resort, the town grew quickly around Vance’s new lumber mill. The company cookhouse began serving millworkers the year Vance bought the property, 1893; this cookhouse began serving the public in the 1950s and still operates as a restaurant today. Also in 1893, the Eureka and Klamath River Railroad was built from the mill north to connect to the Arcata and Mad River Railroad. The post office was established in 1894. Just six years later, the Vance holdings, including the railroad, were purchased by Andrew Benino Hammond, who formed the Vance Redwood Company and opened what was then the largest redwood mill in the country. In 1903

Southern Pacific Co. vice president Henry E. Huntington purchased the railroad to prevent expansion of the Santa Fe Railway, and leased it back to Hammond. The lumber company was renamed Hammond Lumber Company in 1912, and within a few years began building wooden “liberty” ships to ship lumber. The company built seven such ships in just two years at the Samoa shipyard; was known for shipping lumber by wooden vessel, but was the first to ship lumber in a steelhulled ship.

Fairhaven

To the south of the Samoa lies the town of Fairhaven, named for Fairhaven Connecticut, from whence came George M. Fay and his brother Nathan. The Fay brothers built a shingle mill here in the 1860s, and their property is shown on county maps from 1865-1898. In 1872, Hans D. Bendixsen bought a piece of the Fays’ land in Fairhaven, where he relocated his new shipbuilding facility. Mr. Bendixsen, born in Jutland Denmark in 1842, was well educated and experienced in shipbuilding when he arrived in Eureka to work in the shipyard of Euphronius Cousins for two years, before forming his own shipyard at the foot of L Street in Eureka. He rose to become the most prominent shipbuilder in the county, launching 113 shipping vessels in his 33 years in the business on Humboldt Bay. Bendixsen sold the company in 1901 and died the following year.

A large area on the north side of Fairhaven became known as Finntown after numbers of emigrant Finnish families settled there. A park just north of Finntown gained popularity after it was purchased and developed in 1910 by Walter Coggeshall, who is known in the area for running ferries from Eureka to various points on the bay. New Era Park at that time contained a dance pavilion with an elevated bandstand, a high viewing platform, a picnic area and barbecue pits. The pavilion burned down in the late 1920s; the site was later buried beneath wood chips for the old Georgia-Pacific pulpmill.

History of Eureka City Airport

In July 1943 a Navy airfield was built along the southern part of the project site, north of the Coast Guard station, commissioned as an auxiliary of Moffett Field in Santa Clara County. Known as the Naval Auxiliary Air Facility or the Lighter than Air (LTA) Base, it was situated on 429 acres near the Rolph School and contained a 700’ x 1400’ paved blimp operating mat, two mooring circles and a 2,400-foot asphalt-paved runway. The LTA worked in conjunction with the Coast Guard Station and a small seaplane base with a wooden dock built at the southern end of the project site, as well as other bases along the west coast. From these facilities flew 150-foot long blimp airships, which had a range of over 1,900 nautical miles and were capable of carrying six bombs, and other aircraft to search for enemy submarines.

Following the conclusion of the war in 1945, the LTA base and seaplane base were closed in October of that year. The LTA base was re-commissioned as a public airport, the Eureka Municipal Airport, now known as the Samoa Field Airport.

Summary

Two-hundred-forty-five resources have been documented within the Study Area, however none are within the project site. These include eleven Native American habitation sites, two multi-component sites, six historic-era buildings, structures and sites. The Samoa Town Historic District (P-12-002640) is also located within the Study Area and encompasses 225 contributing buildings, structures and features. Only two historic-era structures are located in close proximity (within 10 meters of) the project site, P-12-000719 and 12-003142, neither are associated with the Samoa Town Historic District.

Approximately 1,150 feet south of the New Navy Base Road and Lincoln Avenue intersection is the Fey Homestead (P-12-000719), dating to the mid-19th century. Additionally, two (approximately 300-foot) segments of the Hammond Lumber Railroad (P-12-003142) are documented just west of Vance Avenue, in the vicinity of the southern staging area.

Roscoe and Associate's field investigation failed to identify any evidence of Native American habitation in the areas immediately adjacent to the paved road. Survey of the direct excavation areas was impossible however, because they are covered by pavement and archaeological deposits could be present. The locations for four previously documented Native American Archaeological sites (P-12-000075, 12-000076, 12-000078 and 12-000079) have not been confirmed by modern researchers and they have not been identified since 1918. The exact locations of these sites are unknown.

Consultation with Native American Tribal

Formal consultation for this project was conducted between the lead agency (Humboldt County) and interested tribal groups, prior to the cultural investigation conducted by Roscoe and Associates. On March 9th, Humboldt County Planning and Building held a meeting with representatives of the Bear River Band of the Rohnerville Rancheria, Blue Lake Rancheria, and the Wiyot Tribe. On April 24, 2018, John Miller, Senior Planner for Humboldt County Planning and Building, sent a follow-up e-mail to these representatives to provide a copy of the Samoa Peninsula Wastewater Project Notice of Preparation for an Environmental Impact Report. On April 30, 2018, Janet Eidsness, Tribal Historic Preservation Officer for the Blue Lake Rancheria responded, stating that Cultural Resources and Tribal Cultural Resources are two general types of properties that may be affected by this project.

Roscoe and Associates initiated correspondence regarding this project with local tribal representatives based on prior knowledge of the area, and professional relationships with the area's three local Wiyot groups who have shown interest in the Samoa Peninsula area. James Roscoe contacted representatives of the Bear River Band of the Rohnerville Rancheria, Blue Lake Rancheria, and the Wiyot Tribe by phone in May of 2018. Mr. Roscoe corresponded with Ms. Eidsness throughout the investigation. This correspondence resulted in a request from Ms. Eidsness, to include *Humboldt Bay Harbor District's Protocols for Inadvertent Archaeological Discoveries for Ground Disturbing Project Permits, Leases and Franchises Issued by The Humboldt Bay Harbor, Recreation and Conservation District, Humboldt Bay, California* (adopted in May 2015). This is because much of the project site is paved, and survey of the direct area of impact is impossible without removal of the pavement. Ms. Eidsness also requested that the THPOs for all three Wiyot groups be contacted prior to project implementation and provided the opportunity to monitor ground-disturbing activities.

4.4.2 Regulatory Framework

Federal

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires that, before beginning an undertaking, a federal agency, or those they fund or permit, must take into account the effects of the undertaking on historic properties and afford the Advisory Council on Historic Preservation and other interested parties an opportunity to comment on these actions.

Section 106 of the NHPA prescribes specific criteria for determining whether a project would adversely affect a historic property, as defined in 36 CFR 800.5. An impact is considered significant

when prehistoric or historic archaeological sites, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) are subjected to the following effects:

- physical destruction of or damage to all or part of the property
- alteration of a property
- removal of the property from its historic location
- change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance
- introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features
- neglect of a property that causes its deterioration
- transfer, lease, or sale of the property.

Cultural resources significance is evaluated in terms of eligibility for listing in the NRHP. NRHP significance criteria applied to evaluate the cultural resources for this project are defined in 36.CFR 60.4 as follows: The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, association, and

- A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. that are associated with the lives of persons significant in our past; or
- C. that embody the distinctive characteristics of type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. that have yielded, or may be likely to yield, information important in prehistory or history.

Specific regulations regarding compliance with Section 106 state that, although the tasks necessary to comply with Section 106 may be delegated to others, the federal agency is ultimately responsible for ensuring that the Section 106 process is completed according to statute.

State

California Environmental Quality Act

Cultural Resources

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historic, architectural, archaeological, cultural, or scientific importance. Under CEQA statutes, an impact on a cultural resource is considered significant if a project would result in an impact that may change the significance of the resource (Public Resources Code [PRC] Section 21084.1). Demolition, replacement, substantial alteration, and relocation of historic properties are actions that would change

the significance of a historic resource (California Code of Regulations, Title 14, 15064.5). The following steps are normally taken in a cultural resources investigation to comply with CEQA:

- Identification of cultural resources
- Evaluate the significance of the cultural resources based on established thresholds of significance
- Evaluate the impacts of a project on cultural resources
- Develop and implement measures to mitigate the impacts of the project on significant cultural resources.

Because the project is located on non-federal land in California, it is also necessary to comply with State laws pertaining to the inadvertent discovery of human remains of Native American origin. The procedures that must be followed if burials of Native American origin are discovered on non-federal land in California are described in the Impacts and Mitigation Measures section, below.

Tribal Cultural Resources

The CEQA Guidelines define a tribal cultural resources as: (1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are included or determined to be eligible for inclusion in the California Register of Historical Resources, or included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and (2) 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 Section 5024.1.

While some tribal cultural resources include physical archaeological resources, tribal cultural resources are not limited to physical resources that have scientific significance. Tribal cultural resources also include cultural landscapes and non-unique archaeological resources. Non-unique resources are resources that are deemed culturally significant to a tribe, but do not contain information needed for scientific purposes, and may not be the best specimen in terms of quality, uniqueness, or age.

California Register of Historical Resources

The California Register is “an authoritative listing and guide to be used by state and local agencies, private groups and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1[a]). The criteria for eligibility to the California Register are based on National Register criteria (PRC Section 5024.1[b]). Certain resources are determined by the statute to be automatically included in the California Register, including California properties formally determined eligible for or listed in the National Register.

To be eligible for the California Register as a historical resource, a prehistoric or historic-period resource must be significant at the local or State level under one or more of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

- Has yielded, or may be likely to yield, information important in prehistory or history (CEQA Guidelines Section 15064.5 [a][3]).

For a resource to be eligible for the California Register, it must also retain enough integrity to be recognizable as a historical resource and to convey its significance. The seven aspects of integrity are: location, design, setting, materials, workmanship, feeling and association. A resource that does not retain sufficient integrity to meet the National Register criteria may still be eligible for listing in the California Register. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register if it maintains the potential to yield significant scientific or historical information or specific data (OHP 2011).

California's list of special considerations is shorter than the criteria considerations for the National Register listed above. It includes some allowances for moved buildings, structures, or objects, as well as requirements for proving the significance of resources that are less than 50 years old and discussion of the eligibility of reconstructed buildings.

California Public Resources Code

As part of the determination made pursuant to PRC Section 21080.1, the lead agency must determine whether a project would have a significant effect on archaeological and paleontological resources.

Several sections of the PRC protect cultural resources and PRC Section 5097.5 protects vertebrate paleontological sites located on public land. Under Section 5097.5, no person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site (including fossilized footprints), inscriptions made by humans, rock art, or any other archaeological, paleontological, or historical feature situated on public lands, except with the express permission of the public agency that has jurisdiction over the lands. Violation of this section is a misdemeanor.

PRC Section 5097.98 states that if Native American human remains are identified within a project site, the landowner must work with the Native American Most Likely Descendant as identified by the Native American Heritage Commission (NAHC) to develop a plan for the treatment or disposition of the human remains and any items associated with Native American burials with appropriate dignity. These procedures are also addressed in Section 15046.5 of the CEQA Guidelines. Section 30244 of the PRC requires reasonable mitigation for impacts on paleontological and archaeological resources that occur as a result of development on public lands.

Pursuant to §21084.1 a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. For purposes of this section, a historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources. Historical resources included in a local register of historical resources, as defined in subdivision (k) of §5020.1, or deemed significant pursuant to criteria set forth in subdivision (g) of §5024.1, are presumed to be historically or culturally significant for the purposes of this section, unless the preponderance of the evidence demonstrates that the resource is not historically or culturally significant. The fact that a resource is not listed in, or determined to be eligible for listing in, the California Register of Historical Resources, not included in a local register of historical resources, or not deemed significant pursuant to criteria set forth in subdivision (g) of §5024.1 shall not preclude a lead agency from determining whether the resource may be an historical resource for purposes of this section.

California Public Resources Code §21074 details what can be considered a Tribal Cultural Resource.

- a) Tribal Cultural Resources are either of the following:
 - 1) Sites, features, places, cultural landscapes, sacred places and objects with cultural value to a California Native American tribe that are either of the following:
 - a. Included or determined to be eligible for inclusion in the California Register of Historical Resources.
 - b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.
 - 2) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.
- b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.
- c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “nonunique archeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

California Health and Safety Code

California Health and Safety Code Section 7050.5 prohibits disinterring, disturbing, or removing human remains from a location other than a dedicated cemetery. Section 7050.5 also requires that construction or excavation be stopped in the vicinity of discovered human remains until the Coroner can determine whether the remains are those of a Native American. If determined to be Native American, the Coroner must contact the California NAHC by telephone within 24 hours.

California Native American Historical, Cultural and Sacred Sites Act

This Act applies to both State and private lands. The Act requires that upon discovery of human remains, that construction or excavation activity cease and that the County Coroner be notified. If the remains are of a Native American, the Coroner must notify the NAHC. The NAHC then notifies those persons mostly likely to be descended from the Native American remains. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

Assembly Bill 52

Assembly Bill 52 (AB 52), the Native American Historic Resource Protection Act, sets forth a proactive approach intended to reduce the potential for delay and conflicts between Native American and development interests. Projects subject to AB 52 are those that file a notice of preparation for an EIR or notice of intent to adopt a negative or mitigated negative declaration on or after July 1, 2016. AB 52 adds tribal cultural resources (TCR) to the specific cultural resources protected under CEQA. Under AB 52, a TCR is defined as a site, feature, place, cultural landscape (must be geographically

defined in terms of size and scope), sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register, or included in a local register of historical resources. A Native American Tribe or the lead agency, supported by substantial evidence, may choose at its discretion to treat a resource as a TCR. AB 52 also mandates lead agencies to consult with tribes, if requested by the tribe, and sets the principles for conducting and concluding consultation. Prior to the passing of AB 52 the County had already implemented a Native American consultation process in cooperation with the local tribes. The County's consultation process is still in place and was implemented for this project.

Senate Bill 18

Senate Bill 18 (SB 18) provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places. SB 18 requires local governments to consult with tribes prior to making certain planning decisions and to provide notice to tribes at certain key points in the planning process. These consultation and notice requirements apply to adoption and amendment of both general plans (defined in Government Code §65300 et seq.) and specific plans (defined in Government Code §65450 et seq.).

Regional and Local

Humboldt County General Plan

The following goal and policies from the Humboldt County General Plan are applicable to the project with regard to cultural resources.

Goal CU-G1 Protection and Enhancement of Significant Cultural Resources. Protected and enhanced significant cultural resources, providing heritage, historic, scientific, educational, social and economic values to benefit present and future generations.

CU-P1 ***Identification and Protection.** The potential for impacts to significant cultural resources shall be identified during ministerial permit and discretionary project review, impacts assessed as to significance, and if found to be significant, protected from substantial adverse change per California Public Resources Code (PRC) §5020.1.*

CU-P2 ***Native American Tribal Consultation.** Native American Tribes (as defined below in CU-S3) shall be consulted during discretionary project review for the identification, protection and mitigation of adverse impacts to significant cultural resources. Consultation on ministerial permits shall be initiated if it has been determined the project may create a substantial adverse change to a significant cultural resource. At their request, Tribes shall be afforded the opportunity to review and provide comments to the County early in project review and planning (screening) about known or potential Tribal cultural resources located in project areas within their respective tribal geographical area of concern.*

CU-P3 ***Consultation with Other Historic Preservation Agencies and Organizations.** Historic preservation agencies and organizations shall be consulted during discretionary project review for the identification, protection and mitigation of adverse impacts to significant cultural resources. These include, but may not be*

limited to, the County's Cultural Resources Advisory Committee, Humboldt County Public Works Department and the Planning and Building Divisions, the Northwest Information Center of the California Historical Resources Information System (NWIC), the California Office of Historic Preservation, the Native American Heritage Commission, local historical societies, museums, colleges and universities, and incorporated cities historic preservation commissions or committees for their respective LAFCO sphere of influence, and local historians, cultural resources consultants and historic preservation staff affiliated with various state and federal agencies.

CU-P4 **Avoid Loss or Degradation.** *Projects located in areas known, or suspected to be archeological sites or Native American burial sites shall be conditioned and designed to avoid significant impacts to significant sites, or disturbance or destruction to Indian burial grounds. Preserving Native American remains undisturbed and in place shall be selected as the preferred alternative unless substantial factual evidence is presented demonstrating that no alternative(s) are feasible. Conditions of approval shall include standard provisions for post-review inadvertent archaeological discoveries and discovery and respectful treatment and disposition of Native American remains with or without funerary objects in accordance with state law (Health and Safety Code (HSC) §7050.5 and PRC §5097.98).*

CU-P5 **Findings Necessary for Loss or Destruction.** *Substantial adverse changes to significant cultural resources shall not be allowed through a ministerial or discretionary action unless:*

- a. The cultural resource has been found not to be significant based on consultation with culturally affiliated Native American Tribe(s) and other historic preservation agencies and organizations as required by CU-P2 and CU-P2x; or*
- b. There is an overriding public benefit from the project, and compensating mitigation to offset the loss is made part of the project.*

CU-P6 **Mitigation.** *Mitigation measures shall be required for any permitted project or County action that would adversely impact significant cultural resources.*

Humboldt Bay Area Plan

The following goal and policies from the Humboldt Bay Area Plan are applicable to the project with regard to cultural resources.

Where new development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

1. *Reasonable mitigation measures may include but are not limited to:*
 - a) *Changing building and construction sites and/or road locations to avoid sensitive areas.*
 - b) *Providing protective cover for sites that cannot be avoided.*
 - c) *Where appropriate and with the approval of all parties concerned, provide for the removal or transfer of culturally significant material by a professional archaeologist or geologist.*

County Code

The “A” combining zone of the Humboldt County Code is applicable to areas zoned as industrial coastal dependent (MC). The “A” combining zone provides for reasonable mitigation measures where development would have an adverse impact upon archaeological and paleontological resources.

4.4.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to cultural and tribal cultural resources. The following questions are from CEQA Guidelines’ Appendix G Environmental Checklist Section V. Would the project:

- a. Substantial adverse change in the significance of a historical resource as defined in Section 15064.5?
 - Adverse alteration of those physical characteristics of a historical resource that justify its eligibility for the NRHP, CRHR or as a local landmark.
- b. Substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
 - Adverse alteration of those physical characteristics of an archaeological resource that justify its eligibility for the NRHP, CRHR or as a unique archaeological resource.
- c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
 - Disturbance of a known vertebrate fossil locality or within a geologic unit that has high sensitivity for vertebrate fossils.
- d. Disturb any human remains, including those interred outside of formal cemeteries?
 - Disturbance of human remains, including Native American human remains, associated grave goods, or items of cultural patrimony

In addition to the above criteria, the following questions are from CEQA Guidelines’ Appendix G Environmental Checklist Section XVII. 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:

- a. 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)?
- b. 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 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Adverse alteration of those physical characteristics of a tribal cultural resource that justify its eligibility for the NRHP, CRHR or in a local register of historical resources.

4.4.4 Methodology

The *Archaeological Survey Report for the Samoa Peninsula Wastewater Project* (Archeology Report) was prepared that includes cultural and tribal cultural resources research and analysis (Roscoe and Associates 2018). The report's methodology summarized below.

Background research for the proposed project included an examination of the archaeological site records and survey reports at the California Historical Resources Information System regional Northwest Information Center (NWIC) in Rohnert Park, California. The record search was conducted to determine if cultural or historical resources have been recorded within the project site or within 0.5 mile of the project site and to review cultural resource survey reports that either included the project site or were conducted within 0.5 mile of the project site.

The project site and the area within 0.5 mile of the project site comprise the Record Search Study Area (Study Area). Within this section, 'project area' refers to the project site and general surrounding area on the Samoa Peninsula. The following inventories were reviewed: the Historic Property Directory, the National Register of Historic Places (NRHP), the Determinations of Eligibility for the National Register of Historic Places, the California Register of Historical Places, and the California Inventory of Historic Resources.

The analysis considers direct and indirect impacts on cultural resources within the project area. Potential impacts on historic resources are assessed by identifying the activities that could affect the architectural resources that have been identified as historical resources for the purposes of CEQA.

4.4.5 Impact Analysis

Impact CTR-1: Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

This impact analysis addresses CEQA Guidelines Appendix G checklist item V.a) identified in Section 4.4.3.

The NWIC records search found no records for historic-era sites within the project site; however, 11 Native American habitation sites, 2 multi-component sites, and 6 historic-era buildings, structures, and sites are located within the Study Area. The Samoa Town Historic District is also located within the Study Area. Specifically, the town of Samoa contains a "D" Design Control Combining Zone which is applied to the Approved Samoa WWTF site.

Two historic era structures are located in close proximity to the project site: the Fey Homestead (P-12-000719), dating to the mid-19th century; and two (approximately 300-foot) segments of the Hammond Lumber Railroad (P-12-003142) west of Vance Avenue, in the vicinity of the southern staging area.

During the pedestrian survey of the Study Area, it was determined that the project site includes a portion of the Eureka Naval Auxiliary Air Facility. As a result of the cultural investigation the Naval Base has been documented on the appropriate Department of Parks and Recreation 523 series form. Roscoe and Associates recommends the portion of Eureka Naval Auxiliary Air Facility as being eligible for the CRHR under Criterion A and C. The pedestrian survey also uncovered three additional segments of the Hammond Lumber Railroad resource (P-12-003142). The resource has been updated and recoded on the appropriate Department of Parks and Recreation 523 series forms. The railroad appears to be eligible under CRHR Criteria A for its association with early 20th century lumber milling and export operations in the Humboldt Bay Area.

Construction

Project construction would result in disturbance within the project site including but not limited to in-road trenching, excavation, and grading. The Fey Homestead and the previously recorded segments of the Hammond Lumber Railroad resources are located outside of the project site boundary but adjacent to the portion of the pipeline alignment along Vance Avenue. Proposed project activities in the vicinity of these two historic era resources are limited to excavating within the roadway and do not pose a threat to either of these resources. Impacts to these two historic era resources would be **less than significant**.

Additionally, construction activities within Vance Avenue and Bendixsen Street would be within the “A” combining zone. Project activities within Vance Avenue and Bendixsen Street would occur within the roadway and do not pose a threat to archeological resources.

Additionally, implementation of the project would not cause a substantial adverse change to either the Eureka Naval Auxiliary Air Facility (LTA Base) or the additional segments of the Hammond Lumber Railroad (P-12-003142) that were discovered within the project site during the pedestrian survey. No aspects of these resources that would qualify them for the CRHR are proposed for removal or alteration. Pavement removal, excavation, and repaving may occur within the LTA Base's north mooring circle, however general maintenance of the resource has likely included re-paving and painting. The overlapping LTA Base resource within the project site would be utilized as a staging area during implementation of the project. The use of the resource for staging purposes is not anticipated to change the resources ability to convey its significance as a former WWII-era Naval Air Facility. The Hammond Lumber Railroad (P-12-003142) crosses the entrance to the Approved Samoa WWTF location. In this location, evidence of the railroad alignment is present, but the rails are encased in concrete. Project equipment will drive over the rails on the paved road, and will not alter the rails in any way. Therefore, the potential impact to the Naval Air Facility and Hammond Lumber Railroad would be **less than significant** related to disturbing historical resources.

The Approved Samoa WWTF site is within the Town of Samoa historic district, D Design Control Combining Zone, which is intended to provide design review for

conformance of new development with the policies and standards of the General Plan, and to provide for a design review process where neighborhoods within the same zone district desire to preserve or enhance the area’s historical, cultural or scenic values. The project improvements to the Approved Samoa WWTF would be within the D Design Control Combining Zone. Development within this zone may result in a **significant impact** to historic resources.

Operations

Project operations do not include any construction or earth-disturbing activity. All project improvements near the Fey Homestead would be below ground and therefore would not alter the context or physical characteristics of the resource that justify its eligibility. Therefore, **no impact** would occur to historic era resources.

Summary

The proposed project is located within a region that has multiple recorded historical resources. The majority of the resources are located outside of the project site and would not be affected by project implementation. Two resources, the LTA Base and the Hammond Lumber Railroad (P-12- 003142) are partially located within the project site. However, the construction activities would not disturb or change the ability of the LTA Base to convey its significance under the CRHR criteria and the Hammond Lumber Rails area is encased in concrete and would not be affected by construction activities. However, the improvements within the Approved Samoa WWTF are located within a historic district. Therefore, project construction impacts would be **significant**. Project operations would not affect historic resources. Therefore, **no impact** would result from the long-term phase.

Significance

Significant

Mitigation

CTR-1: Minimize Impacts on Adjacent Historic Resources

The County shall implement measures to minimize potential impacts of new development on adjacent contributing historic resources as a condition of approval of coastal development permits authorizing new construction of facilities within the Samoa Town Master Plan area subject to a D - Design Review Combining Zone. These shall include siting, design and screening of new buildings, consistent with Design Guidelines, including compatible building height, scale, materials, roof and wall mass and articulation.

After Mitigation

Less than Significant with Mitigation

Mitigation Measure CTR-1 would reduce impacts to historic resources within the town of Samoa historic district to a less-than-significant level by requiring consistency with the D Design Control Combining Zone design requirements.

Impact CTR-2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

This impact analysis addresses CEQA Guidelines Appendix G checklist item V.b) identified in Section 4.4.3.

Two-hundred-forty-five resources have been documented within the Study Area; however, none are located within the project site. The project site has been identified as being within the traditional territory of Wiyot tribe. The pedestrian survey did not identify any evidence of Native American habitation in the areas immediately adjacent to the roadways where the pipeline would be installed, nor were any identified within the footprint of the WWTF. Survey of the direct excavation areas was impossible however, because they are covered by pavement. The locations of four previously documented Native American Archaeological sites (P-12-000075, 12-000076, 12-000078 and 12-000079) have not been confirmed by modern researchers nor identified since 1918. The exact locations of these sites are therefore unknown. However, they were originally documented between 110-150 meters from the defined project site.

Construction

Project construction would include activities within Vance Avenue, Bendixsen Street, Lincoln Avenue, New Navy Base Road, and portions of adjoining streets, as well as at the Approved Samoa WWTF. The construction activities within Vance Ave and Bendixsen Street would be within the "A" Archaeological Resource Area Combining Zone. Although no known archeological sites exist within the project site, the four previously documented Native American Archaeological sites mentioned above (P-12-000075, 12-000076, 12-000078 and 12-000079) were not confirmed as being outside of the project site. The exact locations of these sites are therefore, unknown and the proposed project activities have the potential to inadvertently uncover archaeological material. Additionally, as the majority of these areas have been previously developed, the project activities have the potential to inadvertently uncover subsurface archaeological material. In the event a previously unknown archaeological resource is discovered during project construction, a **significant impact** would result if the resource was altered of those physical characteristics that justify its eligibility for the NRHP, CRHR or as a unique archaeological resource.

Operation

Once construction is completed the project would require episodic maintenance trips to service the project facilities. Maintenance vehicles would use the paved roadways and would not disturb any archaeological resources. **No impact** would occur during operation of the project.

Summary

There are no known archaeological resources within the project site. However, project construction has the potential to disturb unknown or unconfirmed archaeological resources within the project site. The potential impact to unknown archaeological resources would be significant. Project operations would not

involve any ground-disturbing activities and, therefore, no impact to archaeological resources is anticipated to occur. There would be no impact from project operations.

Significance

Significant

Mitigation

CTR-2: Protect Archaeological Resources during Construction

The PCSD shall protect unknown archaeological resources. Should an archaeological resource be inadvertently discovered during ground-disturbing activities, the Tribal Historic Preservation Officers (THPO) appointed by the Blue Lake Rancheria, Bear River Band of Rohnerville Rancheria and Wiyot Tribe shall be immediately notified and a qualified archaeologist with local experience retained to consult with the PCSD, the three THPOs, Humboldt County and other applicable regulatory agencies to employ best practices for assessing the significance of the find, developing and implementing a mitigation plan if avoidance is not feasible, and reporting in accordance with the Harbor District's Standard Operating Procedures. The Standard Operating Procedures include, but are not limited to, the following:

- Ground-disturbing activities shall be immediately stopped if potentially significant historic or archaeological materials are discovered. Examples include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, groundstone mortars and pestles), culturally altered ash-stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials, and historic structure remains such as stone-lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the discovery locale.
- An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable bufferzone by the Contractor Foreman or authorized representative, or party who made the discovery and initiated these measures.
- The discovery locale shall be secured (e.g., 24-hour surveillance) as directed by the PCSD if considered prudent to avoid further disturbances.
- The Contractor Foreman or authorized representative, or party who made the discovery and initiated these SOP, shall be responsible for immediately contacting by telephone the parties listed below to report the find:
 - the PCSD's authorized Point of Contact (POC), and
 - the Applicant's (District's permittee, lease or franchise holder) authorized POC, and it's General Contractor's POC if applicable.
- Upon learning about a discovery, the PCSD's POC shall be responsible for immediately contacting by telephone the POCs listed below to initiate the consultation process for its treatment and disposition:

- THPOs with Blue Lake Rancheria, Bear River Band and Wiyot Tribe; and Other applicable agencies involved in Project permitting (e.g., US Army Corps of Engineers, US Fish & Wildlife Service, California Department of Fish & Wildlife, etc.).
- Ground-disturbing project work at the find locality shall be suspended temporarily while PCSD, the three THPOs, consulting archaeologist and other applicable parties consult about appropriate treatment and disposition of the find. Ideally, a Treatment Plan will be developed within three working days of discovery notification. Where the project can be modified to avoid disturbing the find (e.g., through project redesign), this may be the preferred option. Should Native American remains be encountered, the provisions of State laws shall apply (see below). The Treatment Plan shall reference appropriate laws and include provisions for analyses, reporting, and final disposition of data recovery documentation and any collected artifacts or other archaeological constituents. Ideally, the field phase of the Treatment Plan may be accomplished within five (5) days after its approval, however, circumstances may require longer periods for data recovery.
- The PCSD's officers, employees and agents, including contractors, permittees, holders of leases or franchises, and applicable property owners shall be obligated to protect significant cultural resource discoveries and may be subject to prosecution if applicable State or Federal laws are violated. In no event shall unauthorized persons collect artifacts.
- Any and all inadvertent discoveries shall be considered strictly confidential, with information about their location and nature being disclosed only to those with a need to know. The PCSD's authorized representative shall be responsible for coordinating with any requests by or contacts to the media about a discovery.
- These Standard Operating Procedures shall be communicated to the field work force (including contractors, employees, officers and agents) of those entities that obtain a permit, lease or franchise from the PCSD, and such communications may be made and documented at weekly tailgate safety briefings.
- Ground-disturbing work at a discovery locale may not be resumed until authorized in writing by the PCSD.

After Mitigation

Less than Significant with Mitigation

Mitigation Measure CTR-2 would reduce impacts on undiscovered archaeological resources to a less-than-significant level by providing a process for evaluation of any unknown resources encountered during construction, and avoidance or data recovery of resources that meet the CEQA definition of unique archaeological resources.

Impact CTR-3: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

This impact analysis addresses CEQA Guidelines Appendix G checklist item V.c) identified in Section 4.4.3.

According to the Humboldt County General Plan, there are prehistoric deposits known to exist within Humboldt County. However, there are no known unique paleontological resources or unique geologic features within the project site (Humboldt County 2017).

Construction

Although no known paleontological resources are located within the project site, it cannot be ruled out that there are no unknown resources. If unknown paleontological resources are encountered a **significant** impact could occur if they were disturbed.

Operation

No construction or earth-disturbance would be required during project operations and, therefore, there is no risk to unknown paleontological resources. There would be **no impact** from project operations.

Summary

There would be construction-period risk to encounter unknown paleontological resources. This would be a **significant** impact. Project operations do not include ground-disturbing activities and, therefore, there would be **no impact** to unknown paleontological resources.

Significance **Significant**

Mitigation CTR-3: Recovery of Unknown Buried Paleontological Resources

In the event that paleontological resources are discovered, the PCSD shall notify a qualified paleontologist. The paleontologist shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. If fossilized materials are discovered during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist. The paleontologist shall notify the appropriate agency to determine procedures that would be followed before construction is allowed to resume at the location of the find.

If the PCSD determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important. The plan shall be submitted to the PCSD for review and approval prior to implementation.

After Mitigation **Less than Significant with Mitigation**

Mitigation Measure CTR-3 would reduce impacts on previously undiscovered paleontological resources to a less-than-significant level by providing a process

for evaluation of any unknown resources encountered during construction, and avoidance or data recovery of resources that meet the CEQA definition of unique paleontological resources.

Impact CTR-4: Would the project disturb any human remains, including those interred outside of formal cemeteries?

This impact analysis addresses CEQA Guidelines Appendix G checklist item V.d) identified in Section 4.4.3.

Four previously documented Native American sites (P-12-000075, 12-000076, 12-000078 and 12-000079) are located within or in the vicinity of the project site. These sites have not been confirmed by modern researchers and have not been identified since 1918.

Construction

While the exact locations of the Native American sites have not been confirmed, the potential exists for the project to inadvertently uncover subsurface human remains. If human remains were unearthed during project construction, particularly those that were determined to be Native American, a significant impact related to the disturbance of human remains would occur.

Operation

Project operation does not include construction or any ground-disturbing activities. Therefore, the project would not have the potential to encounter previously undiscovered historic or prehistoric human remains. **No impact** would occur.

Summary

Project construction may uncover undiscovered human remains. If human remains are discovered a significant impact would occur. Project operations do not include construction or earth-disturbing activities and, therefore, would not encounter human. No operational impact would occur.

Significance

Significant

Mitigation

CTR-4: Protect Human Remains if Encountered during Construction

Should human remains be inadvertently discovered during ground-disturbing activities, work at the discovery locale shall be halted immediately, the PCSD and County Coroner contacted, and the Harbor District's Standard Operating Procedures shall be followed, consistent with Public Resources Code § 5097.9 and Health and Safety Code § 7050.5. The Standard Operating Procedures include, but are not limited to, the following:

- If human remains are encountered, they shall be treated with dignity and respect. Discovery of Native American remains is a very sensitive issue and serious concern of affiliated Native Americans. Information about such a discovery shall be held in confidence by all project personnel on a need-to-

know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld.

- Violators of Section 7050.5 of the California Health and Safety Code may be subject to prosecution to the full extent of applicable law (felony offense).
- The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American, the Coroner has 24 hours to notify the Native American Heritage Commission (NAHC) in Sacramento at (916) 653-4082.
- The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD) of the deceased Native American. (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.)
- Within 48 hours of their notification by the NAHC, the MLD will be granted permission by the property owner of the discovery locale to inspect the discovery site if they so choose.
- Within 48 hours of their notification by the NAHC, the MLD may recommend to the owner of the property (discovery site) the means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses (if any) recommended by the MLD may be considered and carried out.
- Whenever the NAHC is unable to identify a MLD, or the MLD fails to make a recommendation, or the property owner rejects the recommendation of the MLD and mediation between the parties by NAHC fails to provide measures acceptable to the property owner, he/she shall cause the re-burial of the human remains and associated grave offerings with appropriate dignity on the property in a location not subject to further subsurface disturbance.

After Mitigation

Less than Significant with Mitigation

Mitigation Measure CTR-4 would reduce impacts on uncovering human remains to a less-than-significant level by providing direction on who to notify in the event human remains are found.

Impact CTR-5:

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 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section

5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVII.a) and XVII.b) identified in Section 4.4.3.

As mentioned above in Impact CTR-1, there are two resources, the LTA Base and the Hammond Lumber Railroad (P-12- 003142), that are considered eligible for listing on the CRHR. These resources are attributed to the former WWII-era Naval Air Facility and early 20th century lumber milling and export operations in the Humboldt Bay Area, respectively. Tribes consulted indicated that Cultural Resources and Tribal Cultural Resources may be affected by this project (Roscoe and Associates 2018).

Construction

Construction of the project would result in ground-disturbing activities within the confines of the project site. As several tribal representatives have indicated that there may be cultural resources and tribal cultural resources within the project site, construction activities have the potential to disturb previously undiscovered tribal cultural resources. If such resources were to represent tribal cultural resources and are determined as being eligible for listing in a local register for historical resources, any substantial change to or destruction of these resources would be a significant impact.

Operation

Project operations do not include construction or any ground-disturbing activities. Therefore, project operations would not have the potential to encounter previously undiscovered tribal cultural resources. **No impact** would occur.

Summary

If tribal cultural resources are encountered during construction and altered or destroyed in any way a **significant impact** would occur. Project operations do not include ground-disturbing activities and would occur within paved areas and, therefore, present no risk to tribal cultural resources. **No impact** would occur from operation of the project.

Significance

Significant

Mitigation

CTR-5: Minimize Impacts to Unknown Tribal Cultural Resources

Prior to construction, all three Wiyot groups, Bear River Band of the Rohnerville Rancheria, Blue Lake Rancheria, and the Wiyot Tribe, shall be contacted and provided the opportunity to monitor ground-disturbing activities. If potential tribal cultural resources are uncovered during construction, the PCSD shall halt work, and workers shall avoid altering the materials and their context. Project personnel shall not collect cultural materials. The PCSD shall immediately notify the Tribal Historic Preservation Officers (THPO) appointed by the Blue Lake Rancheria, Bear River Band of Rohnerville Rancheria and Wiyot Tribe shall be immediately notified and a qualified archaeologist with local experience retained to consult with the PCSD, the three THPOs, other applicable regulatory agencies to employ

best practices for assessing the significance of the find, developing and implementing a mitigation plan if avoidance is not feasible, and reporting in accordance with the *Protocols for Inadvertent Archaeological Discoveries for Ground Disturbing Project Permits, Leases and Franchises Issued by The Humboldt Bay Harbor, Recreation, and Conservation District, Humboldt Bay, California*, with the substitution of PCSD staff for Harbor District Staff.

After Mitigation *Less than Significant with Mitigation*

Mitigation Measure CTR-5 would reduce impacts on unknown tribal cultural resources to a less-than-significant level by providing direction on who to notify in the event tribal cultural resources are found.

4.4.6 Cumulative Impacts

Impact CTR-C-1: Would the project result in a cumulatively considerable contribution to a cumulative impact?

Implementation of the cumulative projects listed in Table 4.1, Projects Considered for Cumulative Impacts, may require grading and excavation that could potentially affect cultural, paleontological, and tribal cultural resources, or human remains, or modify or otherwise impact historic buildings. . If these resources are not protected, the cumulative effect of the project under the cumulative scenario could be significant.

CEQA requirements for protecting cultural resources, human remains, and tribal cultural resources would be applicable to each of the cumulative projects. As described in this EIR, appropriate studies were undertaken to ensure that cultural resources that could be impacted by the project were identified, and that mitigation measures are put forth that would reduce the impacts to unknown cultural resources to a less-than-significant level. These measures are consistent with Humboldt County General Plan Policies CU-P1, CU-P4, and CU-P6, the HBAP, and California Health and Safety Code Section 7050.5. Therefore, with implementation of the mitigation measures, the project’s incremental effect to cultural resources would not be cumulatively considerable.

Significance: *Less than Cumulatively Considerable (Less than Significant)*

Mitigation **None Required**

4.4.7 References

Roscoe and Associates. 2018. An Archaeological Survey Report for the Samoa Peninsula Wastewater Project Projects. September.

Humboldt County. 2017. Humboldt County General Plan Update Revised Draft Environmental Impact Report. April 19.

4.5 Geology, Soils, and Seismicity

This section evaluates potential environmental impacts related to geology and soils during construction and operation of the project. Information in this section is based in part on the Geologic Hazard Evaluation and Soils Engineering Report, Samoa Peninsula Wastewater Project (SHN 2018). In addition to the analysis provided in this section, the following subjects are related to geology and soils, but are evaluated in other sections of this EIR:

- Potential impacts to water quality due to erosion, runoff, or alteration of drainage patterns are evaluated in Section 4.8 (Hydrology and Water Quality)
- Potential impacts related to tsunami inundation are also evaluated in Section 4.8 (Hydrology and Water Quality)

4.5.1 Setting

Regional and Local Geology

Northwestern California is located in a complex tectonic region dominated by northeast-southwest oriented compression associated with collision of the Gorda and North American tectonic plates. The Gorda plate is being actively subducted beneath North America north of Cape Mendocino, along the southern part of what is commonly referred to as the Cascadia Subduction Zone. This plate convergence has resulted in a broad fold and thrust belt along the western edge of the accretionary margin of the North American plate. In the Humboldt Bay region, this fold and thrust belt is manifested as a series of northwest-trending, southeast-dipping thrust faults, including the Little Salmon fault and faults that comprise the Mad River fault zone. These faults are active and are capable of generating large-magnitude earthquakes.

Basement rock in the Humboldt Bay region (that is, the regional Franciscan Formation) is unconformably overlain by a late Miocene to middle Pleistocene age sequence of marine and terrestrial deposits referred to as the Wildcat Group. The Wildcat Group, in turn, is truncated at its top by an unconformity of middle Pleistocene age, and is overlain by coastal plain and fluvial deposits of middle to late Pleistocene age. In the Eureka area, these middle and late Pleistocene age deposits are referred to as the Hookton Formation, and may be as much as 400 feet thick. Hookton Formation sediments are widely variable in texture and consistency, and are described as gravel, sand, silt, and clay.

Along the coast of northern California between Cape Mendocino to the south and Big Lagoon, about 60 miles to the north, a sequence of uplifted late Pleistocene age marine terraces is preserved. The City of Eureka, across Humboldt Bay from the Samoa Peninsula, occupies a series of northward-dipping terrace surfaces eroded into the Hookton Formation. Along the margins of Humboldt Bay, the Hookton Formation and marine terrace deposits are overlain by late Holocene age (younger than about 5-6,000 years old) bay muds and associated estuarine deposits, as well as local accumulations of dune deposits.

The project site is located along the Samoa Peninsula, the northern peninsula forming the oceanward side of Humboldt Bay. The location and morphology of Humboldt Bay is largely a result of tectonic processes. Humboldt Bay consists of two principal basins, Arcata Bay and South Bay. These shallow estuarine basins are connected across the bay mouth by the narrow "Eureka Channel." Each of the principal basins is associated with a tectonic syncline (that is, a crustal

down-warp), and appears to represent a filled paleo-river valley. This is especially true in the northern basin, Arcata Bay, which appears to be an erosional feature associated with a former course of the Mad River. In that regard, much of the Samoa Peninsula is the remnant of the western divide of the Mad River drainage, and is underlain by the same earth materials that underlie the Eureka side of the bay. Toward the southern end of the Samoa Peninsula, the peninsula appears to transition into a true sand “spit,” formed by the progradation of littoral sand transported in the longshore current. This is an important point, because the nature of the substrate underlying the Samoa Peninsula is a key consideration in the interpretation of geologic hazard.

The location of the inferred transition from an erosional “peninsula” with a core of older Pleistocene age sediment (Hookton Formation or equivalent), to a “spit” formed by prograding sand of late Holocene age, is not known. Based on geomorphic expression, the transition occurs near the southern end of the Samoa Peninsula. Two subsurface geologic transects have been developed across the bay, and help to constrain the location of the transition. One transect was developed by Caltrans (discussed in Geomatrix, 1994) at the location of the Samoa bridge just to the northeast of Samoa, the other was developed to the southwest at the location of a proposed wastewater treatment plant (Converse Davis Dixon Associates, 1976). Both of these geologic profiles suggest the central Samoa Peninsula is an erosional feature underlain by older sediments contiguous with those underlying the City of Eureka on the opposite side of the Eureka Channel/Humboldt Bay. Interpretation of the available geologic data suggests that the transition to a sand “spit” occurs south of the two profiles.

The entire Samoa Peninsula is covered with a variable thickness of dune sands. As discussed in Leroy (2000), the northern part of the Peninsula is covered with a thick sequence of dunes that can be subdivided into four distinct stratigraphic units. These dunes are typically forested, and reach as much as 60 to 70 feet above sea level. The town of Samoa occupies the southern end of these older, higher dunes. To the south, the Peninsula is covered with a relatively youthful accumulation of dunes that are generally less than 20 feet in elevation.

Groundwater is present at relatively shallow depth through the entire study area. Subsurface investigations have encountered groundwater typically within about 10 feet of sea level. Therefore, in low elevation areas south of Samoa, groundwater is expected to occur within the upper 5 to 10 feet of the ground surface. At the site of the Approved Samoa WWTF, which is at an elevation above 30 feet, the water table can be expected generally to occur below about 20 feet. Groundwater appears to occur most frequently within the loose dune sands in the upper 15 feet, and most boring logs note heaving sands at this stratigraphic interval (deeper drilling only occurs with drilling muds added to the borehole).

Seismicity and Faulting

The entire region is one of high seismicity; there are numerous active faults in close proximity to the site (see Table 4.5-1). The Samoa Peninsula occurs between the two primary onland fault zones within the fold-and-thrust belt described above—the Little Salmon fault zone and the Mad River fault zone. Although there are no known active faults crossing the Samoa Peninsula, an inferred fault, the North Spit fault has been identified near the southern end of the proposed project area. The North Spit fault has been identified in geophysical transects offshore of the Peninsula, but it has never been identified on land (either on the Peninsula or in Eureka); it is not considered active by the State.

Northwestern California is the most seismically active region in the continental United States. More than 60 earthquakes have produced discernable damage in the region since the mid-1800s. Historical seismicity and paleoseismic studies in the area suggest there are six distinct sources of damaging earthquakes in the northcoast region (Dengler et al. 1992):

Gorda plate earthquakes account for the majority of historical seismicity. These earthquakes occur primarily offshore along left-lateral faults, and are generated by the internal deformation within the plate as it moves toward the subduction zone. Significant historic Gorda Plate earthquakes have ranged in magnitude (M) from M5 to M7.5. The November 8, 1980, earthquake (M7.2) was generated on a left-lateral fault within the Gorda Plate.

The **Mendocino fault** is the second most frequent source of earthquakes in the region. The fault represents the plate boundary between the Gorda and Pacific plates, and typically generates right-lateral strike-slip displacement. Historic Mendocino fault events have ranged in magnitude from M5 to M7.5. The September 1, 1994, M7.2 event west of Petrolia was generated along the Mendocino fault. The Mendocino triple junction was identified as a separate seismic source only after the August 17, 1991 (M6.0) earthquake. Events associated with the triple junction are shallow onshore earthquakes that appear to range in magnitude from about M5 to M6. Raised Holocene terraces near Cape Mendocino suggest larger events are possible in this region.

Northern San Andreas fault events are rare but can be very large. The northern San Andreas fault is a right-lateral strike-slip fault that represents the plate boundary between the Pacific and North American plates. The fault extends through the Point Delgada region and terminates at the Mendocino triple junction. The 1906 San Francisco earthquake (M8.3) caused the most significant damage in the northcoast region, with the possible exception of the 1992 Petrolia earthquake.

Earthquakes within the **North American plate** can be anticipated from a number of intraplate sources, including the Mad River fault zone. There has been no large-magnitude earthquake associated with faults within the North American plate, although the December 21, 1954, M6.5 event may have occurred in the Mad River fault zone. Expected magnitudes for North American plate earthquakes are in the M6.5 to M8 range.

The **Cascadia Subduction Zone** represents the most significant potential seismic source in the northcoast region. A great subduction event may rupture along 200 km or more of the coast from Cape Mendocino to British Columbia, may be up to M9.5, and could be associated with extensive tsunami inundation in low-lying coastal areas. The April 25, 1992, Petrolia earthquake (M7.1) appears to be the only documented historical earthquake involving slip along the subduction zone, but this event was confined to the southernmost portion of the fault. Paleoseismic studies along the subduction zone suggest that great earthquakes are generated along the zone every 300 to 800 years. The last large subduction earthquake occurred in 1700. A great subduction earthquake would generate long duration, very strong ground shaking throughout the Pacific Northwest.

Table 4.5-1 Active Faults near the Project Area

Fault	Distance and Direction from the Project
Little Salmon	1.2 miles to the southwest
Fickle Hill	6.5 miles to the northeast
Mad River	8.8 miles to the northeast
Cascadia Subduction Zone	34.2 miles to the west
San Andreas	49.5 miles to the south

Surface Fault Rupture

Surface fault rupture describes displacement of the ground surface along a fault during an earthquake. Depending on the type of fault, this displacement may be horizontal, vertical, or both. Damage from fault rupture can be severe depending on the size of the displacement, but is limited to the relatively narrow area along the fault where it daylight at the ground surface. Surface fault rupture may occur as a discrete rupture trace or a broad zone of distributed shearing. Not all earthquakes result in fault rupture that reaches the ground surface; the larger the earthquake, the more likely it is to generate surface fault rupture.

Ground Shaking

Ground shaking is the primary cause of damage and injury during earthquakes. Ground-shaking impacts can lead to a variety of secondary seismic effects, including liquefaction, lateral spreading, and landslides. Ground shaking levels are typically a result of the size of the earthquake generating the shaking and the proximity to the fault source. Seismic shaking is influenced by the geology at a site; thick accumulations of saturated, unconsolidated sediments tend to amplify long wavelength seismic waves, while hard bedrock tends to amplify short wavelength seismic waves.

Earthquake size is measured in a variety of ways. These methods tend to focus on direct measurement of the amount of seismic energy released during the earthquake or on the characterization of human-felt effects. The most common and widely accepted method of measuring earthquake magnitude is the moment magnitude scale. The moment magnitude scale is based on the total moment (energy) release of the earthquake. This scale accounts for a variety of earthquake sizes, including large earthquakes. It is derived from modeling recordings of the earthquake at multiple stations.

The Modified Mercalli Intensity Scale for Earthquakes, shown in Table 4.5-2, describes ground-shaking intensity in terms of human perception and damage to the built environment, and takes into account localized earthquake effects.

Table 4.5-2 Modified Mercalli Intensity Level

Scale	Earthquake Effects
I.	Not felt except by a very few under especially favorable conditions.
II.	Felt only by a few persons at rest, especially on upper floors of buildings.
III.	Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated.
IV.	Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rocked noticeably.
V.	Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop.
VI.	Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.
VII.	Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken.
VIII.	Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.
IX.	Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations.
X.	Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.
XI.	Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.
XII.	Damage total. Lines of sight and level are distorted. Objects thrown into the air.

Liquefaction

Liquefaction is described as the sudden loss of soil shear strength due to a rapid increase of soil pore water pressures caused by cyclic loading from a seismic event. In simple terms, it means that a liquefied soil acts more like a fluid than a solid when shaken during an earthquake. In order for liquefaction to occur, the following are needed:

- granular soils (sand, silty sand, sandy silt, and some gravels),
- a high groundwater table, and
- a low density of the granular soils (typically associated with young geologic age).

The adverse effects of liquefaction include local and regional ground settlement, ground cracking and expulsion of water and sand, the partial or complete loss of bearing and confining forces used to support loads, amplification of seismic shaking, and lateral spreading. During liquefaction events, pipelines tend to become buoyant due to the loss of confining pressure and “float” toward the ground surface.

Lateral spreading is defined as lateral earth movement of liquefied soils, or competent strata riding on a liquefied soil layer, downslope toward an unsupported slope face, such as a creek bank, or in this case toward the bay. In general, lateral spreading is typically observed on low to moderate gradient slopes but has been noted on slopes inclined as flat as one degree.

Seismically induced ground failures have been documented on two occasions in the project vicinity following historical moderate to large magnitude earthquakes. Specific accounts of historical ground failures include the following account from the 1906 earthquake:

At Samoa...where the Vance Company has its mill and warehouses. At one warehouse, the ground sunk beneath it several feet. The floor of the planing mill sank several inches on the east side and some are of the opinion that the factories settled also at one wall (Youd and Hoose, 1978).

Historical photographs indicate that the Vance Company mill complex was located along the bayfront, and likely was founded on unengineered, “reclaimed” bay soils. It is, therefore, not surprising that ground deformation occurred during the 1906 earthquake, as similar events were documented in reclaimed soils along the bayfront elsewhere.

In 1954, the following account is recorded:

Hammond Lumber Company brought its operations to a sudden halt when several breaks occurred in the underground main of the company’s fire protection system. A.O. LeFors, spokesperson for Hammond, stated that the mill will not operate in Samoa or at its Eureka plants until repairs have been made (Youd and Hoose, 1978).

Humboldt County GIS Hazard maps identify the area as being potentially susceptible to liquefaction hazards (Humboldt County 2018). Subsurface investigations on the Samoa Peninsula have encountered young and unconsolidated clean sands and loose- to medium-dense sands extending to depths of about 15 feet (SHN 2018). The lower part of this section of loose Holocene age sand is typically below the water table, which may rise seasonally to within a few feet of the ground surface. When saturated, such soils are predisposed to liquefaction and other related soil behavior. Heaving sand conditions were encountered at shallow depths when hand augurs were advanced during geotechnical studies for this project (SHN 2018). Quantitative liquefaction assessment conducted at the Town of Samoa identified limited intervals of liquefiable sediments below the water table, as below about 15 feet the material becomes too dense to liquefy (SHN 2018). Estimated total settlement values for the upper sediments were on the order of a few inches or less. Liquefaction can result in flotation of buried pipelines.

Landslides

Landslides occur when soils on a hillside become unstable and slide down a slope. Landslides can occur in soil or rock, and they are typically caused by excessive atmospheric moisture or by seismic shaking. Where the failed material is granular or rocky, landslides tend to occur quickly and catastrophically; where cohesive soils are present, landslides will form as slow-moving flows. Landslide risk depends on the types of earth materials of the hillside and the steepness of the slope. As the Samoa Peninsula within the project area is a low-relief area absent of significant sloping ground, there are no known landslide hazards shown on available published geologic hazard maps.

4.5.2 Regulatory Framework

Federal

There are no federal plans, policies, regulations, or laws related to geology and soils applicable to this project.

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the State Geologist established regulatory zones, called “earthquake fault zones,” around the surface traces of active faults and published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults. Because many active faults are complex and consist of more than one branch, each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace.

Title 14 of the California Code of Regulations (CCR), Section 3601(e), defines buildings intended for human occupancy as those that would be inhabited for more than 2,000 hours per year. There are no Alquist-Priolo Earthquake Fault Zones within the project area (CDC 2018). Therefore, the provisions of the act do not apply to the project.

Seismic Hazards Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (Public Resources Code [PRC] Sections 2690 to 2699.6) is intended to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Act, where the state is charged with identifying and mapping areas at risk of strong groundshaking, liquefaction, landslides, and other corollary hazards, with cities and counties required to regulate development within mapped Seismic Hazard Zones.

Under the California Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites within Seismic Hazard Zones until appropriate site-specific geologic and/or geotechnical investigations have been conducted and measures to reduce potential damage have been incorporated into the development plans. The California Geological Survey has not yet evaluated the project site or surrounding area under the Seismic Hazards Mapping Act.

Regional and Local

Humboldt Bay Area Plan of the Local Coastal Program

For the project site, the relevant local hazard mitigation plan relative to geohazards appears in the Humboldt Bay Area Plan (HBAP) of the Humboldt County Local Coastal Program (Humboldt County 2014). As stated within the HBAP, sections marked *** contain relevant Coastal Act policies that have also been enacted as County policy. The pertinent section follows:

Section 3.17 (Hazards) states in part:

*** 30253. New Development shall:

1. Minimize risks to life and property in areas of high geologic, flood and fire hazard.
2. Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding areas or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

A. PLANNED USES

The hazard policies apply to all new development within the planning area. For the most part these policies have been extracted from Humboldt County's adopted Seismic Safety Element.

The only area with any significant instability problem planned for more intense development is on Humboldt Hill, east of Highway 101, which is classified as an area of "moderate instability," according to County seismic safety maps. Another significant hazard to development within most of the agricultural lands and along both the North and South Spits is liquefaction. Much of this same area is also within the limit of the 100-year floodplain, and is in an area of potential tsunami runup. Maps of slope stability hazards are included in Appendix D, and are referenced in policies from the Seismic Safety element of the General Plan which are reiterated below. The numerical index on these maps indicate relative slope stability and are to be used with the risk rating matrix in Appendix C. This information indicates where a site investigation would be required prior to the issuance of a development permit (see policy section 2 below).

B. DEVELOPMENT POLICIES

1. New development shall be consistent with the adopted Humboldt County Safety and Seismic Safety element of the General Plan. Of particular interest, when siting new development, the Natural Hazards/Land Use Risk Rating Matrix on Figure 3-5, Section 3300 of Vol. 1 should be used in conjunction with Plate III. Plate III is a map delineating seismic zones relating to earthquake shaking as well as land stability and other natural hazard conformation.
2. The County shall amend Chapter 70, Section 7006, of the Uniform Building Code to require soil engineering and geological engineering investigations, prepared by a registered geologist or by a professional civil engineer with experience in soil mechanics or foundation engineering, or by a certified engineering geologist, for classes of development and hazard areas as shown in Table 1 and Plate III and DNOD maps as attached (See Appendices C, D & E).
 - a. The report should consider, describe and analyze the following.
 - (1) Cliff geometry and site topography, extending the surveying work beyond the site as needed to depict unusual geomorphic conditions that might affect the site;
 - (2) Historic, current and foreseeable cliff erosion, including investigation of recorded land surveys and tax assessment records in addition to the use of

- historic maps and photographs where available and possible changes in shore configuration and sand transport;
- (3) Geologic conditions, including soil, sediment and rock types and characteristics in addition to structural features, such as bedding, joint and faults;
 - (4) Evidence of past or potential landslide conditions, the implications of such conditions for the proposed development, and the potential effects of the development on landslide activity;
 - (5) Impact of construction activity on the stability of the site and adjacent area;
 - (6) Ground and surface water conditions and variations, including hydrologic changes caused by the development (i.e. introduction of sewage effluent and irrigation water to the ground water system; alterations in surface drainage);
 - (7) Potential erodibility of site and mitigating measures to be used to ensure minimized erosion problems during and after construction (i.e. landscaping and drainage design);
 - (8) Effects of marine erosion on seacliffs;
 - (9) Potential effects of seismic forces resulting from a maximum credible earthquake;
 - (10) Any other factors that might affect slope stability.
- b. The report should evaluate the off-site impacts of development (e.g. development contributing to geological instability on access roads) and the additional impacts that might occur due to the proposed development (e.g. increased soil moisture from a septic system). The report should also detail mitigation measures for any potential impacts and should outline alternative solutions. The report should express a professional opinion as to whether the project can be designed so that it will neither be subject to nor contribute to significant geologic instability throughout the lifespan of the project. The report should use a currently acceptable engineering stability analysis method and should also describe the degree of uncertainty of analytical results due to assumptions and unknowns. The degree of analysis required should be appropriate to the degree of potential risk presented by the site and the proposed project.
 - c. The developments permitted in the hazard areas shall be sited and designed to assure stability and structural integrity for their expected economic life spans while minimizing alteration of natural landforms. Bluff and cliff developments (including related storm runoff, foot traffic, site preparation, construction activity, irrigation, waste water disposal and other activities and facilities accompanying such development) shall not create or contribute significantly to problems of erosion or geologic instability on the site or on surrounding geologically hazardous areas.
 - d. Alteration of cliffs and bluff tops, faces, or bases by excavation or other means shall be minimized. Cliff retaining walls shall be allowed only to stabilize slopes.

3. Tsunamis—New development below the level of the 100 year tsunami run-up elevation described in Tsunami Predictions for the West Coast of the Continental United States (Technical Report H-78-26 by the Corps of Engineers) shall be limited to public access, boating, public recreation facilities, agriculture, wildlife management, habitat restoration, and ocean intakes, outfalls, and pipelines, and dredge spoils disposal. New subdivisions or development projects which could result in one or more additional dwelling units within a potential tsunami run-up area shall require submission of a tsunami vulnerability report which provides a site-specific prediction of tsunami run-up elevation resultant from a local Cascadia subduction zone major earthquake.

4.5.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to geology and soils. The following questions are from CEQA Guidelines' Appendix G Environmental Checklist Section VI. Would the project:

- a. Expose people or structures to 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 substantial evidence of a known fault?*
 - Location of project crossing a mapped Alquist-Priolo Fault Zone or other known fault.
 - ii. *strong seismic ground shaking?*
 - Construction not in conformance with requirements of applicable building code(s) and geotechnical design practice.
 - iii. *seismic-related ground failure, including liquefaction?*
 - Non-compliance with recommendations of project-specific geotechnical report.
 - iv. *Landslides?*
 - Location of project coincides with known landslide hazards shown on available published geologic hazard maps.
- b. Result in substantial soil erosion or the loss of topsoil?
 - Non-compliance with SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ).
- c. Be located on a geologic unit or soil that is unstable, or that would become unstable and potentially result in on or offsite landslides, lateral spreading, subsidence, liquefaction or collapse?
- d. Non-compliance with SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ)?
 - Non-compliance with requirements of applicable building code(s).
 - Non-compliance with recommendations of project-specific geotechnical report.
- e. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

- Non-compliance with recommendations of project-specific geotechnical report.
 - Non-compliance with requirements of applicable building code(s).
 - Non-compliance with recommendations of project-specific geotechnical report.
- f. 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?
- Installation of septic systems or wastewater disposal systems in unsuitable soils.

4.5.4 Methodology

Geotechnical reports for this project and other projects on the Samoa Peninsula, as well as published geologic maps and reports, were reviewed to develop the conclusions presented herein. Evaluation of the potential impacts are based on information obtained from available literature, state policies regarding geologic hazards (surface fault rupture), State and local maps showing tsunami inundation potential, Humboldt County policies and codes, and field visits.

In accordance with CEQA, the effects of a project are evaluated to determine if they would result in a significant adverse impact on the environment. Geology and soil impacts are analyzed below according to topic. Mitigation measures directly correspond with an identified impact. As there are no perceived differences between potential geologic impacts relative to the “short-term” and “long-term” phases, they are discussed together in the following section.

4.5.5 Impact Analysis

Impact GEO-1: Would the project expose people or structures to potential substantial adverse effects involving 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?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VI.a.i) identified in Section 4.5.3.

The project site is not within an Alquist-Priolo Earthquake Fault Zone. Therefore, there would be **no impact** from exposure to rupture of a known earthquake fault delineated on the Alquist-Priolo Earthquake Fault Zoning Map.

Significance *No Impact*

Mitigation **None Required**

Impact GEO-2: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving strong seismic ground shaking?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VI.a.ii) identified in Section 4.5.3.

Strong seismic shaking may have an impact on project improvements, as the project area is located in a seismically active area with several faults, capable of producing moderate to large earthquakes, within 10 miles of the project site. Strong seismic ground shaking is more likely to impact above-grade facilities

associated with the project improvements to the Approved Samoa WWTF. The project's buried PVC pipelines are less likely to be impacted by strong ground shaking, although pipeline joints may be stressed under strong, long-duration shaking conditions. Therefore, the project's impact from exposure to strong seismic ground shaking would be **significant**.

Significance

Significant

Mitigation

GEO-2: Reduce Geologic Hazards through Design and Construction Measures

The PCSD shall design and construct the project in conformance with the specific recommendations contained in the geotechnical report prepared for the project. Specifically, the design and construction shall be consistent with the geotechnical recommendations for seismic design and liquefiable soils, which may include flexible joints for underground utilities, preventing flotation of pipelines, earthwork, and excavation. Professional inspection of the pipe installation and any foundations shall be performed during construction to ensure compliance with the recommendations.

After Mitigation

Less than Significant with Mitigation

Implementation of Mitigation Measure GEO-2, Reduce Geologic Hazards through Design and Construction Measures, would reduce significant impacts from strong seismic ground shaking to a less-than-significant level by implementing design and construction measures identified in the site-specific geotechnical study.

Impact GEO-3:

Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death, involving seismic-related ground failure, including liquefaction?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VI.a.iii) identified in Section 4.5.3.

The Humboldt County GIS Hazard maps identify the project area as being potentially susceptible to liquefaction hazards. The project area is underlain by geologically youthful and unconsolidated clean sands and loose- to medium-dense sands extending to depths of about 15 feet. The lower part of this section of loose Holocene age sand is typically below the water table, which may rise seasonally to within a few feet of the ground surface. When saturated, such soils are predisposed to liquefaction and other related soil behavior. There are historic accounts of liquefaction-related effects on the Samoa Peninsula during previous earthquakes. For the subject project, liquefaction may affect the bearing capacity of subgrade soils beneath above-ground facilities (WWTF and individual pump stations). Project facilities would be subject to liquefaction during an earthquake. The impact from exposure to liquefaction would be **significant**.

Significance

Significant

Mitigation **GEO-2: Reduce Geologic Hazards through Design and Construction Measures**

Refer to Impact GEO-2 above for the full text of Mitigation Measure GEO-2: Reduce Geologic Hazards through Design and Construction Measures.

After Mitigation *Less than Significant with Mitigation*

Implementation of Mitigation Measure GEO-2, Reduce Geologic Hazards through Design and Construction Measures, would reduce significant impacts from seismic-related ground failure to a less-than-significant level by implementing design and construction measures identified in the site-specific geotechnical study.

Impact GEO-4: **Would the project expose people or structures to potential substantial adverse effects involving landslides?**

This impact analysis addresses CEQA Guidelines Appendix G checklist item VI.a.iv) identified in Section 4.5.3.

The Samoa Peninsula is a sand-covered Peninsula associated with minimal topographic relief. The project area is not associated with significant slopes that are subject to landslides. Therefore, there would be **no impact**.

Significance *No Impact*

Mitigation **None Required**

Impact GEO-5: **Would the project result in substantial soil erosion or the loss of topsoil?**

This impact analysis addresses CEQA Guidelines Appendix G checklist item VI.b) identified in Section 4.5.3.

The project area is underlain by loose dune sand with a high erosion potential. However, the project area is relatively flat, so the potential for the project improvements to generate erosion, even in loose dune sands, is relatively low. In addition, the improvements to the Approved Samoa WWTF would be isolated to an already developed site that would retain stormwater, and any potential sediment or flows that could cause erosion, on site. The pipeline improvements would be installed beneath flat paved roadways. These underground facilities would not cause erosion. Therefore, the project’s impact on soil erosion would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact GEO-6: Would the project 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?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VI.c) identified in Section 4.5.3.

As discussed above, the project site is located on a low gradient, sand-covered coastal peninsula. Although liquefaction is a potential hazard during strong seismic shaking (see discussion in Impact GEO-3, above), the area is not subject to “unstable” soils that would be impacted by the project. Nor would the project alter soil conditions such that previously “stable” soils become “unstable.” Neither construction nor operation include strong vibration activities, such as pile driving, which would result in liquefaction or subsidence. As noted under Impact GEO-4, the site is flat and not subject to landslides.

The impact associated with the project relative to unstable soils in the project area would be **less than significant**.

Significance *Less Than Significant*

Mitigation **None Required**

Impact GEO-7: Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VI.d) identified in Section 4.5.3.

The project site is underlain by sandy soils that are not associated with the potential for soil expansion. Geotechnical testing of soils from the Samoa Peninsula have not identified soils subject to potential expansivity. Therefore, there would be **no impact**.

Significance *No Impact*

Mitigation **None Required**

Impact GEO-8: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VI.e) identified in Section 4.5.3.

The project does not involve the use of septic tanks. The project would develop a wastewater collection and treatment system so that existing septic systems, that are currently located in soils incapable of adequately supporting the septic tanks, on the Samoa Peninsula can be removed. The existing onsite sewage disposal systems are problematic on the peninsula, due to the highly permeable nature of the surficial dune sands and the high levels of tidally-influenced

groundwater. The project would be beneficial to the soils and water quality at the location of the existing septic systems, and therefore the project would have **no impact** from the addition of new septic tanks as the project does not include the installation of new septic tanks.

Significance *No Impact*

Mitigation **None Required**

4.5.6 Cumulative Impacts

Impact C-GEO-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact related to geology and soils?

The nature of geologic hazards is site-specific, and, therefore, geologic hazards do not accumulate as impacts on resources do, as indicated in other sections of this EIR. Construction would be consistent with current standards for seismic and geologic hazards. No cumulatively considerable impact would occur.

Significance *No Impact*

Mitigation **None Required**

4.5.7 References

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Humboldt County. 2018. Humboldt County Web GIS. Website: <http://webgis.co.humboldt.ca.us/HCEGIS2.0/>. Accessed September 24, 2018.

Humboldt County. 2014. Humboldt County General Plan Volume II, Humboldt Bay Area Plan of the Humboldt County Local Coastal Program. December.

Leroy, T. H. 2000. Holocene Sand Dune Stratigraphy and Paleoseismicity of the North and South Spits of Humboldt Bay, Northern California. (M.S. Thesis). Arcata, CA:HSU.

SHN. 2018. Geologic Hazard Evaluation and Soils Engineering Report, Samoa Peninsula Wastewater Project. June 14.

Youd, T.L., and S.N. Hoose. 1978. Geological Survey Professional Paper Number 993: Historic Ground Failures in Northern California Triggered by Earthquakes. Washington, D.C.: United States Government Printing Office.

4.6 Greenhouse Gas Emissions

This section evaluates potential environmental impacts related to greenhouse gas (GHG) emissions during construction and operation of the project. In addition to the analysis provided in this section, the following subjects are related to GHG impacts, but are evaluated in other sections of this EIR:

- Potential impacts to air quality are addressed in Section 3.2, Air Quality.
- Potential energy implications are addressed in Chapter 5.0, Other CEQA-required Sections.

4.6.1 Existing Setting

Gases that trap heat in the atmosphere are referred to as GHGs because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse. The accumulation of GHG has been implicated as the driving force for global climate change. The primary GHG are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone (O₃), and water vapor (H₂O).

While GHGs in the atmosphere are naturally occurring, the emission rate of CO₂, CH₄ and N₂O has been accelerated by human activities. Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with such activities as agricultural practices and landfills. Other GHGs include hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride, which are generated during certain industrial processes. GHGs are typically reported in “carbon-dioxide-equivalent” measures (CO₂e) as each GHG has a different global warming potential.

Potential climate change impacts in California may include, but are not limited to, a decrease in snowpack; sea level rise; and a greater number of extreme heat days per year, high ozone days, large forest fires, and drought years. Secondary effects are likely to include impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity (ARB 2014).

The Environmental Protection Agency (EPA) reports U.S. GHG emissions for 2016 as 6,511 million metric tons of CO₂e (MMT CO₂e). Electricity production and the transportation sectors each contributed approximately 28 percent of national GHG emissions, followed by the industrial sector at approximately 22 percent. Commercial and residential fuel use and the agricultural sector accounted for the remaining 20 percent (U.S. EPA 2018).

The California Air Resources Board (ARB) estimated that in 2016 California produced about 429.4 MMT CO₂e. The transportation sector was the highest source at 41 percent of the State’s total GHGs, followed by the industrial sector at 23 percent, and electricity generation (both in-state and out-of-state) at 16 percent. Commercial and residential fuel use, recycling and waste, high global warming potential, and agricultural sectors accounted for the remaining 20 percent of the State’s total GHG emissions (ARB 2018).

In 2008, the Redwood Coast Energy Authority (RCEA) prepared a 1990 greenhouse gas inventory for Humboldt County. The estimated 1990 for the county was 1,821,532 MT CO₂e. Additionally, the estimated 2005 emissions were 1,336,333 MT CO₂e. In 2017, RCEA released an updated greenhouse gas inventory for unincorporated Humboldt County, which revised the 2005 inventory down to 1,145,324 MT CO₂e (Humboldt County 2017).

4.6.2 Regulatory Framework

Federal

The U.S. Environmental Protection Agency (EPA) is the federal agency responsible for implementing the Clean Air Act (CAA). The U.S. Supreme Court ruled on April 2, 2007, that carbon dioxide is an air pollutant as defined under the CAA, and that EPA has the authority to regulate emissions of GHGs. In response to the mounting issue of climate change, EPA has taken actions to regulate, monitor, and potentially reduce GHG emissions. Actions include a national program to reduce GHG emissions and improve fuel economy for all new cars and trucks sold in the United States. However, there are no federal plans, policies, regulations, or laws related to GHGs that are directly applicable to the project.

Council on Environmental Quality

On February 18, 2010, the Council on Environmental Quality (CEQ) provided a draft guidance memorandum for public consideration and comment on the ways in which federal agencies can improve their consideration of the effects of greenhouse gas emissions and climate change in evaluations of proposals for federal actions under the National Environmental Policy Act (NEPA) (CEQ 2010). The CEQ updated that draft in 2014, and provided a final guidance on August 2, 2016 (CEQ 2016). The CEQ then withdrew their final guidance on consideration of greenhouse gas emissions on April 5, 2017 (Federal Register 2017).

The CEQ's 2010 draft guidance proposed to advise federal agencies to consider, in scoping their NEPA analyses, whether analysis of the direct and indirect greenhouse gas emissions from their proposed actions may provide meaningful information to decision makers and the public. Specifically, if a proposed action would be reasonably anticipated to cause direct emissions of 25,000 MT CO₂e or more emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public. For long-term actions that have annual direct emissions of less than 25,000 MT CO₂e, CEQ encouraged federal agencies to consider whether the action's long-term emissions should receive similar analysis. CEQ did not propose this as an indicator of a threshold of significant effects, but rather as an indicator of a minimum level of greenhouse gas emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of greenhouse gases. The CEQ removed the direct emissions criteria from the 2016 final guidance, which contains no numeric recommendations. For comparison, the EPA's Greenhouse Gas Reporting Program requires mandatory reporting for 'large' industrial sources of GHG to report GHG data, and defines large industrial sources as those that emit more than 25,000 MT CO₂e per year.

State

Executive Order S-3-05

In 2005, the Governor of California signed Executive Order (EO) S-3-05, which established GHG emission reduction targets to reduce emissions as follows:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80 percent below 1990 levels

The Secretary of the California Environmental Protection Agency (Cal/EPA) was designated to coordinate oversight of the multi-agency efforts made to meet the targets.

The Cal/EPA Secretary must also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the Secretary of Cal/EPA created the California Climate Action Team (CAT), made up of members from various State agencies and commissions. The team released its first CAT Report in March 2006, with its most recent S-3-05-mandated CAT Report released in 2010. The report proposes to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

Executive Order B-30-15

On April 29, 2015, California Governor Jerry Brown announced E.O. B-30-15, which contains the following GHG emissions target:

- By 2030, California shall reduce GHG emissions to 40 percent below 1990 levels

The emission reduction target of 40 percent below 1990 levels by 2030 is an interim-year goal to provide substantial progress toward the ultimate goal of reducing emissions by 80 percent below 1990 levels by 2050.

Assembly Bill 32, California Global Warming Solutions Act of 2006

In 2006, the Governor of California signed the Global Warming Solutions Act of 2006 (Assembly Bill 32), committing the State of California to reducing GHG emissions to 1990 levels by 2020. The statute requires the ARB to track emissions through mandatory reporting, determine the 1990 emission levels, set annual emissions limits that will result in meeting the 2020 target, and design and implement regulations and other feasible and cost effective measures to ensure that statewide GHG emissions will be reduced to 1990 levels by 2020. In December 2007, the ARB approved the 2020 emissions limit at 427 MMT CO₂e. The Intergovernmental Panel on Climate Change (IPCC), which assesses scientific, technical, and socioeconomic information relevant to the understanding of climate change, has since revised the global warming potential of GHGs. Therefore, ARB recalculated the 2020 emissions limit as 431 MMT CO₂e. Projected business-as-usual emissions for 2020 are 509 MMT CO₂e. A reduction of 78 MMT CO₂e is needed to meet the goal (ARB 2014).

Senate Bill 32 and Assembly Bill 197

Senate Bill (SB) 32, passed in 2016, extended the goals of AB 32 and codifies the GHG reduction target of 40 percent below 1990 levels by year 2030, consistent with EO B-30-15. The companion bill to SB 32, AB 197 provides additional direction to ARB for developing the Updated Scoping Plan.

Renewables Portfolio Standard

California's Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020. The 33 percent standard is consistent with the RPS goal established in the Scoping Plan. The passage of Senate Bill 350 in 2015 updates the RPS to require the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to increase to 50 percent by December 31, 2030. The bill would make other revisions to the RPS program and to certain other requirements on public utilities and publicly owned electric utilities.

Climate Change Scoping Plan

In December 2008, pursuant to AB 32, the ARB adopted the Climate Change Scoping Plan (Scoping Plan), which outlined measures to attain the 2020 GHG emissions limit. The Scoping Plan estimated that implementation of identified measures would result in a reduction of 105.3 MMT CO₂e from various sectors including transportation, energy, forestry, and high global warming potential gas sectors (originally reported as 174 MMT CO₂e, but updated to 105.3 MMT CO₂e in the Status of Scoping Plan Recommended Measures [ARB 2012]). This is 24 percent more than is needed to meet the 2020 mandate.

The CARB has updated the Scoping Plan twice, approving the First Update to the Climate Change Scoping Plan (Updated Scoping Plan) in May 2014, and the 2017 Scoping Plan in December 2017.

The 2017 Scoping Plan identifies progress made to meet the near-term (2020) objectives of AB 32 and defines California's climate change priorities and activities for the next several years (ARB 2017). The 2017 Scoping Plan identifies the 2020 emissions limit as 431 MMT CO₂e and the 2020 business-as-usual forecast as 509 MMT CO₂e. The 2017 Climate Change Scoping Plan provides strategies for meeting the mid-term 2030 greenhouse gas reduction target set by SB 32. The plan also identifies how the State can substantially advance toward the 2050 greenhouse gas reduction target of Executive Order S-3-05, which consists of reducing greenhouse gas emissions to 80 percent below 1990 levels. The recommendations cover the key sectors, including: energy and industry; transportation; natural and working lands; waste management; and water. The recommended measures in the 2017 Scoping Plan are broad policy and regulatory initiatives that will be implemented at the State level and do not relate to the construction and operation of individual projects.

The initial Scoping Plan recommended that local governments achieve a 15-percent reduction below 2005 levels by 2020, which aligns with the State's goal of not exceeding 1990 emissions levels by 2020. However, the 2017 Scoping Plan does not contain a recommended reduction level or percent for local government's municipal operations. The 2017 Scoping Plan contain "potential additional or supporting action" for the wastewater sector; however, those measures are applicable to the wastewater utility districts, recommending adoption of specific energy goals, development of renewable energy, and incentivizing methane capture systems. Specifically, the 2017 Scoping Plan provides the following potential additional or supporting actions:

- Where technically feasible and cost-effective, local water and wastewater utilities should adopt a long-term goal to reduce GHGs by 80 percent below 1990 levels by 2050 (consistent with DWR's Climate Action Plan), and thereafter move toward low carbon or net-zero carbon water management systems.
- Local water and wastewater utilities should develop distributed renewable energy where feasible, using the expanded Local Government Renewable Energy Bill Credit (RES-BCT) tariff and new Net Energy Metering (which allow for installation without system size limit).
- In support of the Short-Lived Climate Pollutant Strategy, encourage resource recovering wastewater treatment projects to help achieve the goal of reducing fugitive methane by 40 percent by 2030, to include:
 - Determining opportunities to support co-digestion of food-related waste streams at wastewater treatment plants.
 - Incentivizing methane capture systems at wastewater treatment plants to produce renewable electricity, transportation fuel, or pipeline biomethane.

Regional and Local

North Coast Unified Air Quality Management District

The North Coast Unified Air Quality Management District (NCUAQMD) is a regional environmental regulatory agency with jurisdiction over Humboldt County. The NCUAQMD enforces local, state and federal air quality regulations and air quality permits.

The NCUAQMD has not developed CEQA guidelines or significance thresholds for use in GHG analyses. However, NCUAQMD Rule 111 (Federal Permitting Requirements for Sources of Greenhouse Gases) was adopted in 2011 to regulate GHG emissions from stationary sources. A new stationary source subject to this rule must be permitted and must implement Best Available Control Technology for greenhouse gas emissions.

Humboldt County General Plan

None of the policies from the Humboldt County General Plan are applicable to the project with regard to greenhouse gases. General Plan policy AQ-P11, Review of Projects for Greenhouse Gas Emission Reductions, applies to, “new large scale residential, commercial and industrial projects.”

Humboldt County Draft Climate Action Plan and GHG Emission Reduction Targets

In January 2012, Humboldt County prepared a Draft Climate Action Plan (CAP) to reduce GHG emissions in the unincorporated County, which also relied upon the 2008 RCEA emissions inventory. The target set forth in the 2012 Draft CAP is to reduce county emissions to 1990 levels by 2020, consistent with AB 32. The 2012 Draft CAP also set an additional target to achieve no net increase of CO₂ emissions compared to business as usual emissions from the 1984 General Plan for new residential development within the County by the year 2025. To be compliant with SB 32, the draft CAP will need to be revised to include targets for 2030 and to update the calculation of the 1990 GHG Community Emissions inventory in accordance with the current methodology. The County is in-process of updating the CAP.

4.6.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to greenhouse gases. The following questions are from CEQA Guidelines' Appendix G Environmental Checklist Section VII. Would the project:

- a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
 - Generate more than 25,000 MT CO₂e per year.
- b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
 - Conflict with the 2017 Scoping Plan.

4.6.4 Methodology

There is currently no applicable federal, State, or local significance thresholds pertaining to construction activities. Therefore, the analysis of construction-related GHG emissions uses a qualitative approach in accordance with Section 15064.4(a)(2) of the CEQA Guidelines.

Additionally, there is currently no applicable federal, State, or local adopted significance thresholds for operational activities. Therefore, for the purposes of analyzing the proposed project, Humboldt County will apply the CEQ's draft guidance, as discussed in Section 4.6.2. For operation, per CEQ's draft guidance, a new project would be considered a "major source" of greenhouse gases if it has the potential to emit greenhouse gas emissions greater than or equal to 25,000 tons CO₂e per year (CEQ 2010). California Emissions Estimator Model (CalEEMod) version 2016.3.2 was used to estimate greenhouse gas emissions from project operation (see Appendix D). Operational emissions were estimated using the land use types and amounts identified in Section 3, Project Description, and the solids hauling trip generation rate and trip distance, and energy consumption estimates. Those parameters are summarized below:

- 4 haul trips per year at 162 miles 1-way
- 52,595 kilowatt hours per year (kWh/year) at year 2021 (Short-Term Phase)
- 99,090 kWh/year at year 2030 (Short-Term Phase + Long-Term Phase)

The model's construction phase was used to estimate greenhouse gas emissions from handling of dried solids by a backhoe. Emissions modeling included testing of the project's four emergency backup generators. It is assumed that each generator would be a 500 horsepower diesel generator and operate a maximum of 60 minutes per day on when it is tested, for no more than 50 hours per year.

CalEEMod's default energy intensity for energy generated by PG&E is based on PG&E's reporting for year 2008. Therefore, the energy intensity factors were updated to reflect the 5-year average of PG&E's reporting between 2012-2018 (Climate Registry 2018).

- Carbon dioxide: 401.00 pound per megawatt hour (lb/MWh)
- Methane: 0.029 lb/MWh
- Nitrous oxide: 0.00617 lb/MWh

For determining a conflict with an applicable plan, the project is evaluated for its compliance with the State's 2017 Climate Change Scoping Plan (the implementing tool of AB 32) as a plan adopted for the purpose of reducing GHG emissions. There are no county-level plans that have been adopted for the purpose of reducing GHG emissions.

GHG emissions, by their nature, represent a cumulative impact. No single project could generate enough greenhouse gas emissions to noticeably change the global average temperature. Instead, GHG emissions contribute, on a cumulative basis, to the significant adverse environmental impacts of global climate change. Therefore, the project analysis is discussed in the context of the cumulative impact.

4.6.5 Impact Analysis

Impact GHG-1: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VII.a) identified in Section 4.6.3.

Construction

Project construction activities would result in a temporary increase in greenhouse gas emissions, including exhaust emissions from on-road haul trucks, worker commute vehicles, and off-road heavy duty equipment. 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 utility or infrastructure projects. Therefore, the project's construction-related emissions would be **less than significant**.

Operation

Operational or long-term emissions would occur annually over the life of the project. The project's operational emissions in years 2021 (Short-Term phase) and 2030 (Long-Term phase) are shown in Table 4.6-1 and Table 4.6-2, respectively. The project would generate approximately 54 MT CO₂e per year in 2021 and 67 MT CO₂e per year in 2030, which is less than the significance threshold of 25,000 MT CO₂e. Therefore, the project's operational emissions would be **less than significant**.

Table 4.6-1 Operational Greenhouse Gas Emissions 2021 (Short-Term Phase)

Parameter	Emissions per Year (MT CO ₂ e)
Solids Handling and Hauling	1.6
Energy	9.6
Mobile	1.9
Stationary Equipment	38.2
Wastewater Processing	2.5
Total Operation 2021	53.9
Threshold Applied	25,000
Significant Impact?	No

Table 4.6-2 Operational Greenhouse Gas Emissions 2030 (Long-Term Phase)

Parameter	Emissions per Year (MT CO ₂ e)
Solids Handling and Hauling	1.6
Energy	18.1
Mobile	1.4
Stationary Equipment	38.2
Wastewater Processing	7.5
Total Operation 2030	66.9
Threshold Applied	25,000
Significant Impact?	No

Summary

Project construction would be temporary and limited in nature and, therefore, would be **less than significant**. Project operations would not exceed the threshold of significance applied; therefore, project operations would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact GHG-2: **Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

This impact analysis addresses CEQA Guidelines Appendix G checklist item VII.b) identified in Section 4.6.3.

The Project is not located within a jurisdiction covered by an applicable, or “qualified”, Climate Action Plan or other qualified greenhouse gas reduction strategy.

The 2017 Scoping Plan identifies progress made to meet the near-term (2020) objectives of AB 32 and defines California’s climate change priorities and activities for the next several years (ARB 2017). The plan also identifies how the State can substantially advance toward the 2050 greenhouse gas reduction target of Executive Order S-3-05, which consists of reducing greenhouse gas emissions to 80 percent below 1990 levels. The recommendations cover the key sectors, including: energy and industry; transportation; natural and working lands; waste management; and water. The recommended measures in the 2017 Scoping Plan are broad policy and regulatory initiatives that will be implemented

at the State level and do not relate to the construction and operation of individual projects. Therefore, the Project would not conflict with this statewide policy document. The Project would result in **no impact**.

Significance *No Impact*

Mitigation **None Required**

4.6.6 Cumulative Impacts

Impact GHG-C-1: Would the project result in a cumulatively considerable contribution to a cumulative impact related to greenhouse gases?

Greenhouse gas impacts are cumulative in nature. The Project's cumulative contribution to greenhouse gas impacts is addressed in Impact GHG-1. As identified in Impact GHG-1, the Project would not exceed the CEQ's draft recommended threshold of significance for greenhouse gas emissions. The project's contribution to the cumulative impact would not be considerable.

Significance *Less than Cumulatively Considerable (Less than Significant)*

Mitigation **None Required**

4.6.7 References

- California Air Resources Board (ARB). 2014. 2020 BAU Emissions by Scoping Plan Categories. [(Mid Case) Forecast for Updated Scoping Plan – MMTCO₂e (AR4)]. Website: <https://www.arb.ca.gov/cc/inventory/data/bau.htm>. Accessed October 30, 2018.
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- Council on Environmental Quality (CEQ). 2010. Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. February 18.
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- Humboldt County. 2017. Humboldt county General Plan Update Revised Draft Environmental Impact Report. April 19.
- U.S. EPA. 2018. Inventory of U.S. Greenhouse Gas Emissions and Sinks. Website: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>. Accessed October 23, 2018.

4.7 Hazards and Hazardous Materials

This section evaluates potential environmental impacts related to hazards and hazardous materials during construction and operation of the project. In addition to the analysis provided in this section, the following subjects are related to hazards and hazardous materials, but are evaluated in other sections of this EIR:

- Potential impacts to sensitive receptors from vehicle emissions are evaluated in Section 4.2 (Air Quality)
- Potential impacts to emergency access are evaluated in Section 4.13 (Transportation)

4.7.1 Setting

Hazardous materials are a wide-ranging category of substances that include toxic substances, flammable or explosive materials, corrosive substances such as acids, and radioactive substances. A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. Facts that influence the health effects of exposure to hazardous material include the dose to which the person is exposed, the frequency of the exposure, the exposure pathway, and individual susceptibility.

The California Code of Regulations (CCR) defines a hazardous material as a substance that, because of physical or chemical properties, quantity, concentration, or other characteristics, may either: (1) cause an increase in mortality or an increase in serious, irreversible, or incapacitating illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed (CCR, Title 22, Division 4.5, Chapter 10, Article 2, Section 66260.10). Hazardous wastes refer to hazardous materials that are no longer used and have been disposed of or are awaiting disposal.

Emergencies involving hazardous materials often occur due to mechanical failure or human error. These types of emergencies also sometimes occur as a secondary impact of another emergency, such as an earthquake or flood. Hazardous material releases can occur from buildings such as factories and processing facilities, as well as from vehicles that transport chemicals or other hazardous substances. Road vehicles, trains, and (more rarely) aircraft can all suffer accidents that cause a release of hazardous materials.

Hazardous Materials Corridor Study

A Hazardous Materials Corridor Study, included as Appendix G, was prepared for the project site (SHN 2018). A hazardous materials corridor study was completed in general conformance with the ASTM-International (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E1527-13. Interviews were not conducted with current or past property owners, tenants, or occupants of the properties located within the project alignment; a deviation from the ASTM standard.

The corridor study included reviewing government records for properties within one-eighth (1/8) of a mile (660 feet) of the project alignment boundaries that may have potential for environmental concern during construction. The basis for the records review was a government database search conducted by Environmental Data Resources Inc. (EDR).

The EDR report identified sites that government regulatory agencies have reported as having environmental concerns, such as, releases of contaminants to the soil and/or groundwater, underground storage tanks (USTs), or use of hazardous materials. SHN further researched listed sites that have the potential to affect the project by reviewing available records on the CalEPA Cortese List (including the SWRCB Geotracker website) and interviews of HCDEH staff (SHN 2018).

During the course of the corridor study, SHN conducted a field reconnaissance within the project alignment and private properties where access was granted to determine if potential sites of concern existed which were not listed in the EDR report. The project alignment reconnaissance was also performed to verify the locations of listed sites. Aerial photographs from 1941 to 2016 were provided by EDR and reviewed during the completion of this corridor study.

Based on the data available, each of the sites that could potentially impact the project has been assigned a hazard rank; hazard ranks are defined as follows:

Hazard Rank 1: A site that will likely affect project construction. Contamination of soil and/or groundwater is confirmed to be within the project alignment.

Hazard Rank 2: A site with the potential to affect the project, either because of the presence of contamination that may likely migrate into the project area or because the extent of contamination is unknown.

Hazard Rank 3: A site that is not known to be contaminated, but due to current or historical use could possibly have contamination that could affect project construction.

Hazard Rank 4: A site that has little or no potential to affect the project.

The corridor study identified seven sites within, or adjacent to, the project site that have the potential to have contaminants of concern (COCs) which may affect project construction. Three of the seven were listed on the State Water Resources Control Board (SWRCB) Geotracker website. Review of the publically available information for the three Geotracker listed properties document soil and groundwater impacts from historical activities (mill operations, industrial land uses, and areas of fill materials of unknown origins) and petroleum hydrocarbon releases from leaking USTs. Of the three Geotracker listed sites, two were found to be open cases under remediation, both of which are adjacent to the project site along Vance Avenue and Bendixsen Street. The third site (Fairhaven Fire Protection District), adjacent to the project site, has received regulatory closure. Although the Fairhaven Fire Protection District site is considered closed, the possibility exists that COCs previously identified at this site may extend past the property boundary.

Four of the seven properties were not identified on the Cortese List; the Samoa Pacific Group property, the area formerly occupied by the Hammond Lumber Railroad, the Eureka Municipal Airport, and New Navy Base Road. However, due to historical land uses, there is the potential for soil and groundwater on these properties or roadway to be impacted by pentachlorophenol (PCP), semi-volatile organic compounds (SVOCs), dioxins/furans, polychlorinated biphenyls (PCBs), petroleum hydrocarbons, metals, and aerially deposited lead (ADL) which may have the potential to affect project construction.

The location of all seven properties are identified in Appendix G, Hazardous Materials Corridor Study, of this EIR. Table 4.7-1, below, describes a brief site history and COCs for each of the seven properties.

Table 4.7-1 Overview of Contamination History

Site Name	Contaminants of Concern	Details of Contamination, Media, Extent, Concentrations, etc.	Groundwater Depth/ Direction	Hazard Rank
Samoa Pacific Group (within Project site)	Petroleum hydrocarbons, metals, dioxins/furans, and SVOCs	Historical aerial photographs of property show numerous log decks present in northern portion of the Approved Samoa WWTF site. Pentachlorophenol (PCP) and dioxins/furans were detected in soil and groundwater samples collected from the adjacent mill property, currently the location of the Redwood Marine Terminal II (RMT-II). Given that COCs were identified in soil and groundwater at the adjacent mill property, there is potential that lumber stored on northern portion of Approved Samoa WWTF was treated. Therefore, there is potential for PCP in soil and groundwater to be present in northern portion of Approved Samoa WWTF location.	Unknown	3
Humboldt Bay Harbor Recreation and Conservation District Redwood Marine Terminal II (adjacent to Project site along Vance)	Dioxins and furans, metals, pH, chlorinated solvents	Corridor area extends into former Evergreen Pulp Incorporated pulp mill (Case No. 1NHU892), which is an open case with North Coast Regional Water Quality Control Board (NCRWQCB), and former LP Samoa Solid Waste Disposal Site (Facility ID # 1B73061OHUM). In corridor area, there is a potential to encounter low concentrations of dioxins/furans, metals, and spent pulping liquors in soil and groundwater, and potential landfill waste in soil.	Approximately less than 1 foot below ground surface (bgs) in winter (highest recorded) in an east-southeasterly direction.	1
Former Hammond Lumber Railroad (within Project site)	Petroleum hydrocarbons, metals, pesticides, herbicides, and SVOCs	Railroad rights-of-ways have typically been found to contain heavy metals, petroleum hydrocarbons, creosote, chlorinated compounds, pesticides and polychlorinated biphenyls (PCBs) in soil and/or groundwater. There is potential for soil and groundwater impacts in vicinity, and downgradient of former Hammond Lumber Railroad corridor which is included in project site.	Unknown	3
Fairhaven Business Park (adjacent to Project site along Bendixsen)	Diesel, petroleum hydrocarbons, BTEX, and SVOCs	LUST case recently opened. 10,000-gallon UST removed in April 2011. Laboratory analysis of soil and groundwater samples collected during UST excavation detected impacts to soil and groundwater. Initial subsurface investigation has not been completed. NCRWQCB approved workplan in April 2012.	Unknown-approximately to south based on topography	2

Site Name	Contaminants of Concern	Details of Contamination, Media, Extent, Concentrations, etc.	Groundwater Depth/ Direction	Hazard Rank
Fairhaven Fire Protection District (adjacent to Project site along Bendixsen)	Petroleum hydrocarbons	LUST case closed as of 8/15/2005. A Soil Management Plan is in place to manage residual soil and groundwater impacts. Based on information available in HCDEH file, soil and groundwater impacts do not appear to extend into the roadway right-of-way.	3.35 to 7.93 feet bgs in a southeasterly direction	2
Eureka Municipal Airport (within Project site)	Petroleum hydrocarbons and aerially deposited lead	Eureka Municipal Airport was constructed in the mid-1950s, Older airports have typically been found to contain heavy metals and petroleum hydrocarbons in soil and/or groundwater due to aerially deposited lead (ADL) and fuel storage. As such, there is potential for soil and groundwater impacts in the vicinity, and downgradient of Eureka Municipal Airport.	Unknown	3
New Navy Base Road (within Project site)	Aerially deposited lead	Project alignment is located within and immediately adjacent to New Navy Base Road which currently and historically has been used for vehicular traffic since its development in the late 1950s/early 1960s. Historically, elevated concentrations of lead have been documented adjacent to roadways with high traffic vehicular use. Due to the proximity of the project area to New Navy Base Road, ADL may have impacted soils in immediate vicinity of roadway.	Unknown	3

Wildfire Hazards

The State of California Department of Forestry and Fire Protection (CALFIRE) has been assessing the risk of wildfire in the State for decades. As a part of their assessment, CALFIRE's Fire and Resource Assessment Program (FRAP) was developed to assess potential wildfire hazards on a landscape level which can aid land management planners in determining appropriate strategies for fuels reduction and aid county and local officials in determining appropriate mitigation strategies for communities.

The FRAP mapping process has been incorporated into the Humboldt County General Plan (Humboldt County 2017), which shows that the western portion of the county, along the Pacific Coast in general, as having a mosaic of Fire Hazard Severity Zones (FHSZ) ranging from "Unzoned" to "Moderate" and "High" (CALFIRE 2017). For the Samoa Peninsula, the FHSZ are predominantly Moderate, with areas of High FHSZ clustered around concentrations of residential development. Portions of the peninsula that are near the coast and bay shorelines are designated as Unzoned.

The proposed project area is served by a variety of wildland and urban fire agencies including CALFIRE, Humboldt Bay Fire and the Samoa Peninsula Fire District, as well as other local area fire departments under mutual-aid services. The Samoa Peninsula Fire District is a volunteer fire service that has a station located in community of Fairhaven.

Airport Operations

Murray Field Airport is located approximately 3.8 miles east of the project site, and provides general aviation services. Murray Field Airport is an attended aviation operation and provides day and night operations with a lighted field.

Samoa Field Airport is located adjacent to the southern end of the proposed project (within approximately 0.5 mile). Formerly known as the Eureka Municipal Airport, Samoa Field Airport is a City of Eureka owned airport that is unattended, and provides day time use only but is closed at night.

Evacuation Routes

The Humboldt County Emergency Operations Plan does not list specific emergency response or evacuation routes (Humboldt County 2015).

4.7.2 Regulatory Framework

Federal

The primary federal agencies with responsibility for hazardous materials management include the U.S. Environmental Protection Agency (EPA), the Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Federal laws, regulations, and responsible agencies relevant to the project are summarized in Table 4.7-2.

Table 4.7-2 Federal Laws and Regulations Related to Hazardous Materials Management

Classification	Law or Responsible Federal Agency	Description
Hazardous Materials Management and Soil and Groundwater Contamination	Community Right-to-Know Act of 1986 (also known as Title III of the Superfund Amendments and Reauthorization Act [SARA])	Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
	California Environmental Protection Agency (CalEPA)	Oversees a program for hazardous materials and waste to ensure consistency throughout the State in regard to administrative requirements, permits, inspections, and enforcement. CalEPA certifies local government agencies known as Certified Unified Program Agencies (CUPA) to implement the hazardous waste and materials standards.
	Comprehensive Environmental Response, Compensation and Liability Act of 1980 (amended by SARA 1986 and Brownfields Amendments 2002)	Regulates the cleanup of sites contaminated by releases of hazardous substances.

Classification	Law or Responsible Federal Agency	Description
Hazardous Materials Transportation and Handling	U.S. Department of Transportation (DOT)	Has the regulatory responsibility for the safe transportation of hazardous materials. The DOT regulations govern all means of transportation except packages shipped by mail (49 Code of Federal Regulations [CFR]).
Petroleum Products	40 CFR Part 112	Spill Prevention Control and Countermeasures (SPCC) plan requirements for aggregate storage of 1,320 gallons or greater of petroleum products.
Occupational Safety	Occupational Safety and Health Act of 1970	Fed/OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR).
Structural and Building Components (Lead-based paint, polychlorinated biphenyls [PCBs], and asbestos)	Toxic Substances Control Act (TSCA)	Regulates the use and management of PCBs in electrical equipment, and sets forth detailed safeguards to be followed during the disposal of such items.
	EPA	The EPA monitors and regulates hazardous materials used in structural and building components and effects on human health.
Hazard Mitigation Planning	Stafford Act and Disaster Mitigation Act	Requires state, local, and tribal governments to develop and submit to the Federal Emergency Management Agency a mitigation plan that outlines processes for identifying natural hazards, risks, and vulnerabilities of the jurisdiction.

State, Regional, and Local

The primary state agencies with responsibility for hazardous materials management include the State Water Resources Control Board (SWRCB) and its regional entities, the Regional Water Quality Control Boards (RWQCBs), the Humboldt County Division of Environmental Health (HCDEH), the California Department of Toxic Substances Control (DTSC), and the California Division of Occupational Safety and Health (Cal/OSHA).

California Public Utilities Code

California's Public Utilities Code requires that each county with an airport that is operated for the benefit of the general public establish an Airport Land Use Commission (ALUC). Among its duties, the ALUC is responsible for ensuring the safe operation of new and existing airports within its jurisdiction. The ALUC prepares an airport land use plan to address safety and other planning issues (for example, noise, land use compatibility) associated with airports in the county. From a safety perspective, the plan establishes safety compatibility standards and sets limitations on building heights and other factors that may interfere with the safe operation of the airport or that may otherwise present an aviation hazard for the public.

Soil and Groundwater Contamination

The cleanup of sites contaminated by releases of hazardous substances is regulated primarily by the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), which was amended by the Superfund Amendment and Reauthorization Act of 1986 (SARA), the Brownfields Amendments (2002) and by similar state laws. Under CERCLA, the EPA has authority to seek the parties responsible for releasing hazardous substances and to ensure their cooperation in site remediation.

The State's Hazardous Waste and Substances Sites List (Cortese List, Government Code §65962.5) identifies sites with leaking underground fuel tanks, hazardous waste facilities subject to corrective actions, solid waste disposal facilities from which there is a known migration of hazardous waste, and other sites where environmental releases have occurred. Before a local agency accepts an application as complete for any development project, the applicant must certify whether or not the project site is on the Cortese List. Databases that provide information regarding the facilities or sites identified as meeting Cortese List requirements are managed by the DTSC and SWRCB. At sites where contamination is suspected or known to have occurred, the site owner is required to perform a site investigation and conduct site remediation, if necessary. There are two cleanup standards: one for residential and the other for commercial/industrial land uses. Standards are set for soil, groundwater, soil gas, and vapor intrusion of contaminants into buildings.

Hazardous Materials and Waste

The California Environmental Protection Agency (CalEPA) oversees a Unified Program for hazardous materials and waste to ensure consistency throughout the State in regard to administrative requirements, permits, inspections, and enforcement. CalEPA certifies local government agencies known as Certified Unified Program Agencies (CUPA) to implement the hazardous waste and materials standards. The Humboldt County Division of Environmental Health (HCDEH) is the local CUPA agency for the area of the proposed product. Dependent on the amounts and materials proposed for use at the Approved Samoa WWTF, the HCDEH may require a Hazardous Materials Business Plan for the facility.

Hazardous Materials Transportation

The State of California has adopted DOT regulations for the intrastate movement of hazardous materials. State regulations are contained in Title 26 of the CCR. In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state (26 CCR); furthermore, both regulatory programs apply in California. The two state agencies that have primary responsibility for enforcing federal and State regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans).

Petroleum Products

Aggregate storage of 1,320 gallons or more of petroleum products require compliance with the Spill Prevention Control and Countermeasures (SPCC) plan established in 40 CFR Part 112. SPCC Plan compliance is administered by the HCDEH CUPA.

Occupational Safety

Worker health and safety in California is regulated by Cal/OSHA. California standards for workers dealing with hazardous materials (including hazardous wastes) are contained in CCR Title 8. The DTSC and the State Department of Occupational Health and Safety are the agencies that are responsible for overseeing that appropriate measures are taken to protect workers from exposure to potential groundwater contaminants. At sites known or suspected to have soil or groundwater contamination, a site health and safety plan must be prepared. The health and safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

Emergency Management

California has developed an emergency response plan to coordinate emergency services provided by federal, State, and local government, and private agencies. Responding to hazardous materials incidents is a part of this plan. The plan is administered by the State Office of Emergency Services (OES), which coordinates the responses of other agencies such as local fire and police agencies, emergency medical providers, CHP, the California Department of Fish and Wildlife, and Caltrans.

Locally, Humboldt County has established the Humboldt Operational Area which identifies the Sheriff as Director of Emergency Services for the county. When needed, the OES supports the Sheriff in the organization, coordination and implementation of emergency services in the county. Emergency response needs in Humboldt County are varied, and can be required for earthquakes, flooding, and wildfires. The OES is responsible for maintaining the Humboldt County Emergency Operations Plan (EOP), which provides a framework for the Humboldt Operational Area agencies to respond to any emergency requiring multiagency participation and/or activation of the County Emergency Operations Center (Humboldt Count 2015). The OES also maintains specific hazard response plans for earthquake, flooding, tsunamis, coastal storms, and other events. These response plans are used to determine the most appropriate evacuation routes based on the nature and extent of the hazard. Pre-disaster evacuation route planning is addressed through a variety of efforts including the Federal Emergency Management Agency (FEMA) local Multi-Hazard Mitigation Plan (HMP) program, the seismic retrofit program for state bridges and overpasses, tsunami response planning, and the application of the CAL FIRE State Responsibility Area standards for emergency access. All hazard-specific and topic-specific contingency plans complement and build on the EOP.

The Humboldt Operational Area Hazard Mitigation Plan evaluates risks associated with natural hazards such as earthquake, flood, tsunami, and wildfire; it also provides goals, objectives and actions to reduce impacts from these hazards. In addition, the County Office of Emergency Services has prepared a draft Tsunami Emergency Response Plan that is used to guide emergency operations in the event of a tsunami. This draft plan has been modified several times in the last few years with information and experience gained from large tsunami events in other countries.

Humboldt County Aviation Department

In Humboldt County, the County Aviation Department is responsible for the management of airports for general aviation uses by the public; these include six airports, ranging in size from general

aviation to the California Redwood Coast-Humboldt County Airport that provides general aviation and commercial passenger air service.

4.7.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria summarized below are used to determine if the project would have a significant effect related to hazards. The following questions are from CEQA Guidelines' Appendix G Environmental Checklist Section VIII. Would the project:

- a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
 - Non-compliance with State or federal hazardous materials or waste regulations.
- 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?
 - Potential for improper transport, use, disposal, or accidental release of hazardous materials or wastes due to non-compliance with State or federal hazardous materials or waste regulations.
- c. Emit hazardous emissions or handle hazardous substances or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
 - Use, storage, or emission of acutely hazardous materials or waste within 0.25 mile of a school.
- d. Be located on a site which is included on a list of hazardous materials site compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?
 - Location of project on or adjacent to a site with presence or likely presence of hazardous substances or petroleum products.
- 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 a public use airport, would the project result in a safety hazard for people residing or working in the project area?
 - Location of project within an airport land use plan or within two miles of an airport and introduction of new or increased safety hazard.
- f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
 - Location of project within two miles of a private airport and introduction of new or increased safety hazard.

- g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
 - Location of project in areas that impair or interfere with adopted plan, including emergency access routes.
- h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
 - Location of project where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

4.7.4 Impact Analysis

Impact HAZ-1: Would the project create a significant hazard through the routine transport, use or disposal of hazardous materials, substances or waste or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VIII.a) and VIII.b) identified in Section 4.7.3.

Small amounts of hazardous materials would be used during the life of the Project and include 1) fuel and petroleum lubricants (gasoline, diesel, oils, grease) for construction and operations equipment uses, and 2) registered chemicals for use in the wastewater treatment plant operations. All hazardous materials are transported by approved haulers, or in original containers, that are approved for the storage and transport of the chemical. The HCDEH may require a Hazardous Materials Business Plan (HMBP) for the facility. The HMBP would document inventory of chemicals used at the WWTF and provide information on product locations, facility operations, and emergency response.

Petroleum Products

Future operations of the proposed improvements to the Approved Samoa WWTF would include the use of petroleum products for equipment fueling and maintenance and cleaning products. These petroleum products are used for onsite equipment and machinery. Fuel shall be brought to the site by a licensed fuel vendor in an approved fuel supply vehicle during construction activities and WWTF operation. The use and storage of these small quantities of fuels is not regulated by the EPA, or through corresponding county regulations as the proposed quantities are less than aggregate levels that would require compliance with the Spill Prevention Control and Countermeasures (SPCC) plan requirements of 40 CFR Part 112. Continued use of these materials at the site with the implementation of the proposed project is not anticipated to result in a significant release of hazardous materials to the environment.

Use of heavy equipment during construction (grading, building construction) would temporarily increase the use of fuels at the site and has the potential to accidentally release hazardous substances to the ground, such as fuel spillage or oil line breaks. Construction operations would fuel vehicles offsite, or would

be fueled onsite by mobile fuel vehicles that would then leave the site. No additional fuel storage is anticipated at the construction sites.

Accidental releases during construction are considered to have a low risk because they are of small volumes and low concentrations. The project contractor would be required to prepare a SPCC Plan for the construction activities and utilize standard construction controls and procedures to avoid and minimize the accidental releases of these hazardous substances. Activities shall include providing a spill control/containment kit onsite during construction operations. Standard construction practices would provide appropriate containment, cleanup, and/or remediation of accidental releases; this includes contacting local, state and federal agencies as is pertinent to the level of any spill and severity. The impact from use of these hazardous materials in accordance with applicable standards ensures that any exposure of the public to hazardous materials would be **less than significant**.

Chemicals

The proposed improvements to the Approved Samoa WWTF would disinfect effluent with UV lighting; therefore, chemicals for disinfection would not be used. Chemicals proposed for use as part of the proposed improvements to the Approved Samoa WWTF include cleaning products. The chemicals will be included in the required HMBP for the wastewater operations, with oversight from HCDEH. While the proposed project would increase the amount of chemicals used at the Approved WWTF, the use of standard regulatory controls and safety practices would reduce the potential for accidental releases. The potential hazard impact from the transport, use, and storage of hazardous materials would be **less than significant**.

Significance *Less Than Significant*

Mitigation **None Required**

Impact HAZ-2: **Would the project emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

This impact analysis addresses CEQA Guidelines Appendix G checklist item VIII.c) identified in Section 4.7.3.

The proposed project would have no impact to an existing or proposed school. The closest existing school is the Peninsula Union School located approximately 0.75 mile northeast of the northern extent of the proposed project. The proposed project would have **no impact**.

Significance *No Impact*

Mitigation **None Required**

Impact HAZ-3: **Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code**

Section 65965.5 and, as a result, would it create a significant hazard to the public or the environment?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VIII.d) identified in Section 4.7.3.

As noted in the Setting above, no parcels within the project site are included on a list of hazardous materials; however, the corridor study identified three listed sites adjacent to the project site that are under remediation and an additional four sites within the project boundary that could potentially have contaminated soils based on historical use.

Construction

Project construction requires excavating and filling. Soil and groundwater potentially impacted with COCs (petroleum and chlorinated hydrocarbons, SVOCs, pentachlorophenol [PCP], pesticides, herbicides, polychlorinated biphenyls [PCBs], metals, creosote, dioxins, and furans) may be encountered within portions of the project alignment in areas of sites with hazard ranks of one, two, or three. There is the potential for unknown types of fill that may contain buried wood and concrete waste from former lumber mills, petroleum plants, repair shops, foundries, and general industrial facilities.

Areas of the proposed project include a portion of a former lumber mill railroad and New Navy Base Road which has been used for vehicular traffic since the 1970s. Railroad rights-of-way in other areas of California have typically been found to contain heavy metals, petroleum hydrocarbons, creosote, chlorinated compounds, pesticides, and PCBs in soil and/or groundwater. As such, there is the potential for soil and groundwater impacts in the vicinity, and downgradient of former railroad corridor. Historically, elevated concentrations of lead have been documented adjacent to roadways with high traffic volume. Due to the proximity of the project area to New Navy Base Road, aerially deposited lead (ADL) may have impacted soils in the immediate vicinity of the roadway. Given that the project is located within and immediately adjacent to New Navy Base Road, there is the potential for ADL.

As summarized above, the project site is within, or adjacent to, areas of potential contamination that could be encountered during project construction. If contaminants were encountered, and not handled properly, project construction would result in a **significant** impact.

Operation

Long-Term Phase consists of an operational increase at the proposed improvements at the Approved Samoa WWTF associated with sewer service to infill development consistent with HBAP and zoning. Operation of the project would not include any earth-moving or earth-disturbing activity. Therefore, the operation of the project would result in **no impact**.

Significance

Significant

Mitigation**HAZ-3: Soil and Groundwater Management during Construction**

The PCSD shall prepare a construction Soil and Groundwater Management Plan (SGMP) prior to start of construction activities. The SGMP will include the following components:

1. **Soil Pre-characterization Workplan.** A work plan that identifies potential COCs for laboratory analysis, location, and number of borings necessary for pre-characterization and depths for sample collection. This work will be completed by professional engineer or geologist licensed in the state of California. Pre-characterization soil borings shall be conducted in areas that are within or adjacent to sites with hazard ranks of one, two, or three where soil will be disturbed or groundwater encountered by project construction activities. Surficial and depth-discrete samples shall be collected to the proposed depth of excavation. Fill materials may be encountered within or adjacent to sites with a hazard rank of 3 where historical activities and site reconnaissance suggest that areas within or adjacent to the project alignment were filled. Fill materials may include wood debris from treated lumber.
2. **Health and Safety Plan.** Data generated from the soil pre-characterization will be used to prepare a project-specific construction-period health and safety plan and identify areas where impacted soil and/or groundwater management for worker protection may be necessary.
3. **Field Screening Procedures.** Field screening procedures shall be identified in the SGMP and enacted during construction to identify potentially impacted soil in areas of the project alignment that are within or adjacent to sites with hazard ranks of one, two, or three. If impacted soil or groundwater is encountered during construction activities, follow-up measures (such as, soil and groundwater sample collection, laboratory analysis, stockpiling, impacted soil segregation, and manifested disposal) may be necessary.
4. **Follow-up Measures.** The SGMP will identify follow-up measures to be taken in the event impacted soil or groundwater is encountered during construction activities. The SGMP will identify each potential COC, stop-work actions if encountered, person(s) responsible for initiating follow-up measures, and notification, coordination, removal, and disposal processes (as appropriate). If impacted soil and groundwater is encountered during construction, appropriate measures for worker protection shall be implemented per the Health and Safety Plan.

*After Mitigation**Less Than Significant with Mitigation*

Implementation of Mitigation Measure HAZ-3 would identify locations where soil or groundwater contain COCs, reducing the potential release of, or exposure to, COCs during construction. If impacted soil and groundwater is encountered during construction, appropriate measures for worker protection shall be implemented per the Health and Safety Plan. Impacted soils encountered during construction activities shall be characterized and disposed

at a facility licensed to accept the material. Mitigation measure HAZ-3 reduces the project’s impact to less than significant.

Impact HAZ-4: Would the project be 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, and result in a safety hazard for people residing or working in the project area?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VIII.e) identified in Section 4.7.3.

Project facilities (collection, treatment, and disposal) are located within 0.5 mile of Samoa Field Airport, a City of Eureka owned airport. The Samoa Field Airport is unattended (has no staff), is for day time use only and is closed at night. Aircraft use of this field would be unaffected by the construction or operation of the project, as these activities are not proposed within the airport facilities.

Operations of the proposed improvements at the Approved Samoa WWTF could occasionally expose WWTF staff to potential hazards from errant aircraft that could crash at the WWTF; this hazard is considered less than significant because the facility is not located within an area of heavy air traffic and is not within an airport safety zone (no land use compatibility plan has been prepared for the Samoa Field Airport; Humboldt County 2017) where development impacts could impact air traffic operations. Additionally, the proposed improvements at the Approved Samoa WWTF would not result in significant light, glare or other factors that could affect aviation in the immediate area.

The project impact during operation would be **less than significant** impact.

Significance *Less Than Significant*

Mitigation **None Required**

Impact HAZ-5: Would the project result in a safety hazard for people residing or working in the project area due to a private airstrip located within two miles of the project site?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VIII.f) identified in Section 4.7.3.

There are no private airstrips located within two miles of the project site; therefore, there would be **no impact**.

Significance *No Impact*

Mitigation **None Required**

Impact HAZ-6: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VIII.g) identified in Section 4.7.3. The proposed project is completely located

within the designated tsunami evacuation zone, as identified by Humboldt County; however, the development of the project is not expected to impair the implementation of or physically interfere with the designated tsunami evacuation routes on the Samoa Peninsula. While short-term construction traffic may affect small segments of roadways during pipeline (collection and disposal facilities) construction, these areas would be limited in length. As described further in Section 4.13, Transportation and Traffic, development and implementation of a traffic control plan for work that would block the public right-of-way, including plans for re-routing of vehicles, bicycles, and pedestrians, as needed, is required by Humboldt County. The plan would ensure adequate emergency access and keep open adequate evacuation routes.

After construction, roadways would be open and project activities would not inhibit evacuation by Approved Samoa WWTF staff. The project’s operation impact on emergency plans would be **less than significant**.

Significance *Less Than Significant*

Mitigation **None Required**

Impact HAZ-7: Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

This impact analysis addresses CEQA Guidelines Appendix G checklist item VIII.h) identified in Section 4.7.3.

While wildfires can occur in Humboldt County, and the area surrounding the project site is a mixture of Unzoned, Moderate, and High FHSZ, fires within the immediate coastal and dune vegetation types are not a common occurrence along the Pacific coast, and especially in the Samoa Peninsula area. The climate is influenced by the Pacific Ocean and significant amount of both precipitation and summer fog provide generally moist conditions. The project would develop infrastructure improvements in support of the Approved Samoa WWTF, and would not expose people to wildfire risk, or be impacted by wildfires, as project site is generally in developed areas with sparse vegetation and the pipelines would be underground. The impact from exposure of people or structures involving wildland fires would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

4.7.5 Cumulative Impacts

Impact HAZ-C-1: Would the project result in a cumulatively considerable contribution to a significant cumulative impact related to hazards or hazardous materials?

As discussed in Section 4.7.5, the project would not result in impacts related to location near a school or location within two miles of a private airstrip.

Therefore, implementation of the project would not contribute to any related cumulative impacts.

Project impacts related to interference with an adopted emergency response plan or emergency evacuation plan; and risks involving wildland fires are location specific and no other cumulative projects listed in Section 4, Table 4-1 (Projects Considered for Cumulative Impacts) would be constructed within or adjacent to the project site at the same time as the project. Therefore, the project would not contribute to a cumulative impact related to emergency response and evacuation and wildland fire exposure.

Similar to the proposed project, the cumulative projects listed in Section 4, Table 4-1, could be located on a site included on a list compiled pursuant to Government Code Section 65965.5 and would include the transport, use, or potential upset, of common hazardous materials inherent to the construction process in general, including petroleum products for construction equipment and vehicles, and paints, asphalt materials, concrete curing compounds, and solvents for construction of site improvements. Each of the cumulative projects would be required to comply with existing and future laws and regulations governing hazardous materials, similar to the proposed project, and described in the regulatory setting section above. Such laws have been written to avoid significant hazards from multiple sources, vehicles, and projects. For these reasons, the potential cumulative impact from the use, transport, and disposal of hazardous materials during construction would be **less than significant**. As a result, there would be no significant cumulative impact associated with being located on a site included on a list compiled pursuant to Government Code Section 65965, or increased hazards relative to hazardous materials to which the proposed project would contribute.

<i>Significance</i>	<i>Less than Cumulatively Considerable (Less than Significant)</i>
Mitigation	None Required

4.7.6 References

- Association of Environmental Professionals. 2018. *2018 CEQA Statutes and Guidelines*.
- CALFIRE. 2007. California Department of Forestry and Fire Protection, Fire and Resource Assessment Program, Fire Hazard Severity Zone Re-Mapping Project, Humboldt County, Draft Fire Hazard Severity Zones in LRA, September 19.
- Humboldt County. 2015. County of Humboldt Emergency Operations Plan. March.
- Humboldt County. 2017. Humboldt County General Plan for the Areas Outside the Coastal Zone. October 23.
- SHN. 2018. Hazardous Materials Corridor Study: Samoa Peninsula Wastewater Collection System. July.

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4.8 Hydrology and Water Quality

This section evaluates potential environmental impacts related to hydrology and water quality during construction and operation of the project. In addition to the analysis provided in this section, the following subjects are related to hydrology and water quality, but are evaluated in other sections of this EIR:

- Potential impacts to riparian habitat and federally protected wetlands and waters are addressed in Section 4.03 (Biological Resources).
- Potential impacts related to loss of topsoil are addressed in Section 4.05 (Geology and Soils).
- Potential impacts related to location on or near a hazardous materials site is addressed in Section 4.07 (Hazards and Hazardous Materials).
- Potential impacts related to construction of new storm drain facilities are addressed in Section 4.14 (Utilities and Service Systems).

4.8.1 Setting

Regional Climate

Humboldt County has moderate temperatures and considerable precipitation. Temperatures along the coast in July are usually in the 60's (Fahrenheit) and vary only 10 degrees Fahrenheit (°F) from summer to winter, although a greater range is found over inland areas. Temperatures of 32°F or lower are experienced nearly every winter throughout the area, and colder temperatures are common in the interior. Maximum temperatures for the year often do not exceed 80°F on the coast, while temperatures greater than 100°F occur frequently in the mountain valleys. July mean maximum temperatures are in the 60's Fahrenheit throughout an area of 15 to 30 miles in width along the coast. In most years, rainfall occurs each month of the year, although precipitation amounts are negligible from June through August. Seasonal totals average more than 40 inches in the driest area, and exceed 100 inches in zones of heavy precipitation. About 90 percent of the seasonal total rainfall falls in the seven months of October through April. Most of the rainfall is associated with storm fronts that move in from the Pacific Ocean. There are few thunder showers in the mountains during the summer, but they are infrequent. Because of the moisture and moderate temperature, the average relative humidity is high.

Largely as a result of the proximity of the cool Pacific Ocean, the coastal area has a cool, stable temperature regime. With increasing distance from the ocean, the marine influence is less pronounced and inland areas experience wider temperature variations and lower humidities (Humboldt County 2018).

Groundwater Hydrology

The project area lies within the North Coast Hydrologic Region and overlies the western portion of the Eureka Plain Groundwater Basin. The Eureka Plain Groundwater Basin is bounded by the Little Salmon Fault to the south, Humboldt Bay and Arcata Bay to the west and northwest, and by Wildcat series deposits to the east. The primary water-bearing formations in the basin include the Pliocene Hookton Formation and, to a lesser extent, Holocene dune sand west of Humboldt Bay and alluvial deposits southeast of Arcata Bay and along the Elk River (CDWR 2018).

Beach and dune sand deposits occur in an almost continuous strip along the coast. The dune sand is more than 100 feet thick and attains a maximum width of three-fourths of a mile along the North Spit between the entrance to Arcata Bay and the mouth of the Mad River. The dune sand is loose, subangular to subrounded, fairly well sorted, fine to coarse grained, and gray or brownish gray in color. The dune is developed as a source of water supply for shallow wells or well points that are driven into the sand far enough to penetrate the lens of freshwater overlying seawater. Recharge to the dune sand is almost wholly from local precipitation (CDWR 2018).

Based on subsurface investigations at a former pulp mill on the Samoa Peninsula, groundwater exists under unconfined conditions at depths ranging from approximately 12 to 16 feet below ground surface with elevations ranging from 5 to 9 feet NAVD88. No confining layers have been observed and it is assumed that the saturated zone extends from the water table to at least 150 feet below ground surface (depth of the deepest boring at the pulp mill) (SHN 2011).

Results of an October 2010 tidal influence study indicate that groundwater elevations along the bay margin in the vicinity of the former pulp mill are influenced by tidal fluctuations in Humboldt Bay. Tidal influence diminished with distance away from the bay and it is assumed that tidal influence would begin to increase in proximity to the ocean side of the peninsula (SHN 2011).

Groundwater Quality

The communities of Fairhaven and Finntown, surrounding industrial properties, Samoa Peninsula Union School, the Samoa Boat Ramp and Campground, and smaller commercial operations located on or near the City of Eureka Samoa Field Airport, do not have a wastewater collection and treatment system, and instead use individual septic systems that discharge to individual leachfields. Most of the existing septic systems are aging and are poorly suited for the soil and groundwater conditions that exist on the peninsula. Preventative maintenance is uncommon and failing systems are rarely identified until surface seepage is reported to the Humboldt County Division of Environmental Health. The NCRWQCB is concerned about the impacts of partially-treated effluent discharged to leachfields, groundwater, and Humboldt Bay due to the Peninsula's high water table and sandy soils.

Local Drainage

There is little surface water on the Samoa Peninsula due to coarse sandy soils and high infiltration rates; therefore, local surface drainage patterns are poorly defined on the peninsula. The only stormwater facilities within the project service area are located on industrial parcels.

Surface Water Quality

Impurities in the local surface runoff, shallow groundwater, and atmospheric deposition influence surface water quality on the Samoa Peninsula. The quality of adjacent Humboldt Bay tidal waters is also dependent on such significant hydrological and biological parameters as the timing and magnitude of freshwater outflow, complex circulation patterns in the bay, wind-driven mixing and resuspension of fine-grained sediments, time-varying salinity gradients and water temperature, and nutrient loading. Humboldt Bay has been identified as an impaired water body relating to dioxide toxic equivalents and polychlorinated biphenyls (SWRCB 2017).

Water quality in the Pacific Ocean is dependent on a number of regional and global factors, including climate and weather changes, currents and upwelling, and seasonal output from local rivers and estuaries.

Flooding

According to the Federal Emergency Management Agency (FEMA) National Flood Insurance Program flood insurance rate map for Humboldt County, the majority of the project site is within an area of minimal flood hazard (Zone X). Approximately 3,500 linear feet of the project is within a Zone AE designation near the community of Fairhaven and east of the Samoa Field Airport (FEMA 2018). The maximum base flood elevation for that area is 11 feet (see Figure 4.8-1, 100-Year FEMA Flood Zones Map).

Tsunami Inundation

The project area is located in a low-lying coastal setting directly onshore of an active subduction zone (Cascadia Subduction Zone) capable of generating very large magnitude earthquakes. Earthquakes along subduction zones have historically been one of the principal sources of tsunami generation. There is significant geologic evidence along the coast of much of the Pacific Northwest documenting the occurrence and effects of past tsunamis. In addition, there is local geologic evidence of past tsunamis, in the form of clean sand layers (interpreted as a tsunami deposit) that bury coastal wetlands surrounding Humboldt Bay.

Much of the low-lying Samoa Peninsula is subject to tsunami inundation, and is at substantial risk in the event of a large locally-generated tsunami event. Other than isolated high dunes northwest of the town of Samoa, the entire Samoa Peninsula typically is modeled as being subject to inundation during moderate to large tsunami events. A tsunami that inundates the Samoa Peninsula would result in catastrophic conditions over the entire project area, a high degree of structural loss, and significant loss of life; as such, the impacts to the proposed wastewater system should be evaluated in the context of the potential impacts to the communities it will serve (SHN 2018). The arrival time of a near-source tsunami is generally understood to be short, due to the small site-to-source distance. On the Samoa Peninsula, tsunami signs indicate where one is “entering” or “leaving” a tsunami inundation area and point to an established “Tsunami Evacuation Zone.”

4.8.2 Regulatory Framework

Federal

Clean Water Act

The federal Clean Water Act (CWA), enacted by Congress in 1972 and amended several times since, is the primary federal law regulating water quality in the United States and forms the basis for several State and local laws throughout the country. The CWA established the basic structure for regulating discharges of pollutants into the waters of the United States. The CWA gave the U.S. EPA the authority to implement federal pollution control programs, such as setting water quality standards for contaminants in surface water, establishing wastewater and effluent discharge limits for various industry categories, and imposing requirements for controlling nonpoint source pollution. At the federal level, the CWA is administered by the U.S. EPA and U.S. Army Corps of Engineers (USACE). At the state and regional levels in California, the CWA is administered and enforced by

the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs).

National Flood Insurance Program

FEMA administers the National Flood Insurance Program to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in floodplains. FEMA also issues flood insurance rate maps identifying which land areas are subject to flooding. The maps provide flood information and identify flood hazard zones in the community. The design standard for flood protection is established by FEMA, with the minimum level of flood protection for new development determined to be the 1-in-100 annual exceedance probability (i.e., the 100-year flood event).

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate industrial and municipal discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges including point source municipal waste discharges and nonpoint source stormwater runoff. A NPDES permit is required when proposing to, or discharging of waste into any surface water of the state. For discharges to surface waters, these requirements become a federal NPDES Permit from the RWQCB covering the project area.

State

California Coastal Act

Section 30231 of the Coastal Act states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30253 of the Coastal Act states in part:

New development shall do all of the following:

- (a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

- (b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area...

Porter Cologne Water Quality Control Act

The Porter Cologne Water Quality Control Act is the primary statute covering the quality of waters in California. Under the Act, the SWRCB has the ultimate authority over State water rights and water quality policy. The nine RWQCBs regulate water quality under this act through the regulatory standards and objectives set forth in water quality Control Plans (also referred to as basin plans) prepared for each region.

The five-member SWRCB allocates water rights, adjudicates water right disputes, develops state-wide water protection plans, establishes water quality standards, and guides the nine RWQCBs located in the major watersheds of the state. The joint authority of water allocation and water quality protection enables the SWRCB to provide comprehensive protection for California's waters. The SWRCB is responsible for implementing the CWA, issuing NPDES permits to cities and counties through RWQCBs, and implementing and enforcing the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009, as amended by Order No. 2010-0014). Order No. 2009-0009 took effect on July 1, 2010, and was amended on February 14, 2011. The order applies to construction sites that include one or more acres of soil disturbance. Construction activities include clearing, grading, grubbing, excavation, stockpiling, and reconstruction of existing facilities involving removal or replacement.

State Water Resources Control Board – Ocean Plan

The State Water Resources Control Board (SWRCB) adopted the 2015 California Ocean Plan (Ocean Plan) to protect the quality of ocean waters for beneficial uses. The Ocean Plan requires control of discharge of waste to ocean waters to protect against degradation of marine species and impacts to public health. The objectives and measures of the plan are applicable to point source and nonpoint source discharges to the ocean.

All publically owned treatment works are required to meet secondary treatment standards using technology based effluent limitations (40CFR part 133). In addition, the Ocean Plan provides the following General Requirements for Management of Waste Discharge to the ocean:

- (a) Waste management systems that discharge to the ocean must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.
- (b) Waste discharged to the ocean must be essentially free of:
 - (1) Material that is floatable or will become floatable upon discharge.
 - (2) Settleable material or substances that may form sediments which will degrade benthic communities or other aquatic life.
 - (3) Substances which will accumulate to toxic levels in marine waters, sediments or biota.

- (4) Substances that significantly decrease the natural light to benthic communities and other marine life.
 - (5) Materials that result in aesthetically undesirable discoloration of the ocean surface.
- (c) Waste effluents shall be discharged in a manner which provides sufficient initial dilution to minimize the concentrations of substances not removed in the treatment.
- (d) Location of waste discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:
- (1) Pathogenic organisms and viruses are not present in areas where shellfish are harvested for human consumption or in areas used for swimming or other body-contact sports.
 - (2) Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.
 - (3) Maximum protection is provided to the marine environment.
- (e) Waste that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfishing and water-contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard should be used.

Finally, the Ocean Plan states:

The beneficial uses of the ocean waters of the State that shall be protected include industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation and enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting.

State Water Resources Control Board – Thermal Plan

The SWRCB adopted the 1975 Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan), which contains water quality objectives, including for coastal waters and enclosed bays. The Thermal Plan includes the following applicable water quality objectives:

- 3. Coastal Waters
 - A. Existing discharges

- (1) Elevated temperature wastes shall comply with limitations necessary to assure protection of the beneficial uses and areas of special biological significance.

B. New discharges

- (1) Elevated temperature wastes shall be discharged to the open ocean away from the shoreline to achieve dispersion through the vertical water column.
- (2) Elevated temperature wastes shall be discharged a sufficient distance from areas of special biological significance to assure the maintenance of natural temperature in these areas.
- (3) The maximum temperature of thermal waste discharges shall not exceed the natural temperature of receiving waters by more than 20°F.
- (4) The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.
- (5) Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

4. Enclosed Bays

A. Existing discharges

- (1) Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses.

Regional and Local

North Coast Regional Water Quality Control Board

RWQCBs adopt and implement water quality control plans (Basin Plan) which recognize the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, and water quality problems. The North Coast Basin Plan (NCRWQCB 2018) is the applicable Basin Plan to the project site, the objectives of which are described below.

NCRWQCB Order No. R1-2009-0045, Waste Discharge Requirements for Low Threat Discharges to Surface Waters in the North Coast Region, applies to discharges of construction dewatering. This order requires development of a best management practices/pollution prevention plan to characterize the discharge and to identify specific measures to control the discharge, such as sediment controls to ensure that excessive sediment is not discharged and flow controls to prevent erosion and flooding downstream of the discharge.

North Coast Basin Plan

The North Coast Basin Plan provides a definitive program of actions to preserve and enhance water quality and protect beneficial uses of all regional waters. Additionally, it describes the Regional Water Board's provisions for public participation and provides the framework for the development of discharge regulation.

The Basin Plan is the basis for the Regional Water Board's regulatory programs. Regional Water Board orders cite the Basin Plan's beneficial uses, water quality objectives, and prohibitions applicable to a particular discharge. The Basin Plan is used by other agencies in their permitting and resource management activities. Specifically, the Basin Plan states:

- Designates beneficial uses of surface waters and groundwaters.
- Sets narrative and numeric objectives that must be attained or maintained to protect beneficial uses.
- Defines implementation programs that include specific prohibitions, action plans, and policies to achieve the water quality objectives.
- Describes the Regional Water Board's monitoring activities.

The Basin Plan water quality objective for ocean waters states:

The provisions of the State Water Board Water Quality Control Plan for Ocean Waters of California (Ocean Plan) and Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan) and any revisions thereto shall apply to ocean waters within the North Coast Region.

Humboldt Bay Area Plan of the Local Coastal Program

Section 3.17 (Hazards) states in part:

*** 30253. New Development shall:

1. Minimize risks to life and property in areas of high geologic, flood and fire hazard.
2. Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding areas.

The tsunami hazard policy in the Humboldt Bay Area Plan was amended in 2012 to prohibit new habitable living space below the predicted tsunami run-up elevation calculated at maximum tide plus a minimum of three (3) feet to account for future sea level rise and one foot of freeboard space, as well as other measures to reduce tsunami hazard (Section 3.17(B)(3)). Section 3.17(B) (Hazards, Development Policies) states in part:

3. Tsunamis—New development below the level of the 100 year tsunami run-up elevation described in Tsunami Predictions for the West Coast of the Continental United States (Technical Report H-78-26 by the Corps of Engineers) shall be limited to public access, boating, public recreation facilities, agriculture, wildlife management, habitat restoration, and ocean intakes, outfalls, and pipelines, and dredge spoils disposal. New subdivisions or development projects which could result in one or more additional dwelling units within a potential tsunami run-up area shall require submission of a

tsunami vulnerability report which provides a site-specific prediction of tsunami run-up elevation resultant from a local Cascadia subduction zone major earthquake.

4. Flood Plains—No critical facilities should be permitted to locate within the 100 year flood plain. Utility lines may cross hazard zones if there is no reasonable alternative and provisions are made to mitigate the hazard. Non-critical facilities should be permitted in the 100 year flood plain only if adequate flood control measures, such as control works, compact fill, etc., that would result in a site being beyond or above the 100 year flood extend, are provided. Further, the County will continue to review development in light of and impose conditions consistent with the National Flood Insurance Program.

Section 3.30(B) (Natural Resources Protection Policies and Standards, Development Policies) states in part:

8. Coastal Streams, Riparian Vegetation And Marine Resources

*** 30231. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 4.10(B) (Rural Plan Designations-SAMOA TOWN MASTER PLAN LAND USE DESIGNATION OVERLAY) states in part:

STMP (Hazards) Policy 3:

New development associated with the provision of critical or significant community support functions (such as waste water treatment, provision of potable or fire fighting water, or fire and life safety command and equipment centers) or that may be converted into critical community shelter facilities in an emergency, or structures that house vulnerable populations that cannot be readily evacuated, including hospitals, schools, and care facilities for the elderly and/or disabled, shall be designed and located in a manner that will be free of the risk of catastrophic failure associated with earthquake or tsunami hazard, taking into account a minimum of 4.5 feet of sea level rise per century. The final approved plans for such facilities shall be reviewed and stamped as conforming to this standard by a California licensed professional civil engineer or a California licensed professional engineering geologist.

4.8.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to hydrology and water quality. The following questions are from CEQA Guidelines' Appendix G Environmental Checklist Section IX. Would the project:

- a. Violate any water quality standards or waste discharge requirements?
 - Non-compliance with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Construction Permit, Order No. 2009-0009, as amended by Order No. 2010-0014 & 2010-006).
- b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
 - Creation of a deficit in aquifer volume or lowering of groundwater levels.
- c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or offsite?
 - Alteration of the course of a stream, river, or waterway in a manner that creates erosion or siltation.
- d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite?
 - Creation of runoff water that would exceed the capacity of the drainage system.
- e. Create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
 - Creation of increased quantity of runoff such that capacity of storm drains would be exceeded.
- f. Otherwise substantially degrade water quality?
 - Non-compliance with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (General Construction Permit, Order No. 2009-0009, as amended by Order No. 2010-0014 & 2010-006).
- g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
 - Placement of housing within a mapped 100-year flood hazard area.
- h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?
 - Placement of structures within a mapped 100-year flood hazard area.
- i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?
 - Placement of facilities in areas of potential dam or levee inundation.
- j. Inundation by seiche, tsunami, or mudflow?
 - Placement of facilities in an area potentially affected by seiche, tsunami, or mudflow.

4.8.4 Approach to Analysis

Potential impacts to surface water quality are evaluated for both construction and operational activities. Construction impacts are evaluated for their potential to violate water quality standards and waste discharge requirements. The evaluation also considers additional runoff from new impervious areas, and whether the treatment techniques proposed as part of the project will provide adequate treatment in accordance with applicable regulations.

Flooding impacts are evaluated by assessing the project's compliance with local storm water runoff and detention requirements, as well as determining if the project is located within a FEMA flood hazard area or dam inundation area.

Tsunami impacts are evaluated in the context of the potential impacts to the communities the project will serve, as a tsunami that inundates the Samoa Peninsula would result in catastrophic conditions over the entire project area, a high degree of structural loss, and significant loss of life.

4.8.5 Impact Analysis

Impact HWQ-1: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality?

This impact analysis addresses CEQA Guidelines Appendix G checklist item IX.a) and the associated thresholds of significance identified in Section 4.8.3.

Construction

Construction of the pipeline and improvements to the Approved Samoa WWTF could generate discharges to water resources that could potentially violate water quality standards or waste discharge requirements. Project construction does not include any in-water infrastructure installation or near-water construction activities; therefore, there would be **no impact** to marine water quality.

Construction of the project would involve excavation, soil stockpiling, grading, and the installation of sewer pipe. There are multiple construction related activities that could have potential direct or indirect impacts on the water quality of local surface water features and shallow groundwater resources, including: sedimentation, erosion, handling hazardous materials, and dewatering. If not properly managed, applicable water quality standards and waste discharge requirements could be violated, and polluted runoff could substantially degrade water quality. The impact would be **significant**.

Operation

Project operation would collect, process, and dispose of wastewater from existing facilities (Short-Term Phase) and potential future infill development consistent with HBAP and zoning (Long-Term Phase). Treated effluent would be disposed of through the RMT II ocean outfall pipe, which extends 1.5 miles offshore. Currently, DG Fairhaven Power, located between Fairhaven and Samoa, discharges approximately 170,000 gallons per day (gpd) of processed water, following treatment, through the RMT II ocean outfall. Short-Term

improvements would add approximately 23,000 gpd, bringing the total estimated daily flow through the outfall to approximately 193,000 gpd. Long-Term improvements would add approximately 45,000 gpd, bringing the total estimated daily flow through the ocean outfall to approximately 238,000 gpd. If not properly managed, water quality in the vicinity of the outfall diffuser could violate a water quality standard or waste discharge requirement. However, the Approved Samoa WWTF would be required to obtain an NPDES permit which would specify an acceptable level of a pollutant or pollutant parameter including physical properties, solids, biologicals, and chemicals in a discharge and make sure that the state's mandatory standards for clean water and the federal minimums are met. The NPDES permit would be required to be amended to accommodate increased flow from the project.

The anticipated effluent water quality limits, established to protect the beneficial uses of the ocean including marine habitat and fish migration, are shown in Table 4.3-5 (see Section 4.3.5). These are the regulated standards that would be required to be met during operation, prior to discharge through the ocean outfall pipe.

The NPDES permit would require monitoring to determine compliance with established effluent limitations, establish a basis for enforcement actions, assess treatment efficiency, characterize effluents, and characterize the receiving water. The NPDES regulations require the permittee to maintain records and periodically report on monitoring activities. Because ocean outfall is regulated by existing standards established for the purpose of protecting the ocean, and the additional flow from the project would contribute a small fraction of the existing discharge and Approved Samoa WWTF discharge, the impact to the ocean environment from increased discharge from the project would be **less than significant**.

Summary

Construction of the project, if not properly managed, has the potential to violate water quality standards, the impact would be **significant**. Operation of the project's improvements at the Approved Samoa WWTF is estimated to improve water quality by removing existing negative effects to groundwater quality from continued use and potential future failure of existing private septic systems within Samoa Peninsula.

Significance

Significant

Mitigation

HWQ-1a: Manage Stormwater during Construction

The PCSD shall prepare a stormwater pollution prevention plan (SWPPP) specific to the project and be responsible for securing coverage under SWRCB's NPDES stormwater permit for general construction activity (Order 2009-0009-DWQ). The SWPPP shall identify specific actions and BMPs relating to the prevention of stormwater pollution from project-related construction sources by identifying a practical sequence for site restoration, BMP implementation, contingency measures, responsible parties, and agency contacts. The SWPPP shall reflect localized surface hydrological conditions and

shall be reviewed and approved by the project applicant prior to commencement of work and shall be made conditions of the contract with the contractor selected to build the project. The SWPPP(s) shall incorporate control measures in the following categories:

- Soil stabilization and erosion control practices (e.g., hydroseeding, erosion control blankets, mulching);
- Dewatering and/or flow diversion practices, if required (see Mitigation Measure HWQ-1b);
- Sediment control practices (temporary sediment basins, fiber rolls);
- Temporary and post-construction on- and off-site runoff controls;
- Special considerations and BMPs for water crossings, wetlands, and drainages;
- Monitoring protocols for discharge(s) and receiving waters, with emphasis placed on the following water quality objectives: dissolved oxygen, floating material, oil and grease, pH, and turbidity;
- Waste management, handling, and disposal control practices;
- Corrective action and spill contingency measures;
- Agency and responsible party contact information, and
- Training procedures that shall be used to ensure that workers are aware of permit requirements and proper installation methods for BMPs specified in the SWPPP.

The SWPPP shall be prepared by a qualified SWPPP practitioner with BMPs selected to achieve maximum pollutant removal and that represent the best available technology that is economically achievable. Emphasis for BMPs shall be placed on controlling discharges of oxygen-depleting substances, floating material, oil and grease, acidic or caustic substances or compounds, and turbidity. BMPs for soil stabilization and erosion control practices and sediment control practices will also be required. Performance and effectiveness of these BMPs shall be determined either by visual means where applicable (i.e., observation of above-normal sediment release), or by actual water sampling in cases where verification of contaminant reduction or elimination, (inadvertent petroleum release) is required to determine adequacy of the measure.

HWQ-1b: Construction Dewatering Permits

All construction dewatering shall be discharged to an approved land disposal area or drainage facility in accordance with a NPDES permit and North Coast RWQCB requirements. The PCSD shall apply for the NPDES permit and provide the NCRWQCB with the location, type of discharge, and methods of treatment and monitoring for all groundwater dewatering discharges, prior to dewatering activities. Emphasis shall be placed on those discharges that would occur directly or in proximity to surface water bodies and drainage facilities.

After Mitigation *Less than Significant with Mitigation*

With the implementation of Mitigation Measures HWQ-1a and HWQ-1b, impacts to surface water quality as attributable to the project would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources and through compliance with a NPDES permit and NCRWQCB requirements. Monitoring and contingency response measures would be included in the SWPPP to verify compliance with water quality objectives for surface waters during construction. Particular emphasis would be placed on dissolved oxygen, floating material, oil and grease, and turbidity (or sediment) as these are generally the water quality constituents of most concern during construction-related activities.

Impact HWQ-2: Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rates of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

This impact analysis addresses CEQA Guidelines Appendix G checklist item IX.b) and the associated thresholds of significance identified in Section 4.8.3.

Construction

Construction of the pipeline, pump station, and improvements to the Approved Samoa WWTF could require dewatering in the immediate vicinity of excavations and installation of underground features at areas where groundwater depths are shallow. Groundwater withdrawn from the construction areas would be subsequently discharged to land. Such dewatering would be temporary, and prolonged lowering of the groundwater levels in any one location would not be necessary. Such temporary dewatering would have, at most, a very small effect on localized water levels in the immediate vicinity of the excavation, and no substantial deficit in the local groundwater basin or lowering of water levels would occur. Impacts to groundwater from dewatering during construction would be less than significant. Construction of the improvements to the Approved Samoa WWTF would result in a minor increase in impervious surface coverage at the WWTF site, which may reduce the amount of direct infiltration runoff into the ground. This would have a **less than significant** impact on groundwater recharge due to the limited area of effect.

Operation

Operation of the project under the Short-Term Phase would not directly utilize groundwater, and would not result in an increase in population that would indirectly increase groundwater demand. Although implementation of the Long-Term Phase would provide sewer service to up to 62 new infill residential units, the impact of developing the units, including impacts on groundwater, were evaluated in the certified General Plan EIR. Countywide, the impacts of planned additional development included construction of additional impervious surfaces

and conversion of forest and agricultural lands that would reduce groundwater recharge (Humboldt County 2017).

Neither the Short-Term nor Long-Term operation would result in changes in impervious surface coverage or other physical development that would affect groundwater depletion or recharge. This impact would be **less than significant**.

Summary

Construction of the project may require dewatering due to shallow groundwater in the vicinity of the project. Impervious areas would increase slightly. However, construction would not result in a depletion of groundwater supplies or interference of groundwater recharge and would have a **less than significant** impact.

Operation of the project would not directly utilize groundwater or result in changes in impervious surface coverage or other physical development that would affect groundwater depletion or recharge and would have a **less than significant** impact.

Significance *Less than Significant*

Mitigation **None Required**

Impact HWQ-3: **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or the increase in the rate or amount of surface runoff, in a manner which would result in substantial erosion or siltation or flooding on- or off-site?**

This impact analysis addresses CEQA Guidelines Appendix G checklist items XI.c) and XI.d) and the associated thresholds of significance identified in Section 4.8.3.

Project improvements related to the pipeline and pump stations would be located underground. Project improvements at the Approved Samoa WWTF would increase the amount of impervious surface, but it would not change the surface elevation or hydrology at the facility. Stormwater at the WWTF would divert to on-site stormwater facilities with implementation of the WWTF improvements. The project would not result in an alteration of surface slopes, and there are no streams or rivers in, or adjacent to the project site. Therefore, the project will not substantially alter existing drainage patterns of the site or area, including altering a stream or river or increase the rate of surface runoff that would result in substantial erosion or siltation or flooding. Therefore, the project would result in **no impact**.

Significance *No Impact*

Mitigation **None Required**

Impact HWQ-4: Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff?

This impact analysis addresses CEQA Guidelines Appendix G checklist items XI.e) and XI.f) and the associated thresholds of significance identified in Section 4.8.3.

Project improvements at the Approved Samoa WWTF would increase the amount of impervious surface. But stormwater at the WWTF would divert to on-site stormwater facilities with implementation of the WWTF improvements. Therefore, the project would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems, provide substantial additional sources of polluted runoff, or otherwise substantially degrade water quality. The project's impact would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact HWQ-5: Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

This impact analysis addresses Appendix G checklist item XI.g) and the associated thresholds of significance identified in Section 4.8.3.

The proposed project does not include the construction of new housing or structures for human occupancy. Therefore, the project would result in **no impact**.

Significance *No Impact*

Mitigation **None Required**

Impact HWQ-6: Would the project place within a 100-year flood hazard area structures which would impede or redirect flood flows?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XI.h) and the associated thresholds of significance identified in Section 4.8.3.

The proposed project does not include the construction of any new aboveground structures which would be located in the 100-year flood zone or which would impede or redirect flood flows (Figure 4.8-1). Collection system piping would be located underground within areas of 100-year flood zone, and as such, would not impede or redirect flood flows. Therefore, the project would result in **no impact**.

Significance *No Impact*

Mitigation **None Required**

Impact HWQ-7: Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XI.i) and the associated thresholds of significance identified in Section 4.8.3.

The project improvements that are above ground, such as pumps and the improvements to the Approved Samoa WWTF, are not located within a mapped dam failure inundation zone, floodway, other special flood hazard zone, nor within an area at risk from levee failure. Therefore, **no impact** would occur.

Significance *No Impact*

Mitigation **None Required**

Impact HWQ-8: Would the project be subject to inundation by seiche, tsunami, or mudflow?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XI.j) and the associated thresholds of significance identified in Section 4.8.3.

No seiche or mudflow hazard is known at the project site. Other than isolated high dunes northwest of the town of Samoa, the entire Samoa Peninsula typically is modeled as being subject to inundation during moderate to large tsunami events. HBAP Section 3. 17(B) (Hazards, Development Policies) state in part:

1. *Tsunamis - New development below the level of the 100 year tsunami run-up elevation described in Tsunami Predictions for the West Coast of the Continental United States (Technical Report H-78-26 by the Corps of Engineers) shall be limited to public access, boating, public recreation facilities, agriculture, wildlife management, habitat restoration, and ocean intakes, outfalls, and pipelines, and dredge spoils disposal. New subdivisions or development projects which could result in one or more additional dwelling units within a potential tsunami run-up area shall require submission of a tsunami vulnerability report which provides a site-specific prediction of tsunami run-up elevation resultant from a local Cascadia subduction zone major earthquake.*

The HBAP (STMP [Hazards] Policy 4) requires that prior to the approval or issuance of a coastal development permit for the comprehensive division of STMP Master Parcel 2 or other development of lands subject to the STMP Land Use Plan (such as construction of project improvements at the Approved Samoa WWTF), the landowner/developer shall demonstrate compliance with the Final Tsunami Safety Plan.

The project involves installation and operation of wastewater pipelines, associated pipeline infrastructure, and improvements to the Approved Samoa WWTF. The majority of the project facilities would be underground and would not be affected by inundation by tsunami. The project's improvements to the

Approved Samoa WWTF would be above ground and would be exposed to risk of inundation by tsunamis. However, implementation of the tsunami vulnerability report (HBAP Section 3.17(b)(3)) and demonstration of compliance with the Final Tsunami Safety Plan and STMP (Hazards) Policy 3 will be required. As such, the impact to the project's improvements to the Approved Samoa WWTF from inundation by tsunamis would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

4.8.6 Cumulative Impacts

Impact: HWQ-C-1: Would the project result in a cumulatively considerable contribution to a cumulative impact related to hydrology and water quality?

The geographic scope for the analysis of potential cumulative hydrology and water quality impacts in the study area consists of the project site and the immediately surrounding areas of the Samoa Peninsula. Refer to Section 4, Environmental Analysis, Table 4.1 (Projects Considered for Cumulative Impacts) for a summary of the cumulative projects.

Surface Water Quality and Storm Water System Capacity

As described in Impact HWQ-1, construction of the project, if not properly managed, has the potential to violate water quality standards. Operation of the WWTF is estimated to improve water quality by removing existing negative effects to groundwater quality from continued use and potential future failure of existing private septic systems within Samoa Peninsula. With the implementation of Mitigation Measure HWQ-1a, impacts to surface water quality as attributable to the project would be reduced to a less than significant level through the inclusion of focused BMPs for the protection of surface water resources. As described in Impact HWQ-3 above, the project would not substantially alter existing drainage patterns of the site or area in a way that would result in substantial erosion or siltation or flooding (no impact). As described in Impact HWQ-4 above, the project would not 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 impact).

Cumulative projects listed in Chapter 4, Environmental Analysis, Table 4-1 (Projects Considered for Cumulative Impacts) could have adverse effects regarding hydrology and water quality during construction. Therefore, cumulative impacts related to surface water quality could be significant.

Mitigation Measure HWQ-1a has been included that would reduce impacts on water quality to a less-than-significant level, including preparation of a SWPPP and compliance with the requirements of the NPDES General Construction Permit.

Relevant cumulative projects identified in Table 4.1 disturbing more than one acre of land would also be subject to the NPDES General Construction Permit, which would require development and implementation of SWPPPs to avoid water quality impacts. Therefore, with implementation of Mitigation Measure HWQ-1a, the project's potential contribution to any such cumulative water quality impact would **not be cumulatively considerable**.

Groundwater

As described in Impact HWQ-2, the project may require dewatering in the immediate vicinity of excavations and installation of underground features at areas where groundwater depths are shallow. The cumulative projects listed in Table 4.1 may also require the temporary pumping of groundwater in localized areas for excavation dewatering. Therefore, cumulative impacts related to groundwater could be significant.

Mitigation Measure HWQ-1b has been included that would reduce impacts on groundwater to a less-than-significant level by requiring construction dewatering permits.

Relevant cumulative projects identified in Table 4.1 that require dewatering of groundwater would also be required to obtain construction dewatering permits. Therefore, with implementation of Mitigation Measure HWQ-1b, the project's potential contribution to any such cumulative water quality impact **would not be cumulatively considerable**.

Flooding and Inundation

As described in Impacts HWQ-5 through HWQ-8 above, the project would not place housing or structures which would impede or redirect flood flows within a 100-year flood hazard area, is not located within a mapped dam failure inundation zone, floodway, other special flood hazard zone, and is not within an area at risk from levee failure. The project area is subject to an enduring hazard associated with tsunami inundation; however, the majority of the project facilities are underground and would not be affected by inundation by tsunami. The project's above-ground facilities are required to demonstrate compliance with the Final Tsunami Safety Plan and would be subject to an impact that is less than significant.

Relevant cumulative projects identified in Table 4.1 would also be subject to the enduring hazard associated with tsunami inundation, but would similarly have a less-than-significant impact due to regulatory compliance. Therefore, the risk of inundation by tsunami would **not be cumulatively considerable**.

Significance

Cumulatively Considerable

Mitigation

HWQ-1a Manage Stormwater during Construction

See Impact HWQ-1a, above, for the complete description of this mitigation measure.

HWQ-1b Construction Dewatering Permits

See Impact HWQ-1b, above, for the complete description of this mitigation measure.

After Mitigation *Less than Cumulatively Considerable (Less than Significant)*

4.8.1 References

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<p>Paper Size ANSI B</p> <p>0 375 750 1,125 1,500</p> <p>Feet</p> <p>Map Projection: Lambert Conformal Conic Horizontal Datum: North American 1983 Grid: NAD 1983 StatePlane California I FIPS 0401 Feet</p>		 	<p>County of Humboldt Samoa Peninsula Wastewater Planning Study Draft EIR</p> <p>100-Year FEMA Flood Zones Map</p>	<p>Project No. SHN017203 Revision No. - Date Nov 2018</p> <p>FIGURE 4.8-1</p> <p><small>Data source: - Created by SHN; jsousa</small></p>
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4.9 Land Use and Planning

This section evaluates potential environmental impacts related to land use and planning on the proposed project site. It also describes the impacts on land use and planning that would result from implementation of the proposed project, including consistency with relevant plans and programs that have jurisdiction within the project area and compatibility with surrounding land uses. In addition to the analysis provided in this section, the following subjects are related to land use and planning, but are evaluated in other sections of this EIR:

- Potential impacts related to visual character and quality of the project, the site, and its surroundings are evaluated in Section 4.1, Aesthetics.
- Potential impacts related to project-generated noise and sensitive receptors are evaluated in Section 4.10, Noise.
- Potential impacts related to recreational facilities are evaluated in Section 4.12, Public Services and Recreation.
- Potential impacts related to traffic and performance of pedestrian, bicycle, and transit facilities, and designations of bicycle lanes and pedestrian corridors are evaluated in Section 4.13, Transportation.

4.9.1 Setting

Land Use Patterns and Existing Uses

The Samoa Peninsula is a sparsely populated narrow coastal land form, known as a “spit”, which forms a barrier between the Pacific Ocean and Humboldt Bay. Connected to the mainland on the northern end, it is accessible from the City of Arcata, which is located at the north end of Humboldt Bay. On the south, the spit is open to the navigation channel that allows access from the Pacific Ocean to Humboldt Bay. Existing land uses are a mixture of residential, commercial, industrial, and public facilities. Residential uses are generally concentrated in the unincorporated communities of Samoa, Finntown, and Fairhaven, which predominately have single-family residences with some multi-family developments. Large industrial uses exist between the residential areas. Commercial services are minimal, with the most prominent being the Samoa Cookhouse restaurant.

Public facilities in the area include the Peninsula Elementary School in the town of Samoa, the Samoa Peninsula Fire Department in Fairhaven, and the U.S. Coast Guard Station Humboldt Bay which is located near the southern tip of the spit. Additional public facilities include the Samoa Field Airport (formerly known as the Eureka Municipal Airport) that is managed by the City of Eureka, and U.S. Bureau of Land Management (BLM) Samoa Dunes Recreation Area. Other public/community services are provided outside of the project area in surrounding developed communities. Public beach access is available at Bay Street Beach Access and Power Poles Beach Access, west of New Navy Base Road.

Industrial activities on the Samoa Peninsula and the project area have been occurring for over 100 years and include industrial lumber, pulp and paper production facilities, waterfront uses such as shipping and receiving, and commercial maritime operations. DG Fairhaven Power Company uses wood waste products to produce energy that is provided to the California electric grid. Several of the large industrial operations (pulp, paper, and plywood for example) have been in various states of operation and suspension for decades. Historic railroad infrastructure is present along the spit in

various areas, which has been obscured by other more recent land uses. Newer industrial activities include the expansion of aquaculture and commercial-scale soil amendments.

Historic development activities in the project area consist of waterfront commercial/industrial operations along the Humboldt Bay side, where access to the bay is vital for shipping products into and out of the region. Residential uses are clustered in small communities that were originally developed to provide housing for industrial operations. While still true today, the reduction in industrial operations on the peninsula has resulted in residents leaving the peninsula for jobs in the Eureka and Arcata areas.

Land Use Designation and Zoning

Land Use Designation

The Humboldt County General Plan and the Humboldt Bay Area Plan (the Local Coastal Program that is included in the General Plan for coastal areas) has a wide array of land use designations for the Samoa Peninsula, ranging from rural exurban (RX), commercial general (CG), commercial recreation (CR), to designations such as industrial coastal dependent (MC), industrial general (for coastal areas, MG), and business park (MB), and other public use and natural resource designations such as natural resource (NR), public recreation (PR) and public facility (PF).

The project area is located along the Pacific coast, therefore, the applicable land use document is the Humboldt Bay Area Plan (HBAP), which has designated the following land use types in areas where the project would be located:

- **RX-Residential/Exurban:** residential single-family with neighborhood commercial services.
- **RM-Residential/Medium Density:** allows duplex, multiple unit, and mobile home residential development for individuals and families.
- **CR-Commercial Recreation:** commercial recreation facilities such as recreational vehicle parks, hotels and motels, and visitor-serving developments such as restaurants and art galleries, etc.
- **MG-Industrial General:** light and general manufacturing, warehousing and wholesaling, research and development.
- **MC-Industrial/Coastal Development:** for uses associated with coastal-dependent industrial uses that require access to a maintained navigable channel.
- **MB-Business Park:** mixed business development that can include administrative, business and professional offices, research and development.
- **NR-Natural Resources:** designated for uses such as habitat conservation, restoration, and enhancement activities.
- **PF-Public Facilities:** for uses such as essential services for fire and police, schools and hospitals, libraries, and other associated public use facilities.
- **PR-Public Recreation:** public recreation and open space.

The Approved Samoa WWTF site is designated RM and NR. Both of these designations allow public infrastructure. The remainder of the project improvements would be within existing roadway right-of-ways.

Zoning

Zoning designations in the project area have been developed based on the HBAP with combining zones and the Samoa Town Master Plan (STMP) Land Use Plan designation overlay for the area associated with the Approved Samoa WWTF. Review of the associated zoning (Humboldt County Code, Zoning Regulations, Title III Land Use Development) for parcels within the project area designate the following zoning, which is provided below with a brief synopsis of allowable uses:

RS-X; Residential Suburban: located within the coastal zone, the RS-X zoning is for residential with no further land subdivisions allowed (Humboldt County Code, Title III, Division 1, Section 313-6.1 and 313-39.1). These zoning designations are located within the community of Fairhaven and includes approximately 208 Assessor's parcel numbers (APNs), approximately 66 residences, and the Samoa Peninsula Fire Protection District fire hall and volunteer quarters (Humboldt County, 2017).

RS-D,P; Residential with Design Review Planned Unit Development: The RS-D,P designation is found mixed with other zoning uses for industrial and industrial coastal development land uses. While residential development is allowed, the combining district means that it can only be accomplished with a Design Review and implementation of a Planned Unit Development strategy for the sites.

MC-A; industrial/ coastal dependent with an Archaeological Resource Area overlay: These parcels have been historically used for industrial coastal development and include some residential uses (Humboldt County Code, Title III, Division 1, Section 313-3.4 and 313-16.1). These zoning designations are primarily found along the Humboldt Bay waterfront parcels including Finntown (approximately 10 homes) and properties along Vance Avenue north toward the community of Samoa and south along New Navy Base Road to the U.S. Coast Guard facility. Some of the parcels farther to the south in areas of limited historic development also have an combining zone designation of "W" (MC-A,W) which designates Coastal Wetlands.

MB-D; Business Park (industrial) with Design Review: Parcels with this designation are associated with historic industrial development activities but can be developed as business parks with a combining zone requirement for a Design Review.

PR; Public Recreation: Areas designated for public recreation such as the Samoa Boat Ramp Park. Some properties along the Humboldt Bay have combining zone designations of "W" (Coastal Wetlands) and "B" for Beach Dune Areas (PR-W,B).

NR; Natural Resources: These areas are designated natural resource areas, such as the Samoa Recreation Area and areas along the Humboldt Bay and Pacific coast. Some areas have further combining zone designations of "W" (Coastal Wetlands, NR-W).

MG; Industrial General: These are designated for industrial uses of various types. Some areas have additional combining zone designations of "W" (Coastal Wetlands, MG-W)

Urban Limit Line

The HBAP identifies an Urban Limit Line on the Samoa Peninsula as consisting of the town of Samoa, with the Urban Limit Line coterminous with the STMP boundary. Extension of wastewater services outside of the Urban Limit Line is prohibited by the HBAP, except sewer connections provided to industrial uses.

4.9.2 Regulatory Framework

Federal

Coastal Zone Management Act and Coastal Zone Management Program

The Coastal Zone Management Act (CZMA) was enacted in 1972 to provide direction to state governments regarding protection of the Nation's coastal zone. As a result of the implementation of the CZMA, the Coastal Zone Management Program (CZMP) was established to develop programs and responsibilities for developing the Nation's coastal communities and resources. In California, the CZMA, and related programs identified under the CZMP, are administered by the California Coastal Commission.

State

California Environmental Quality Act

As identified in the California Environmental Quality Act (CEQA) State CEQA Guidelines, a project's impact related to land use planning is evaluated in terms of compatibility with existing land uses and the consistency with local plans and regulations.

California Coastal Commission

The California Coastal Commission, in concert with coastal cities and counties, is responsible for the planning of land and water uses within the coastal zone, and the regulation of proposed development activities. The Coastal Commission is the State's designated coastal management agency for the Pacific Coast in Humboldt County, and administers the federal CZMA.

Regional and Local

Humboldt County General Plan

The Humboldt County General Plan includes goals, policies, and standards for land uses throughout the County. However, the project area is located within the coastal zone, which has specific management direction provided in the Humboldt Bay Area Plan (HBAP). A part of the General Plan, the HBAP sets land use and zoning requirements for lands in the project area.

Humboldt Bay Area Plan

The Humboldt Bay Area Plan (HBAP) was developed by the Humboldt County Planning Department Local Coastal Program (LCP) as required by the California Coastal Act of 1976, and under provisions of the CZMA administered by the California Coastal Commission. Originally completed and certified in 1982, the HBAP has been revised over the years with the most recent update of December 2014. A part of the General Plan, the HBAP identifies land uses and standards by which development is evaluated by the County in the Coastal Zone. The HBAP outlines specific land use development policies and zoning designations within the Coastal Zone and provides guidance and specific direction for land use activities. For development of the proposed project, specific land use and zoning areas and their descriptions have been outlined above in Section 4.9.1, Setting, subsection Land Use Designation and Zoning. Additionally, the following HBAP policies relate to provision of sewer service on the Samoa Peninsula.

Section 3.10 URBAN DEVELOPMENT, B. DEVELOPMENT POLICIES, 1. Serviceable Area. b. The serviceable area within the Humboldt Bay Planning Area is defined as follows and includes: Generally, three hundred (300) feet by the shortest feasible distance from the existing water and sewer system lines.

Section 3.22 PUBLIC SERVICES-RURAL.

30254. New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division; provided, however, that it is the intent of the legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road. Special districts shall not be formed or expanded except where assessment for, and provision of, the service would not induce new development inconsistent with this division. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal- dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor- serving land uses shall not be precluded by other development.

B. Development Policies.

1. Extension of Services

It is the intent of this chapter that extensive rural public service systems, such as water and sewer, not be developed. This is exclusive of such public systems such as roads, electric, gas, telephone, and fire protection systems appropriate to planned levels of development. No permit shall be issued by any agency of the County to a special district or private utility or mutual system proposing to provide such services outside an urban limit line.

In addition, sewer connections may be provided to industrial uses.

STMP (New Development) Policy 9: Waste water treatment provided for the lands subject to the STMP-LUP shall be limited to provision of service for development authorized pursuant to the STMP-LUP only. No lands or development outside the STMP-LUP shall be served by wastewater treatment facilities provided for the lands subject to the STMP-LUP. No pipeline connections to collect or transfer waste water from off-site to or through the STMP-LUP lands shall be installed on or adjacent to the lands subject to the STMP-LUP.

Samoa Town Master Plan

The Samoa Town Master Plan (STMP) and EIR were developed by the County and the Samoa Pacific Group, LLC, who purchased the town of Samoa in 2000, to provide updated land use framework for ongoing uses in the town of Samoa. The goal of the STMP was to maintain the historical character of the town of Samoa, including its architecture and linkages to the ocean and bay. The STMP also provides consistency findings and an opportunity for revisions or modifications to the HBAP through the LCP.

Peninsula Community Services District

The Peninsula Community Services District (PCSD), which is anticipated to be fully formed by the end of 2018 or early 2019, would provide services to a mix of residential, commercial, industrial coastal development, public facilities, parks and a school on the Samoa peninsula. The service area covers a large portion of the peninsula and includes the unincorporated communities of the town of Samoa, Fairhaven, and Finntown. Development of the project and ongoing maintenance and operations would be provided by the PCSD.

4.9.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria summarized below are used to determine if the project would have a significant effect related to land use and planning. The following questions are from CEQA Guidelines' Appendix G Environmental Checklist Section X. Would the project:

- a. Physically divide an established community?
 - A physical barrier to movement dividing an established community that results in a complete physical separation from the rest of the neighborhood.
- b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating and environmental effect?
 - Any such conflict with a goal or policy in the Humboldt County General Plan and HBAP.
- c. Conflict with any applicable habitat conservation plan or natural community conservation plan?
 - Any conflict with a goal or policy envision in an applicable habitat conservation plan or natural community conservation plan.

4.9.4 Methodology

Analysis provided in the Humboldt County General Plan EIR, the STMP EIR, and other published planning documents were reviewed to develop conclusions about these land use issues. Additionally, project reports and analysis related to biological resources (discussed in Section 4.3, Biological Resources) and other topic sections outlined in Section 4.9, Land Use and Planning, were also evaluated and used as analysis tools to arrive at determination conclusions.

4.9.5 Impacts Analysis

Impact LU-1: Would the project physically divide an established community?

This impact analysis addresses CEQA Guidelines Appendix G checklist item X.a) as identified in Section 4.9.3.

The proposed project does not include any improvements that would physically divide the existing and established communities on the Samoa Peninsula. The project would provide wastewater services to the existing communities of the town of Samoa, Fairhaven, and Finntown, and development of these services would not physically divide these established communities. The pipelines would be beneath existing roadways and the improvements to the Approved Samoa

WWTF would be at an existing industrial area and compatible with the surrounding development. There would be **no impact**.

Significance

No Impact

Mitigation

None Required

Impact LU-2:

Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

This impact analysis addresses CEQA Guidelines Appendix G checklist item X.b) identified in Section 4.9.3.

Short-Term Phase

The project's Short-Term phase includes construction and operation of a wastewater collection system, improvements at the Approved Samoa Wastewater Treatment Facility (WWTF), and disposal system to serve the existing structures in Fairhaven, Finntown, the County Boat Launch facility, and the Eureka Airport that currently use onsite wastewater treatment systems. Additionally, the HBAP would be amended to specify the existing uses that may be connected to the wastewater system as exceptions to the other policies in the HBAP.

Project components would be located both inside and outside of the existing designated Urban Limit Line that is coterminous with the STMP boundary; this line is identified by the HBAP as "...the residential, commercial, commercial (including visitor serving) recreation, public facilities, and business park areas of the town of Samoa" (Humboldt County, 2014). The direct impacts of construction are addressed in other sections of this EIR.

County General Plan

Development of the project would not conflict with the County's General Plan or zoning ordinances, which allow for the development of infrastructure improvements consistent with the improvement of the project. All of the current land use and zoning classifications for the project site allow for the development of the project components.

Humboldt Bay Area Plan

The HBAP provides for the land use, zoning, and development standards for the coastal areas of Humboldt County, which includes the area of the proposed project. Development of public services within the Urban Limit Line of the town of Samoa are allowed subject to provisions of the HBAP. The proposed project's Short-Term phase improvements within the Urban Limit Line would be portions of the sewer collection system and improvements to the Approved Samoa WWTF. There would be **no impact** to land use plans for actions within STMP area and within the town of Samoa Urban Limit Line of the HBAP as the improvements are allowed in all designations within the project area.

The HBAP does not allow for the extension of public services, to areas outside of the designated Urban Limit Line. The communities of Fairhaven and Finntown, as well as areas south of the Urban Limit Line of the town of Samoa, are subject to this prohibition. However, the project includes amending the HBAP to specify the existing uses outside of the Urban Limit Line may be connected to the wastewater system as exceptions to the other policies in the HBAP. Therefore, development of the proposed project would be consistent with the HBAP by removing the existing prohibitions for development of short-term aspects of the proposed project. The project would not conflict with the HBAP and there would be **no impact**.

Samoa Town Master Plan

The STMP provides guidance for development activities within the town of Samoa, an unincorporated community within Humboldt County. The STMP EIR identified mitigation measures that called for the creation of a management entity to support wastewater services in the town. That creation of a management entity has been completed with the creation of the PCSD, which will provide overall management of the wastewater services being developed by this project. Implementation of the proposed project would be consistent with the STMP for improvements to the Approved Samoa WWTF but would not be consistent with the STMP for connection of users to the treatment facility outside of the plan area, as prohibited by STMP Land Use Designation Overlay New Development Policy 9; however, the project includes revision of the HBAP and STMP Policy 9 to allow connections to the Samoa WWTF by users outside of the STMP. The project would result in **no impact**.

Long-Term Phase

The Long-Term phase of the proposed project would allow future infill development in the communities of Fairhaven, consistent with the HBAP and zoning, to be served by the project. As noted in the project's Long-Term phase description (Section 3.5, Project Components), implementation of the Long-Term phase, consisting of amending the HBAP, is assumed to occur by 2030. The EIR assumes that future infill development, which is not a part of the project, would be developed within a 30 year-year planning horizon, and that approximately 62 new connections may be served by the project improvements. As stated above, the project includes revision of the HBAP and STMP Policy 9 to allow connections to the Samoa WWTF by users outside of the STMP. Therefore, the project would result in **no impact**.

Summary

Implementation of the project's collection and disposal system outside of the existing Urban Limit Line would be consistent with land use plans as the project would amend the HBAP to allow development of the project. Development of improvements to the Approved Samoa WWTF would be consistent with the HBAP and conform to other provisions of the plan for public services (no impact).

Furthermore, the project's provision of sewer service to land uses outside of the Urban Limit Line with treatment at the Approved Samoa WWTF would be consistent with the HBAP and STMP, as the project includes removal of the STMP Land Use Designation Overlay New Development - Policy 9; which only allows connections to the Samoa WWTF by users within the STMP. The project would be consistent with the HBAP and STMP and would result in **no impact**.

Significance *No Impact*

Mitigation **None Required**

Impact LU-3: Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

This impact analysis addresses CEQA Guidelines Appendix G checklist item X.c) identified in Section 4.9.3. Impacts related to the project's potential conflict with adopted plans for the purpose of protecting biological resources is described in Chapter 4.3.

The proposed project would not conflict with any applicable habitat conservation plan or natural community conservation plan. There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plans for the proposed project site or area that would be impacted by the proposed project. There would be **no impact**.

Significance *No Impact*

Mitigation **None Required**

4.9.6 Cumulative Impacts

Impact LU-C-1: Would the project result in a cumulatively considerable contribution to cumulative impacts related to land use?

For land use, the geographic scope for assessing cumulative impacts is the area immediately surrounding the project site, since this area would have the most relevant land use impacts. The project would have no impact related to a conflict with a habitat conservation plan, and therefore would not contribute to a cumulative impact related to such a conflict.

Of the cumulative projects identified in Table 4-1 of Chapter 4.0, the only project that is located in the immediate area is the Samoa Townsite Master Plan. No impacts related to dividing an established community or conflicting with an adopted land use plan were identified in the Samoa Townsite Master Plan Certified EIR. Therefore, the project would not contribute to a cumulative impact related to land use as no other known projects in the immediate vicinity of the project site have land use impacts.

Future infill development and other actions approved under the HBAP would be in compliance with the plan and its policies. The HBAP currently allows infill for existing parcels where residential development is allowed. These parcels would

be developed under existing plans, development standards, and regulations. All current proposed development actions would continue to be reviewed by the County for land use and zoning consistency. The proposed project would simply provide a more efficient alternative for wastewater collection, treatment, and disposal. Future land use and development actions would also be reviewed for land use and zoning consistency with future plans.

There would be no potential cumulative effects on land use.

Significance *Less Than Cumulatively Considerable (Less than Significant)*

Mitigation **None Required**

4.9.7 References

- Humboldt County. 2007. Samoa Town Master Plan, Recirculation Draft 3, Master Environmental Impact Report. Humboldt County Community Development Services Department. October 27.
- Humboldt County. 2014. Humboldt County General Plan Volume II, Humboldt Bay Area Plan of the Humboldt County Local Coastal Program. December.
- Humboldt County. 2017. Humboldt County General Plan for the Areas Outside the Coastal Zone. October 23.
- Humboldt County. Humboldt County Zoning Regulations. Title III Land Use Development, Division 1 Planning.
- State of California. 1976. California Coastal Act of 1976, as Amended. Public Resources Code Division 20. 2018.
- State of California. 2015. California Ocean Plan, Water Quality Control Plan, Ocean Waters of California. State Water Resources Control Board. California Environmental Protection Agency. Sacramento, CA.
- Coastal Zone Management Act. 1972. Coastal Zone Management Act of 1972, as amended through Public Law No. 109-58, the Energy Policy Act of 2005.

4.10 Noise

This section evaluates the potential impacts related to noise and vibration during construction and operation of the project.

4.10.1 Existing Setting

Fundamentals of Acoustics

Noise may be defined as unwanted sound. Noise is often objectionable when it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 4.10-1.

There are several methods of characterizing sound. The most common method in California is the A-weighted sound level or (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called Leq. The most common averaging period is hourly, but Leq can describe any series of noise events of arbitrary duration.

Since the sensitivity to noise increases during the evening and at night, because excessive noise interferes with the ability to sleep, 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The Day/Night Average Sound Level (Ldn) is the average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 PM and 7:00 AM. The Community Noise Equivalent Level, (CNEL), is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 PM - 10:00 PM) and a 10 dB addition to nocturnal (10:00 PM - 7:00 AM) noise levels.

Table 4.10-1 Noise Technical Terms

Term	Definitions
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this section are A-weighted, unless indicated otherwise.
L01, L10, L50, L90	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Equivalent Noise Level, Leq	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 PM to 10:00 PM and after addition of 10 decibels to sound levels in the night between 10:00 PM and 7:00 AM.
Day/Night Noise Level, Ldn or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 PM and 7:00 AM.
Lmax, Lmin	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Fundamentals of Groundborne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several methods are typically used to quantify the amplitude of vibration including Peak Particle Velocity (PPV) and Root Mean Square (RMS) velocity. PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. RMS velocity is defined as the average of the squared amplitude of the signal, usually measured in decibels referenced to one micro-inches per second (in/sec) and reported in VdB. PPV and VdB vibration velocity amplitudes are used in this analysis to evaluate the effect on buildings and human response to vibration.

Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. This rattling phenomenon

may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows. In urban environments sources of groundborne vibration include construction activities, light and heavy rail transit, and heavy trucks and buses.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

Existing Noise Environment

The project is located within the communities of Samoa, Fairhaven, and Finntown (Figures 2-1 and 2-2). The primary noise source contributing to ambient conditions is traffic on New Navy Base Road. Periodic noise occurs from planes using the Samoa Field Airport; however, the airport is not considered a prominent source of noise in the area (Humboldt County 2017). There are no other major noise sources in the project area. Table 13-A (Inventory of Prominent Sources of Noise within Communities of Humboldt County) of the Humboldt County General Plan identifies the pulp mill, cogeneration plant, and shipping operations as stationary sources of noise in the project area (Humboldt County 2017). The cogeneration plant is located approximately 1,500 feet from the project, and the pulp mill is located adjacent to the proposed collection system alignment on Vance Avenue.

Noise-Sensitive Land Uses

Certain land uses, such as residences, schools, childcare centers, churches, hospitals, and nursing homes, etc. are generally more sensitive to noise impacts. Noise sensitive receptors in the project area include residential uses. Residential uses are located adjacent to the collection system alignment. Additionally, residential development is located approximately 1,000 feet from the Approved Samoa WWTF site.

4.10.2 Regulatory Framework

Federal

Federal Noise Control Act of 1972

The basic motivating legislation for noise control in the U.S. was provided by the Federal Noise Control Act (1972), which addressed the issue of noise as a threat to human health and welfare, particularly in urban areas. In response to the Noise Control Act, the U.S. Environmental Protection Agency (EPA) published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA 1974). In summary, EPA findings were that sleep, speech, and other types of essential activity interference could be avoided in residential areas if the L_{dn} did not exceed 55 dBA outdoors and 45 dBA indoors. The EPA intent was not that these findings necessarily be considered as mandatory standards, criteria, or regulatory goals, but as advisory exposure levels below which there is no reason to suspect that the general population would be at risk from any of the identified health or welfare effects of noise. The EPA Levels report also identified 5 dBA as an adequate margin of safety before an increase in noise level would produce a significant increase in the severity of community reaction (i.e., increased complaint frequency, annoyance percentages, etc.) provided that the existing baseline noise exposure did not exceed 55 dBA L_{dn} .

Table 4.10-2 provides examples of protective noise levels recommended by the EPA. The Occupational Safety and Health Administration (OSHA) regulations protect the hearing of workers exposed to occupational noise. Although responsibilities for regulating noise control policies have been transferred to local and state entities, the federal standards still provide value in the analysis of noise impacts.

Table 4.10-2 Recommended Noise Levels for the Protection of Public Health and Welfare

Effect	Level	Area
Hearing Loss	$L_{eq(24)} > 70$ dBA	All areas
Outdoor Activity Interference and Annoyance	$L_{dn} > 55$ dBA	Outdoors in residential areas and farms and other areas where people spend widely varying amount of time and other places in which quiet is a basis for use
	$L_{eq(24)} > 55$ dBA	Outdoor areas where people spend limited amounts of time, such as school yards and playgrounds
Indoor Activity Interference and Annoyance	$L_{dn} > 45$ dBA	Indoor residential areas
	$L_{eq(24)} > 45$ dBA	Other indoor areas with human activities, such as schools

Source: EPA 1974:

Note dBA = A-weighted decibels
 L_{dn} = day-night noise level
 $L_{eq(24)}$ = energy-equivalent noise level over a 24-hour period.

State

No State regulations related to noise and vibration would be applicable to the project. However, Caltrans has published guidelines for evaluating potential vibration impacts from construction projects. Caltrans' Transportation and Construction Vibration Guidance Manual indicates that

vibration in excess of 0.3 in/sec PPV could cause cosmetic damage to structures, and 0.1 in/sec PPV could cause residential annoyance during sleep periods.

Regional and Local

At the local level, noise is addressed through the implementation of General Plan policies, including noise and land use compatibility guidelines, and through enforcement of a noise ordinance. General Plan policies provide guidelines for determining whether a noise environment is appropriate for a proposed or planned land use. Humboldt County does not have an adopted noise ordinance.

Humboldt County General Plan

The Humboldt County General Plan Noise Element includes a number of policies with regard to noise. The following policies are most applicable to the proposed project.

Policy N-P1. Minimize Noise from Stationary and Mobile Sources. Minimize stationary noise sources and noise emanating from temporary activities by applying appropriate standards for average and short-term noise levels during permit review and subsequent monitoring.

Policy N-P4. Protection from Excessive Noise. Protect persons from existing or future excessive levels of noise which interfere with sleep, communication, relaxation, health or legally permitted use of property.

The Humboldt County General Plan also provides the following standards applicable to the proposed project.

Policy N-S1. Land Use/Noise Compatibility Matrix. The Land Use/Noise Compatibility Standards [Included in this EIR as Table 4.10-3] shall be used as a guide to ensure compatibility of land uses. Development may occur in areas identified as “normally unacceptable” if mitigation measures can reduce indoor noise levels to “Maximum Interior Noise Levels” and outdoor noise levels to the maximum “Normally Acceptable” value for the given Land Use Category.

Short-term Noise Performance Standards (Lmax). The following noise standards, unless otherwise specifically indicated, shall apply to all property within their assigned noise zones and such standards shall constitute the maximum permissible noise level within the respective zones [Included in this EIR as Short-Term Noise Standards (Lmax)].

Exceptions. The Short-Term Noise levels [included in this EIR as Table 4.10-4] shall not apply to uses such as, but not limited to:

1. Portable generator use in areas served by public electricity when electrical service is interrupted during emergencies as determined by the Planning Director.
2. Temporary events in conformance with an approved Conditional Use Permit.
3. Use of chainsaws for cutting firewood and power equipment used for landscape maintenance when accessory to permitted on-site uses.

4. Heavy equipment and power tools used during construction of permitted structures when conforming to the terms of the approved permit.
5. Emergency vehicles.

Table 4.10-3 Land Use/Noise Compatibility Standards

Land Use Category	Maximum Interior Exposure (Ldn ¹)	Land Use Interpretation for Ldn Value			
		Clearly Acceptable	Normally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential Single-Family, Duplex, Mobile Homes	45	Under 55	55-60	60-75	Above 75
Residential- Multi-Family, Dormitories, etc.	45	Under 55	55-60	60-75	Above 75
Transient Lodging	45	Under 65	65-70	70-80	Above 80
School Classrooms, Libraries, Churches	45	Under 60	60-65	65-75	Above 75
Hospitals, Nursing Homes	45	Under 60	60-65	65-75	Above 75
Auditoriums, Concert Halls, Music Shells	35	Under 50	50-60	60-70	Above 70
Sports Arenas, Outdoor Spectator Sports	N/A	Under 60	60-65	65-75	Above 75
Playgrounds, Neighborhood Parks	N/A	Under 55	55-65	65-75	Above 75
Golf Courses, Riding Stables, Water Rec., Cemeteries	N/A	Under 60	60-70	70-80	Above 80
Office Buildings, Personal, Business, Professional	50	Under 65	65-75	75-80	Above 80
Commercial- Retail, Movie Theatres, Restaurants	50	Under 65	65-75	75-80	Above 80
Commercial- Wholesale, Some Retail, Ind. Mfg., Util.	N/A	Under 70	70-80	80-85	Above 85
Manufacturing Communications (Noise Sensitive)	N/A	Under 55	55-70	70-80	Above 80
Livestock Farming, Animal Breeding	N/A	Under 60	60-75	75-80	Above 80
Agriculture (except Livestock), Mining, Fishing	N/A	Under 75	Above 75	N/A	N/A
Public Right-of-Way	N/A	Under 75	75-85	Above 85	N/A
Extensive Natural Recreation Areas	N/A	Under 60	60-75	75-85	Above 85

Notes: N/A=Not Applicable

¹ Due to Exterior Noise Levels

Source: Humboldt County 2017

Table 4.10-4 Short-Term Noise Standards (Lmax)

Zoning Classification	Day (maximum) 6:00 a.m. to 10:00 p.m. dBA	Night (maximum) 10:00 p.m. to 6:00 a.m. dBA
MG, MC, AE, TPZ, TC, AG, FP, FR, MH	80	70
CN, MB, ML, RRA, CG, CR, C-1, C-2, C-3	75	65
RM, R-3, R-4	65	60
RS, R-1, R-2, NR	65	60

Source: Humboldt County 2017

4.10.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to noise. The following questions are from CEQA Guidelines' Appendix G Environmental Checklist. Would the project result in:

- a. Exposure of persons to or generation of noise levels in excess of standards established in local general plan or noise ordinance, or applicable standards of other agencies?
 - Compliance with Humboldt County General Plan – Land Use Noise Compatibility Guidelines
- b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
 - Exceeds 0.3 in/sec PPV (Caltrans Transportation and Construction Vibration Guidance Manual)
- c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
 - Exceed applicable Humboldt County General Plan – Land Use Noise Compatibility Guidelines standard of 60 dBA
- d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
 - Daytime - 60 dBA Leq and 5 dBA Leq or more above the ambient for a period greater than one year – (Standard industry practice)
- 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 expose people residing or working in the project area to excessive noise levels?
- f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

4.10.4 Methodology

The noise and vibration impact assessment evaluates noise and vibration impacts associated with construction and operation of the project. The assessment of potential noise impacts was conducted using the anticipated noise that would be produced during construction and operation of the project as compared to noise level thresholds established by the regulatory criteria. The assessment of

vibration impacts was conducted using information on anticipated vibration levels generated during construction of the project.

For construction noise, the potential for impacts was assessed by considering several factors, including the proximity of project-related noise sources to noise-sensitive land uses (i.e., sensitive receptors), typical noise levels associated with construction equipment, the potential for construction noise levels to interfere with daytime activities, and the duration that sensitive receptors would be affected. Construction-generated noise is exempted from the short-term noise level standards identified by the Humboldt County General Plan. Therefore, the short-term thresholds of 60 dBA Leq and 5 dBA Leq or more above the ambient for a period greater than one year is applied.

For operational noise, the potential for impacts was assessed by evaluating the noise generation potential of project noise sources, proximity of sensitive receptors, and the potential for operational noise to exceed the applicable land use noise compatibility standards provided by the Humboldt County General Plan and identified in Table 4.10-3. The nearest receptors are single-family residences located approximately 1,000 feet north of the Approved Samoa WWTF site. The applicable noise compatibility standard is 60 dBA.

The Caltrans guidelines for vibration are the basis for the significance criteria for annoyance and potential building damage. Caltrans recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.08 in/sec PPV for ancient buildings or buildings that are documented to be structurally weakened. This analysis assumes that proposed construction areas would not be in the vicinity of fragile structures, but that older structures exist within the vicinity of the project sites. Based on Caltrans guidance, this analysis establishes 0.3 in/sec PPV as the significance threshold for construction vibration to avoid damage to buildings from vibration sources.

4.10.5 Impact Analysis

Impact NOI-1: Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XII.a) identified in Section 4.10.3.

The Humboldt County General Plan identifies land use compatibility standards for all designated land uses within the county, as well as short-term noise standards (Humboldt County 2017). The maximum allowable acceptable noise standards for residential uses is 60 dBA. The applicable short-term noise standard for residential uses is 65 dBA between 6:00 a.m. and 10:00 p.m., unless the noise source qualifies for one of the exceptions, such as construction noise. Nighttime construction is not anticipated.

Construction

The construction phase of the project (approximately twelve months in duration) would require the use of heavy equipment for excavation, grading, etc., and would temporarily increase ambient noise levels for the duration of project

construction. Construction activities would also involve the use of smaller power tools, generators, and other sources of noise. During construction, noise levels would vary based on the amount of equipment in operation and the location of the activity in proximity to adjacent uses. Noise levels associated with the construction phase would be consistent with the reference noise levels in Table 4.10-5, Construction Equipment Reference Noise Levels Measures at 50 Feet, below.

Sound from a point source is known to attenuate, or reduce, at a rate of 6 dB for each doubling of distance. For example, a noise level of 84 dB Leq¹ 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 below, the noise levels generated by construction equipment for the collection system, improvements to the Approved Samoa WWTF, and disposal system, may reach a maximum of approximately 85 dB Leq at 50 feet during site excavation, and construction. The County of Humboldt General Plan includes short-term noise standards for each of the land uses located within the county (Table 4.10-4); however, construction noise is exempt from these standards as long as construction conforms to the terms of the approved permit for the activity. Therefore, the project construction would not result in exposure of persons to, or generation of noise levels in excess of, standards established in the local general plan.

The project would have a **less than significant** impact during the construction phase of the project.

Table 4.10-5 Construction Equipment Reference Noise Levels Measured at 50 Feet

Equipment	Noise Level (dB)
Drill Rig Truck	84
Horizontal Boring, Hydraulic Jack	80
Front end Loader or Backhoe	80
Excavator	85
Jackhammer	85
Large Generator	82
Paver or Roller	85
Dump Truck	84

Operation

Operation of the project would consist of collection, treatment, and disposal of effluent through the project facilities, and maintenance of the project facilities. Pump stations located along the collection system would be located below

¹ Equivalent sound level (Leq) is a steady-state sound that has the same energy and A-weighted level as the community noise over a given time interval.

ground surface with an access hatch. The project's collection and disposal systems would be located underground and would not generate noise. The pump stations would also be located underground, and would generate some noise. With proper design, the noise levels would not exceed 60 dBA outside of the pump station. Pump station design is currently unknown; therefore, the impact is **significant**.

The project's proposed improvements to the Approved Samoa WWTF would be constructed within the footprint of the WWTF. The closest sensitive receptors to the Approved Samoa WWTF are located approximately 1,000 feet north within the Town of Samoa. The primary sources of operational noise would be occasional emergency generator testing and handling of treated solids and 4 haul trips per year for solids disposal. Although operation of the project improvements to the Approved Samoa WWTF may result in a slight increase in operational noise, it is not anticipated that the proposed additions would exceed the maximum acceptable threshold for residential uses of 60 dBA at the closest receptor, due to the type of activity and distance to the receptor.

Maintenance and employee trips would occur at a rate of approximately 1 trip per day and would not noticeably add to traffic that would cause an increase in the noise environment. The noise impact from maintenance and employees would be **less than significant**.

Summary

Construction noise is exempt from the county's short-term noise standards and, therefore, the construction activities associated with the project would not conflict with an applicable general plan policy. Operation of pump stations may generate **significant** levels of noise. All other noise associated with operation of the project is anticipated to attenuate below county standards at the nearest sensitive receptors or not alter the current noise environment due to their location underground or so minimal that it would not noticeably alter the current noise levels in the project area; the impact from other operations would have a **less than significant** impact related to exposing persons to or generating noise levels above the thresholds established in the Humboldt County General Plan.

Significance

Significant

Mitigation

NOI-1: Noise Attenuation Design for Pump Stations

The County shall require the each pump station design to include a demonstration that pump-generated noise would be attenuated to less than 60 dBA at the exterior of the pump station.

After Mitigation

Less Than Significant with Mitigation

Implementation of Mitigation Measure NOI-1 includes a demonstration that pump station design would result in noise levels to be less than 60 dBA outside of the pump station; Mitigation Measure NOI-1 reduces the project's impact to **less than significant**.

Impact NOI-2: Would the project result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XII.b) identified in Section 4.10.3.

Construction

Construction of the proposed project would generally include site preparation, excavation/grading, trenching, and repaving. Major sources of groundborne vibration such as impact or vibratory pile drivers are not proposed as part of the project.

Table 4.10-6 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. As indicated in Table 4.10-6, vibration levels produced by a vibratory roller can reach 0.210 in/sec PPV at a distance of 25 feet. Jackhammers typically generate vibration levels of 0.035 in/sec PPV and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet. Vibration levels would vary depending on soil conditions, construction methods, and equipment used.

Table 4.10-6 Vibration Source Levels for Project Construction Equipment

Equipment	PPV at 25' (in/sec)	Approximate Lv At 25' (VdB)
Vibratory Roller	0.201	94
Hoe Ram	0.089	87
Large Bulldozer	0.089	87
Loaded Trucks	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58

A review of the construction equipment list for the project was made to identify the specific pieces of construction equipment that would result in the highest vibration levels at nearby receptors. A vibratory roller would be used during the repaving phases of the project, and the nearest receptor would be located approximately 35 feet from portions of the collection system that would be repaved. At a distance of 35 feet, vibration levels produced by a vibratory roller would be below the 0.3 in/sec PPV threshold used to avoid cosmetic damage to buildings that are found to be structurally sound but where structural damage is a major concern. Vibration levels produced by other equipment proposed as part of the project and at locations further from receptors, such as the approved Samoa WWTF, would also be less than the 0.3 in/sec PPV threshold. The impact from vibration during construction would be **less than significant**.

Operation

It is not anticipated that the project would utilize any equipment during that operational phase that would generate excessive groundborne vibration or

groundborne noise levels. Therefore, **no impact** would occur during the operational phase.

Summary

During the construction phase the project would utilize certain equipment that could result in generation of groundborne vibration; however, it is anticipated that the levels of vibration at the closest sensitive receptor would be below the threshold. Therefore, a **less than significant** impact would occur during the construction phase. No groundborne vibration is anticipated to be generated during the operational phase. Therefore, **no impact** would occur during project operations.

Significance *Less than Significant*

Mitigation **None Required**

Impact NOI-3: Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XII.c) identified in Section 4.10.3.

Construction

Construction of the proposed project would be temporary, lasting approximately twelve months. Therefore, the construction phase would not result in a permanent increase in ambient noise levels and the impact would be **less than significant**.

Operation

The project's sewer lines would be located underground and would not generate noise, and the weekly maintenance trip is not anticipated to increase the noise environment above the existing ambient conditions. The pump stations would also be located underground, and would generate some noise. With proper design, the noise levels would not exceed 60 dBA outside of the pump station. Pump station design is currently unknown; therefore, the impact is **significant**.

The nearest sensitive receptor is located approximately 1,000 feet away from the Approved Samoa WWTF. Improvements to the Approved Samoa WWTF include SBR basins, UV disinfection reaction chambers, a dewatering basin, and solids drying beds. These improvements are not sources of substantial noise. The main source of noise from operation of improvements at the Approved Samoa WWTF would be from use of a front end loader or backhoe during loading of treated solids approximately 4 times per year. Noise from the proposed improvements are anticipated to be below the threshold of 60 dBA as measured at the nearest residential receptor, and would not result in a substantial permanent increase in ambient noise levels in the project vicinity. Therefore, the proposed project would not substantially increase the ambient noise environment above the levels existing without the project. The impact is **less than significant**.

Summary

The construction phase of the project would be temporary and therefore would not result in a permanent increase in the ambient noise environment. Construction phase impact would be **less than significant**. Project operations include use of subterranean pump stations that may generate substantial noise; this impact is **significant**. Project operation at the Approved Samoa WWTF site could result in new noise sources; however, the closest sensitive receptor is located approximately 1,000 feet away and operational noise would attenuate below the residential threshold and not noticeable to the existing residents. Therefore, the project operations at the Approved Samoa WWTF would be **less than significant**.

Significance

Significant

Mitigation

NOI-1: Noise Attenuation Design for Pump Stations

Refer to Impact NOI-1 above for the full text of Mitigation Measure NOI-1: Noise Attenuation Design for Pump Stations.

After Mitigation

Less Than Significant with Mitigation

Implementation of Mitigation Measure NOI-1 includes a demonstration that pump station design would result in noise levels to be less than 60 dBA outside of the pump station; Mitigation Measure NOI-1 reduces the project's impact to **less than significant**.

Impact NOI-4:

Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XII.d) identified in Section 4.10.3.

Construction

Project-related construction activities would result in temporary noise increases at sensitive receptors located throughout the collection system alignment. Construction noise levels would vary at any given receptor depending on the type of construction activity, construction phase, equipment type and duration of use, distance between the noise source and receptor, and the presence or absence of barriers between the noise source and receptor. Typical construction equipment generates noise levels ranging from about 76 to 88 dBA at a distance of 50 feet from the source, with higher levels of about 86 to 98 dBA for certain types of earthmoving and impact equipment (e.g., jack hammers, pavement breakers, rock drills). The rate of attenuation or reduction is about 6 dBA for every doubling of distance from a point source. Table 4.10-5 lists noise levels for typical construction equipment at 50 feet from the noise source.

Calculations made based on a review of the proposed construction equipment list indicates that hourly average noise levels would range from approximately 80

to 85 dBA Leq at a distance of 50 feet from the center of any particular active construction location during busy construction periods.

Construction-phase noise generation would occur for pipeline installation, street restoration, staging, pump station installation, and improvements made to the Approved Samoa WWTF. Daytime construction noise levels (there is no construction planned during evening hours) are calculated to exceed the 60 dBA L_{max} threshold at receptors within close proximity to project construction activities. Although construction activities would extend for approximately 12 months overall, exposure to any one sensitive receptor would be for a shorter duration. For example, pipeline construction is conservatively expected to progress at about 50 to 100 feet per day and construction of improvements at the Approved Samoa WWTF would last only 6 months. Although construction would result in a temporary increase in ambient noise levels in the immediate project vicinity, the exposure from daytime construction noise would be limited, and less than 12 months, and is not considered substantial. The impact would be **less than significant** recognizing the relatively short-duration of the proposed construction activities.

Operation

The majority of the project facilities would be located underground and therefore would not noticeably alter the noise environment. Occasional maintenance trips and haul trips would occur; however, due to the existing traffic within the project area this is not anticipated to contribute substantially increase the noise environment.

During operation of the project, temporary sources of noise include periodic testing of back-up generators and use of a front end loader or backhoe to load treated solids approximately 4 times per year. The project's improvements to the Approved Samoa WWTF facilities would be located within the WWTF footprint. As the facility would be located at minimum 1,000 feet away from the nearest sensitive receptors, the project would not result in a substantial temporary or periodic increase in the ambient noise environment as the improvements would be consistent with the facilities included in the Approved Samoa WWTF and would not noticeably alter the existing ambient conditions. A **less than significant** impact would occur.

Summary

Project construction would utilize equipment that would temporarily increase the ambient noise environment. However, due to the short-term nature of the activity and the fact that construction would be completed within twelve months, the temporary increase would not be considered substantial and a **less than significant** impact would occur. During operation, the intermittent maintenance trips and haul trips would not contribute substantially to the noise environment given the existing traffic located within the project area. Additionally, the proposed project facilities may contribute to the existing ambient environment; however, the closest sensitive noise receptors are located approximately 1,000 feet away from the Approved WWTF site and, therefore, it is assumed that noise would

attenuate below a noticeable level. Therefore, the project would have a **less than significant** impact during the operational phase.

Significance *Less than Significant*

Mitigation **None Required**

Impact NOI-5: Would the project be 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, and expose people residing or working in the project area to excessive noise levels?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XII.e) identified in Section 4.10.3.

The proposed project is located in close proximity to the Samoa Field Airport, which is owned by the City of Eureka and located off of New Navy Base Road, southwest of Fairhaven. However, the proposed project does not include the construction of residences and would not expose people to excessive noise from Samoa Field Airport. Therefore, **no impact** would occur.

Significance *No Impact*

Mitigation **None Required**

Impact NOI-6: Would the project be located within the vicinity of a private airstrip, and expose people residing or working in the project area to excessive noise levels?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XII.f) identified in Section 4.10.3.

The proposed project is not located within the vicinity of a private airstrip; therefore, **no impact** would occur.

Significance *No Impact*

Mitigation **None Required**

4.10.6 Cumulative Impacts

Impact NOI-C-1: Would the project contribute to cumulatively considerable noise impacts?

For noise and vibration, the geographic scope of potential cumulative impacts is limited to the immediate project vicinity as well as areas adjacent to any routes designated for access and hauling. A cumulative noise impact would only occur if noise sources from two (or more) projects occurred at the same time in the same general area, and if they contributed to an increase in ambient noise levels above county standards.

Construction

Regarding noise from construction, the cumulative analysis of impacts is limited to the time when the construction activities occur and the proximity of other

projects that are under construction or other sources of noise in the immediate vicinity of proposed project construction activities. Construction impacts do not occur once construction has ceased. There are four projects located within the immediate vicinity of the project; however, only one is anticipated to occur during construction of the proposed project. The Approved Samoa WWTF would be constructed in 2020, same as the proposed project. Therefore, there is potential for a cumulative noise impact in the immediate vicinity of the project at the Approved Samoa WWTF site. However, as discussed above under Impact NOI-1, the nearest sensitive receptor to the Approved Samoa WWTF are located approximately 1,000 feet away; therefore, construction noise is anticipated to attenuate below noticeable levels. Therefore, noise impacts would not be considered cumulatively considerable.

Vibration impacts are often associated with construction activities. Reasonably foreseeable future projects could contribute to a cumulatively significant impact but only if located in proximity to the project site. Construction of the Approved Samoa WWTF is the only project within the vicinity that has the potential to occur during the construction phase. However, due to the distance to the nearest receptor and the fact that the project would not generate a significant amount of vibration, it is unlikely that this would result in a cumulatively considerable effect associated with vibration. Therefore, vibration impacts would not be considered cumulatively considerable.

Operation

Regarding noise from operations, the proposed project’s individual impact would be less than significant. The Approved Samoa WWTF would operate similarly to the proposed project and is not anticipated to significantly increase noise in the vicinity above the current noise environment. There are no known past, present, or reasonably foreseeable future projects in the immediate vicinity of the Approved Samoa WWTF which would contribute to a cumulatively considerable noise impact. The other components of the project would generally be located underground and are therefore not expected to contribute substantially to a cumulatively considerable operational impact.

<i>Significance</i>	<i>Less than Cumulatively Considerable (Less than Significant)</i>
Mitigation	None Required

4.10.7 References

- California Department of Transportation (Caltrans). 2013. Transportation and Construction Vibration Guidance Manual. September.
- Environmental Protection Agency. 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare within an Adequate Margin of Safety. March.
- Federal Highway Administration. 2006. Construction Noise Handbook. August.
- Federal Transit Administration. 2006. Transit Noise and Vibration Impact Assessment. May.
- Humboldt County. 2007. Samoa Town Master Plan, Recirculation Draft 3, Master Environmental Impact Report. Humboldt County Community Development Services Department. October 2007.
- Humboldt County. 2017. Humboldt County General Plan for the Areas Outside the Coastal Zone. October 23.
- Humboldt County. 2017. Humboldt County General Plan update Revised Draft Environmental Impact Report. April 19.

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4.11 Population and Housing

This section evaluates the potential impacts related to population and housing with implementation of the project.

4.11.1 Existing Setting

The Approved Samoa WWTF site is designated RM-Residential/Medium Density and NR-Natural Resources. The majority of the project site is within existing roadways, which are covered by multiple land use designations by the Humboldt Bay Area Plan (the Local Coastal Program that is included in the General Plan for coastal areas).

The community of Fairhaven is designated RX-Residential/Exurban, and zoned RS-X; Residential Suburban. The community has approximately 66 houses for a total population of approximately 187 people. Within the developed area of Fairhaven, there are 125 residential parcels of which 63 are currently developed with 66 houses. The 62 vacant parcels would, under existing land use and zoning designations, be allowed to each contain one new single-family residence. Accessory dwelling units (ADUs) are allowed under the existing land use designation and zoning. ADUs are small dwelling units on a residential property typically containing one bedroom. ADUs may include a small unit separate from the main house, a unit attached to the main house, or an apartment style unit above a garage (GHD/SHN 2018).

Finntown currently contains approximately 10 homes for an estimated total population of 28 people (GHD/SHN 2018). Finntown is zoned MC-A, industrial/coastal-dependent, which does not allow further residential development, but does allow a caretaker's quarters.

4.11.2 Regulatory Framework

Federal

There are no federal policies, plans or regulations applicable to the proposed project with regard to population and housing.

State

There are no state policies, plans or regulations applicable to the proposed project with regard to population and housing.

Regional and Local

Humboldt Bay Area Plan/Local Coastal Plan

The HBAP is the County's Local Coastal Plan applicable to the project area. The HBAP identifies land uses and standards by which development will be evaluated within the Coastal Zone. The following HBAP policies are applicable to the proposed project:

HBAP Section 3.22, Public Services-Rural, subsection B (Development Policies) prohibits the extension of wastewater services outside of the Urban Limit Line (the STMP area is the only area of the PCSD that is within the Urban Limit Line), except sewer connections provided to industrial uses.

HBAP STMP Land Use Designation Overlay New Development (Policy 9) only allows connection to the Samoa WWTF by uses within the STMP boundary.

The HBAP limits the amount of growth that can occur within the coastal areas due to various environmental factors, including, but not limited to, the presence of environmentally sensitive habitat areas (ESHAs), wetlands, other coastal resources, and the potential for tsunami inundation events and sea level rise.

4.11.3 Evaluation Criteria

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to population and housing. The following questions are from CEQA Guidelines' Appendix G Environmental Checklist Section XIII. Would the project:

- a. Induce substantial 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 housing, necessitating the construction of replacement housing elsewhere?
- c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

4.11.4 Methodology

Potential impacts to population and housing are evaluated for both the construction and operational phases. This evaluation considers whether the project would affect the current population and housing stock under the project's Short-Term or Long-Term phases.

4.11.5 Impact Analysis

Impact POP-1: Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirect (for example, through extension of roads or other infrastructure?)

This impact analysis addresses CEQA Guidelines Appendix G checklist item XIII.a) identified in Section 4.11.3.

Construction

The project construction activities would be limited in scope and duration, lasting 12 months or less. Project construction activities would not directly, or indirectly, induce growth in the area because it would not create new employment opportunities other than temporary construction jobs. Project construction activities would have **no impact** on population growth.

Operation

The project would provide sewer service to the communities of Fairhaven and Finntown. The project would not provide sewer service to facilities within the STMP. The project's Short-Term Phase would allow existing facilities within the

service area to connect to the project facilities. The project's Short-Term Phase would not induce substantial population growth, as it would only serve existing facilities within the project's service area, which is the Peninsula Community Services District boundary (excluding the STMP). Therefore, the project's Short-Term Phase would result in **no impact**.

The project's Long-Term Phase would allow future infill development consistent with existing HBAP plan and zoning to connect to the project facilities. The assumed number of potential connections and population served by the project's Long-Term Phase is provided in Section 3.5.1. As detailed within that section, future infill development consistent with the HBAP plan and designations would include an estimated 62 new residential units on available infill lots in Fairhaven and 64 new ADUs as allowed under existing zoning. The Long-Term Phase would allow sewer service for those infill lots for an estimated 273 new residents, the development of which has already been evaluated in the certified Humboldt County General Plan Update EIR. The population was estimated using an average residential occupancy in Samoa of 2.84 people per household, and an assumed 1.5 people per ADU (GHD/SHN 2018).

Fairhaven is located in the Humboldt Local Agency Management Program Variance Prohibition Areas, as detailed in Section 3.3.1 (Existing Unsewered Condition in Fairhaven and Finntown). Variances cannot be granted for new onsite wastewater treatment system construction. Therefore, development of new residences is restricted within the community of Fairhaven due to the area's current unsewered condition.

Because the Long-Term Phase would allow future infill structures, consistent with HBAP and zoning, to connect to the project's collection system and be served by the wastewater treatment plant, the project would remove an existing restriction to residential development. However, the Humboldt General Plan previously identified that within the Eureka Plain Watershed, within which the project is located, the population would be increased by approximately 3,448 persons by 2030 (Humboldt 2017). Therefore, the estimated population increase of 273 persons has been previously accounted for by the General Plan and fully analyzed within the certified General Plan EIR. The project's Long-Term Phase impact on population growth would be **less than significant**.

Summary

Project construction and the Short-Term Phase would not include any population-inducing components. These phases are not anticipated to result in any impacts related to population or housing.

The Long-Term phase would allow for future growth to occur due to the provision of necessary wastewater infrastructure. However, the estimated population growth that may occur under the project's Long-Term Phase is accounted for in the County's General Plan and certified General Plan EIR. Furthermore, this growth would not be considered substantial and development would comply with the General Plan, Zoning Code, and HBAP. Therefore, the Long-Term phase of the project related to population growth would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact POP-2: **Would the project displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere?**

This impact analysis addresses CEQA Guidelines Appendix G checklist items XIII.b) and XIII.c) identified in Section 4.11.3.

Construction

Project construction would include a development of a wastewater collection and disposal system within existing or approved roadways. The project's improvements to the Approved Samoa WWTF would be constructed within the footprint of the Approved Samoa WWTF. Project construction would not displace any existing housing or people. Therefore, project construction would result in **no impact**.

Operation

Project operations (Short-Term and Long-Term phases) would include the collection, treatment, and disposal of wastewater. Project operations would not include any additional construction activity. Therefore, project operations would result in **no impact**.

Summary

Project construction would occur within existing or approved roadways, or within the footprint of the Approved Samoa WWTF and, therefore, would not displace any existing housing or people. Project operations would not include any activities that would displace existing housing or people. Therefore, project construction and operation would result in **no impact**.

Significance *No Impact*

Mitigation **None Required**

4.11.6 Cumulative Impacts

Impact POP-C-1 **Would the project result in a cumulatively considerable contribution to cumulative impacts related to population and housing?**

For population and housing, the geographic scope for assessing cumulative impacts is the Samoa Peninsula, since this area would have the most relevant population and housing impacts. Implementation of the project's Short-Term Phase would result in no impact to population and housing; therefore, the Short-Term Phase would not contribute to a cumulative population and housing impact. **No impact** would occur.

The only cumulative project from Table 4-1 that would have overlapping impacts with the project in relation to population and housing is the Samoa Townsite Master Plan (STMP). The approved STMP includes development of 293 new

residential units within the STMP boundary, supporting an estimated 700 persons. If developed at the maximum allowable HBAP density and development standards, the STMP could result in 325 new residences for a population increase of 777 persons. As stated in the certified STMP EIR, the STMP’s residential development contributes to meeting the countywide housing demand within the Humboldt Bay Planning area and could help reduce pressure to convert agriculture and timber land for residential purposes, and would result in a less-than-significant impact for population and housing.

Implementation for the Long-Term phase of the project would not induce substantial population growth, displace substantial numbers of people, or necessitate the construction of replacement housing. This phase of the project would allow future infill development, consistent with HBAP plan and zoning, to connect to the proposed project facilities via an amendment to the existing HBAP. The Long-Term Phase would not increase the development potential within the designated infill areas, or allow development beyond that which is currently allowed under the General Plan, Zoning Code, and HBAP. Furthermore, the housing and population growth associated with development of infill properties has been included and appropriately addressed in the certified General Plan EIR. Therefore, implementation of the Long-Term phase of the project would not substantially contribute to a cumulative population and housing impact; the project’s contribution to the cumulative impact would be **less than significant**.

Summary

Implementation of the Short-Term phase would result in no impact to population and housing. Therefore, **no cumulative impact** would occur.

The Long-Term phase would allow future infill development consistent with HBAP plan and zoning to connect to the project facilities. However, population and housing from future infill development has been addressed in the certified General Plan EIR. Therefore, implementation of the Long-Term phase of the project would not substantially contribute to a cumulative population and housing impact; the impact would be **less than significant**.

<i>Significance</i>	<i>Less than Cumulatively Considerable (Less than Significant)</i>
Mitigation	None Required

4.11.7 References

- GHD and SHN. 2018. Samoa Peninsula Wastewater Project, Planning and Design Study. May.
- Humboldt County. 2007. Samoa Town Master Plan. Community Development Services Department. March.
- Humboldt County. 2008. Samoa Town Master Plan Final Master Environmental Impact Report. January.
- Humboldt County. 2017a. Humboldt County General Plan for the Areas Outside the Coastal Zone. October 23.
- Humboldt County. 2017b. Humboldt County General Plan Update Revised Draft Environmental Impact Report. April 19.
- SHN Engineers & Geologists. 2017. Peninsula CSD Formation Management Plan.

4.12 Public Services and Recreation

This section evaluates the potential impacts related to public services and recreation with implementation of the project.

4.12.1 Existing Setting

Fire Protection and Emergency Services

The Samoa Peninsula Fire Protection District (SPFPD) provides fire services to the communities of Samoa, Fairhaven, and Finntown, as well as the industrial areas. The SPFPD is the result of the merging of the Samoa Fire District, formed in 1902, and the Fairhaven Fire District, formed in 1952, in 1994. As described in Section 3.3.4, the SPFPD submitted an application to the Humboldt County Local Agency Formation Commission (LAFCo) for what is known as a “reorganization” consisting of dissolution of the SPFPD and formation of the new Peninsula Community Services District (PCSD). The PCSD was approved by LAFCo in 2017, and approved by voters within the service area in the November 7, 2017 election. It is anticipated that the PCSD will be fully formed by the end of 2018 or early 2019. Subsequent references to SPFPD in this document use only PCSD.

The PCSD is an all-volunteer district and is located out of the station at 1982 Gass Street in the Fairhaven area. A second station is located in the town of Samoa, but is primarily used to store equipment. The PCSD has a Chief Officer vehicle and a beach rescue vehicle (both four-wheel drive pickups). They are emergency response vehicles and are stocked with defibrillators and general medical equipment.

The PCSD responds to approximately 100 calls annually; 40 of these being within their jurisdiction and 60 being calls to aid other districts. The PCSD has mutual aid agreements with the Arcata Fire District and the Humboldt Bay Fire Department (LAFCo 2017).

Police Services

Police services in all unincorporated areas are provided by the Humboldt County’s Sheriff’s Office. Services include criminal investigation, court services, and corrections. The California Highway Patrol is responsible for enforcing traffic laws on roadways within the unincorporated areas and on state highways throughout the county.

The Sheriff’s Office Operations Bureau is made up of seven units under the command of the Undersheriff. The most visible of these units is the Patrol Unit. Sheriff’s Deputies assigned to the Patrol Unit are responsible for responding to emergency calls for service, criminal investigations, and crime prevention through neighborhood and beat patrols. Patrol has one main station in Eureka, and substations in Garberville and McKinleyville. The Main Station in Eureka patrols the Samoa Peninsula.

The Sheriff’s Office also has mutual aid agreements with cities and the California Highway Patrol. Mutual aid is an agreement between agencies where the agency of jurisdiction can request manpower or resources from allied agencies or agencies within the surrounding areas. These agencies could be local or state agencies. According to the County’s General Plan EIR, the Main Station could respond within 10 minutes or less to calls from Samoa (Humboldt County 2017).

Schools

Humboldt County communities are served by 32 public school districts. Additionally, the Humboldt County Office of Education operates several school facilities in addition to private school entities. Only one school, the Peninsula Union Elementary School is located on the Samoa Peninsula. However, it is located more than 0.5 mile north of the project site. The Peninsula Union Elementary School is the only school within the Peninsula Union School District and had a student body of approximately 34 students in 2015 (Humboldt County 2017).

Parks and Recreational Facilities

Within the Samoa Peninsula, Humboldt County owns and maintains one park and two beach parking areas. The park, the Samoa Boat Ramp and Campground, provides 13 RV sites and 25 tent sites, as well as restroom and shower facilities. The Samoa Dunes Recreation Area, which is adjacent to the Samoa Boat Ramp and Campground, is managed by the Bureau of Land Management.

Additionally, Peninsula Union Elementary School's baseball and soccer fields are available for public use. Other private recreation facilities include the Women's Club and grounds on Rideout Avenue.

4.12.2 Regulatory Framework

Federal

There are no federal policies, plans or regulations applicable to the proposed project with regard to public services and recreation.

State

California Occupational Safety and Health Administration

In accordance with California Code of Regulations, Title 8 Sections 1270 "Fire Prevention and Fire Equipment," the California Occupational Safety and Health Administration has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance and use of all firefighting and emergency medical equipment.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, which includes regulations for building standards (as set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise building, childcare facility standards, and fire suppression training.

Regional and Local

Humboldt County Emergency Operations Plan

Humboldt County adopted an Emergency Operations Plan (EOP) in 2015 (Humboldt County 2015). The Humboldt County EOP identifies the County's emergency planning, organization and response policies and procedures. It addresses how the City will respond to extraordinary events or disasters, from preparation through recovery, and the responsibilities of each department and emergency

operations center position. It also addresses the integration and coordination with other local governments, including special districts and state agencies.

Humboldt County General Plan

The Humboldt County General Plan does not contain policies that are applicable to the project.

4.12.3 Evaluation Criteria

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to public services and recreation. The following questions are from CEQA Guidelines Appendix G Environmental Checklist Section XIV.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered government 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:

- a. Fire Protection?
- b. Police Protection?
- c. Schools?
- d. Parks?
- e. Other public facilities?
 - Generate population or job growth that substantially affects the service of public services identified above.

In addition to the above, the following questions are from CEQA Guidelines Appendix G Environmental Checklist Section XV. 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?
 - Generate population or job growth that substantially affects the use of recreational facilities.
- b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?
 - Include recreational facilities that generate a significant environmental effect or generate population or job growth that requires additional recreational facilities.

4.12.4 Methodology

Potential impacts to public services and recreational facilities are evaluated for both construction and operational activities, as well as the provision of sewer service for the existing development and sewer service for the infill development. The evaluation considers whether the proposed project would affect the communities' existing public services and recreation facilities, including fire and police protection, parkland, and educational services.

4.12.5 Impact Analysis

Impact PSR-1: Would the project result in substantial adverse physical impacts associated with the provision of 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 following public services: fire protection, police protection, schools, parks, and/or other public facilities?

This impact analysis addresses CEQA Guidelines Appendix G checklist items XIV a-e) identified in Section 4.12.3.

The project consists of providing sewer service to existing facilities and future infill development (consistent with HBAP plan and zoning) under the Short-Term phase and Long-Term phase, respectively.

Short-Term Phase

Operation of the Short-Term phase would result in **no impact** to public services, as it would provide sewer service to existing development.

Long-Term Phase

The assumed number of potential connections and population served by the project's Long-Term phase is provided in Section 3.5.1. The Long-Term phase would provide sewer service for an estimated 273 new residents. As detailed in Section 4.11, Population and Housing, the project's Long-Term phase would remove an existing restriction to residential development. However, the Humboldt county General Plan previously identified that population growth, and the environmental effects of that population growth have been previously accounted for by the General Plan and analyzed within the certified General Plan EIR, which found impacts to public services to be less than significant. Therefore, the project's Long-Term phase would not substantially affect service ratios or response times of fire protection, emergency medical, or police services, or otherwise.

Additionally, no component of this phase of the project would induce growth and by extension increase the need for school services, beyond that which was evaluated in the General Plan EIR. Therefore, the project would not require the construction of new or physically altered governmental facilities. The impact related to public services from the Long-Term phase of the project would be **less than significant**.

Summary

During operation of the Short-Term phase, existing service ratios and demand for public service would remain unchanged. Therefore, the Short-Term phase would not require additional facilities in order to provide adequate levels of public services and a **less than significant** impact would occur. During the Long-Term phase, the LCP amendment would allow future infill development to connect to the sewer system. However, environmental impacts of that growth have been previously analyzed in the certified Humboldt County General Plan EIR, which

found impacts to public services to be less than significant. Therefore, the project's Long-Term phase would not result in a substantial need for additional public services and the impact would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact PSR-2: Would the project 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?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XIV a) identified in Section 4.12.3.

Short-Term Phase

The Short-Term phase would result in **no impact** to recreational facilities, as it would provide sewer service to existing development.

Long-Term Phase

The Long-Term phase would amend the LCP to allow for future infill development consistent with HBAP and zoning to connect to the proposed project facilities. As discussed in Section 4.11, Population and Housing, the Fairhaven Townsite could result in the addition of 272 persons as a result of project implementation. However, the Humboldt County General Plan previously identified that population growth, and the environmental effects of that population growth have been previously accounted for by the General Plan and fully analyzed within the certified General Plan EIR, which found impacts to recreational resources to be less than significant. Therefore, the project's Long-Term phase would not 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. The impact would be **less than significant**.

Summary

The Short-Term phase would not directly or indirectly increase use of recreational facilities, as it would only provide sewer service to existing development. The Long-Term phase would allow future infill development to connect to the project facilities consistent with the Humboldt County General Plan. The population, and associated environmental impacts, from future infill development was fully analyzed in the certified General Plan EIR, which found impacts to parks and recreation to be less than significant. Therefore, the impact would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact PSR-3: Would the project include recreational facilities or require the construction or expansion of recreation facilities which might have an adverse physical effect on the environment?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XIV b) identified in Section 4.12.3.

Short-Term Phase

The project’s Short-Term phase would allow existing development to connect to the project facilities, and would not include recreational facilities, expansion of recreational facilities, or direct or indirect impacts to recreational facilities. Therefore, the project’s Short-Term phase would have **no impact**.

Long-Term Phase

The Long-Term phase would amend the LCP to allow for future infill consistent with the HBAP and zoning to connect to the project facilities. As discussed in Section 4.11, Population and Housing, the Fairhaven Townsite could result in the addition of 272 persons as a result of project implementation. However, the Humboldt County General Plan previously identified that population growth, and the environmental effects of that population growth have been previously analyzed within the certified General Plan EIR, which found impacts to recreational resources to be less than significant. The project’s Long-Term phase impact would be **less than significant**.

Summary

The Short-Term phase allows existing development to connect to the project facilities; no impact to recreational facilities would occur. The Long-Term phase would allow future infill development to connect; however, the population, and associated environmental impacts, from future infill development was analyzed in the certified General Plan EIR, which found impacts to parks and recreation to be less than significant. The project’s Long-Term operational impact related to recreation would be **less than significant**.

<i>Significance</i>	<i>Less than Significant</i>
Mitigation	None Required

4.12.6 Cumulative Impacts

Impact PSR-C-1 Would the project result in a cumulatively considerable contribution to cumulative impacts related to public services or recreational resources?

Implementation of the project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, or negatively affect service ratios or response times. The known cumulative projects include small scale uses (such as the Samoa Airfield OWTS) and land use entitlements with negligible cumulative effects (such as the Coast Seafoods project). The STMP would increase population and associated need for public service in the project’s service area. However, the STMP’s certified EIR found all impacts to public services would be less than significant or less than significant after mitigation. Mitigation implemented by STMP’s certified EIR includes measures to reduce the STMP’s increased demand for fire protection and

emergency services. The project's contribution to the cumulative impact to public services would not be considerable.

As noted above the proposed project would have no impact or less than significant impacts to recreational resources. Cumulative impacts to recreational resources were evaluated in the Humboldt County General Plan EIR and found to be less than significant. Although the project provides infrastructure to support future infill development, as noted, that development has already been evaluated in the certified General Plan EIR and found to have less than significant impacts to recreational services. The project's contribution to the cumulative impact would not be cumulatively considerable.

Significance *Less than Cumulatively Considerable (Less than Significant)*

4.12.7 References

Humboldt County. 2017. Humboldt County General Plan Update Revised Draft Environmental Impact Report. April 19.

Humboldt County Local Agency Formation Commission (LAFCo). 2017. Agenda Item 8A: Proposed Reorganization of the Samoa Peninsula Fire Protection District to a Community Services District. May 15.

Humboldt County. 2015. Emergency Operations Plan. March.

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4.13 Transportation and Traffic

This section evaluates the potential impacts to transportation during construction and operation of the proposed project.

4.13.1 Existing Setting

The following information discusses the transportation-related context in which the proposed project would be constructed and operated, including a description of the roadway network, pedestrian and bicycle facilities, and public transit in the project area.

Roadways

New Navy Base Road is the primary roadway extending from State Route (SR) 255 southwest to the end of the Samoa Peninsula. New Navy Base Road turns into SR 255 just north of Samoa, which falls under the jurisdiction of the California Department of Transportation (Caltrans). SR 255 heads north then east to Arcata and southeast to Eureka from Samoa. The County identified New Navy Base Road as a Regionally Significant Street and Roadway (arterial) as part of the 2008 Regional Transportation Plan (Planwest Partners, Inc. 2008).

County roadways within the project area that may be encroached upon during construction include portions of Vance Avenue, Bendixsen Street, Lincoln Avenue, New Navy Base Road, and portions of adjoining streets. Each of these county roads are two-way roads with one travel lane in each direction.

Intersections within the project area were identified as operating at a level of service (LOS) C or better in 2006 (County of Humboldt 2006).

Pedestrian and Bicycle Facilities

As specified in the Humboldt County Regional Transportation Plan, all streets, roadways, and highways in Humboldt County are open to bicycle use (HCAOG 2018). Humboldt County's bikeways are generally classified according to Caltrans' definitions for Class I, II, and III bikeways, as defined below.

Class I "Bike Path": A separated, surfaced right-of-way designated exclusively for non-motorized use (can be solely for bicyclists, or can be shared with pedestrians and/or equestrians). The minimum width for each direction is 8 feet (1.5 meters), with a 5 feet (2.4 meter) minimum width for a bi-directional path.

Class II "Bike Lane": Within the roadway, a lane for preferential bicycle use, at least 4 feet wide or 5 feet when next to a gutter or parking. Established by a white stripe (on roadway) and "Bike Lane" signs. Adjacent vehicle parking and motorist crossflow is allowed. On a two-way road, a bike lane is required on both sides.

Class III "Bike Route": A roadway that does not have a Class I or II bikeway, where bicyclists share a travel lane with motorists. Sometimes created to connect other bikeways. Can be established by a "Bike Route" sign, but not required.

Unclassified bikeway: Streets, roadways, and highways without features to qualify as Class I, II, or III.

The Humboldt County Regional Bicycle Plan identifies New Navy Base Road through the project area as a proposed future Class I bike path. The proposed Class I bike path would continue north along SR 255 to the City of Arcata (HCAOG 2018).

Roadways in the project area do not include sidewalks, so pedestrians have to walk along the roadway shoulder or in the road right-of-way.

Public Transit

There are no commuter transit services or fixed-route public transit routes in the Samoa Peninsula. Dial-A-Ride (DAR) services are available in the project area through the Humboldt Transit Authority. Paratransit is a form of transportation service that is more flexible and personalized than fixed route or commuter transit service. Paratransit is tailored to the needs of disabled and elderly individuals. Paratransit services include DAR, Dial-A-Lift (DAL) and non-emergency medical transportation services (HCAOG 2017).

DAR and DAL are discount transportation services available to seniors and/or the disabled with a doctor's verification of disability. These services are also available to individuals over the age of 72, regardless of their medical condition. A reservation must be made to utilize either DAR or DAL.

Airports

Humboldt County includes nine public airports, the nearest to the project area is Samoa Field Airport, which is owned and managed by the City of Eureka. Samoa Field Airport is not included in the County's Airport Land Use Compatibility Plan; therefore, Samoa Field Airport does not include any Land Use Compatibility Zones.

4.13.2 Regulatory Framework

Federal

There are no federal regulations that apply to the proposed project related to transportation.

State

Caltrans issues encroachment permits and permits to operate the movement of oversized or excessive load vehicles on State roadways, such as SR 255. Caltrans also requires a Transportation Management Plan for any traffic restrictions and detours that could affect the highway system, which must be prepared in accordance with the California Manual on Uniform Traffic Control Devices.

Regional and Local

County of Humboldt General Plan

The following policy from the Humboldt County General Plan is applicable to the project with regard to transportation.

Policy C-P5. Level of Service Criteria. The County shall strive to maintain Level of Service C operation on all roadway segments and intersections, except for U.S. 101, where Level of Service D shall be acceptable. Level of Service improvements for automobiles should

not adversely affect Level of Service and/or Quality of Service for other modes of transportation, if possible.

Humboldt County Association of Governments

The Humboldt County Association of Governments (HCAOG) is a joint powers authority comprised of the County of Humboldt and the seven incorporated cities, each with a seat on the Board of Directors.

Humboldt County Regional Transportation Plan

Under its authority as the Regional Transportation Planning Agency for Humboldt County, HCAOG adopts and submits an updated Regional Transportation Plan (RTP) to the California Transportation Commission and Caltrans every five years. The RTP is a long-range (20-year) transportation planning document for Humboldt County. The most recent five-year update of the RTP was adopted in 2017. The RTP does not currently establish vehicular level of service criteria for County roadways in the project area.

Humboldt County Regional Bicycle Plan

The Humboldt Regional Bicycle Plan is a 20-year planning document that is updated every five years. The primary goal stated in the 2018 Regional Bicycle Plan is to create the safest conditions for bicyclists by providing bikeways and improving roadways to eliminate barriers to bicycle travel (HCAOG 2018). Projects identified as priorities in the current Regional Bicycle Plan are anticipated to be implemented over a five-year period.

4.13.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to transportation and traffic. The following questions are from CEQA Guidelines' Appendix G Environmental Checklist Section XVI. Would the project:

- a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
 - Conflict with the 2017 Regional Transportation Plan
- b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
 - Degrade the Level of Service of project-affected roadways to LOS D or worse.
- c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
 - Modify air traffic patterns resulting in safety risks.

- d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
 - Modify roadway, intersection, or driveway configurations without conforming to design standards
 - Operate off-road equipment on roadways
- e. Result in inadequate emergency access?
 - Block or substantially obstruct roadways
- f. Conflict with adopted polices, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?
 - Block or substantially obstruct public transit, bicycle, or pedestrian facilities.

4.13.4 Methodology

The impact analysis below evaluates the potential for the project to conflict with the County's adopted plans and policies related to circulation, including the General Plan, Regional Transportation Plan, and Regional Bicycle Plan. The analysis also evaluates the potential for the project to have short-term or long-term impacts on roadways, emergency access, or on the safety or performance of vehicular traffic, bicyclists, pedestrians, or public transit.

4.13.5 Impact Analysis

Impact TRA-1: Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVI.a) identified in Section 4.13.3.

The Humboldt County General Plan strives to maintain LOS C operation on all roadway segments and intersections, except for U.S. 101, where LOS D is acceptable.

Construction

Construction traffic associated with the project would result in a short-term increase in construction-related vehicle trips on New Navy Base Road and SR 255, as well as other local roadways in the project area. Construction would require vehicle trips by construction workers and haul-truck trips for delivery and disposal of construction materials and spoils to and from construction areas. Construction of the proposed collection system and disposal system would also require temporary encroachments for trenching, laying pipe, backfilling, compacting, and repaving within the County right-of-way in project area roadways.

Because construction activities related to the pipelines would temporarily alter the normal functionality of several roadways, including the need for temporary partial lane closures along the roadways, the potential exists for a short-term decrease in the performance and safety of local roads during construction. This temporary impact would be **less than significant**.

Please refer to Impact TRA-4 below for an evaluation of potential construction-related impacts to pedestrian, bicycle, and transit facilities.

Operation

Operation and maintenance of the project would result in less than one maintenance visit per day and approximately four treated solids hauling trips per year. The timing of maintenance visits and haul trips would vary, and may or may not occur during a peak hour. Operation and maintenance of the project would, therefore, result in less than one peak hour trip to local roadways. This minimal increase in project trips would not substantially affect the roadway capacity or degrade the flow of traffic or LOS along local roadways. Therefore, operation of the project would not conflict with the performance standards outlined in the Humboldt County General Plan. The impact would be **less than significant**.

Please refer to Impact TRA-4 below for an evaluation of potential operational related impacts to pedestrian, bicycle, and transit facilities.

Summary

Construction traffic associated with the project would result in a short-term increase in construction-related vehicle trips on local roadways in the project area. The impact would be **less than significant**.

Project operation would contribute nominal vehicle trips, which are not anticipated to have a significant effect on the local roadways and therefore would not conflict with performance standards outlined in the Humboldt County General Plan. Therefore, the impact from project operation would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact TRA-2: Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVI.b) identified in Section 4.13.3.

Humboldt County does not have a Congestion Management Agency or an adopted Congestion Management Program. Therefore, the project would not conflict with an applicable congestion management program. The project would result in **no impact**.

Significance *No Impact*

Mitigation **None Required**

Impact TRA-3: **Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVI.c) identified in Section 4.13.3.

The proposed project is not located within an airport land use plan; however, it is within two miles of the Samoa Field Airport. Project construction and operation would include only ground-based travel, primarily associated with construction, and would have no impact to Samoa Field Airport operations. Therefore, the project would result in **no impact**.

Significance *No Impact*

Mitigation **None Required**

Impact TRA-4: **Would the project substantially increase hazards due to a design feature or incompatible use?**

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVI.d) identified in Section 4.13.3.

Construction

As detailed in Impact TRA-5, project construction would require temporary encroachment easements within County maintained roads, which would require construction-affected roads be repaved to pre-project conditions.

Furthermore, the encroachment permit would include the development and implementation of a Traffic Control Plan for work that would block the public right-of-way, including plans for re-routing of vehicles, bicycles, and pedestrians, as needed. Traffic controls would be required in accordance with County standards, and contractors would be required to comply with the general conditions of the encroachment permit. All construction zones would be returned to similar to existing conditions once work is completed. Project construction activities would not increase hazards due to a design feature or incompatible use and the impact is considered **less than significant**.

Operation

The project would not alter roadway or intersection configurations, add driveways, or construct any features that would affect access or use of transportation infrastructure. During the operational phase the proposed facilities would be located underground or away from transportation infrastructure. Roadways would operate similar to existing conditions. Approximately four haul trips per year would occur for treated solids disposal. The Approved Samoa WWTF driveway would be constructed to Humboldt County standards, and it is

not anticipated that line of sight hazards would be present. It is not anticipated that the project would result in an impact due to the creation of a hazard or exacerbation of an existing hazard. **No impact** during operation would occur.

Summary

During project construction a Traffic Control Plan would be implemented, which would ensure that the vehicles traveling within the project area can still access the roadways impacted by construction. The project’s construction-related impact would be **less than significant**. During project operations, roadways would operate similar to existing conditions; no new hazards or exacerbation of existing hazards would occur. Project operations would result in **no impact**.

Significance *Less than Significant*

Mitigation **None required**

Impact TRA-5: Would the project result in inadequate emergency access?

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVI.e) identified in Section 4.13.3.

Construction

Project construction would require partial lane closures along several local roadways within the project area. An encroachment permit would be required for work completed within the County road right-of-way. The encroachment permit application for Humboldt County would require preparation of a Traffic Control Plan for construction work that would block the public right-of-way, and plans for re-routing of vehicles, bicycles and pedestrians, as needed. Implementation of traffic controls would be required in accordance with County standards, and contractors would be required to comply with the general conditions of the encroachment permit. Contractors would be required to adhere to an approved Traffic Control Plan, which would require that access be maintained to all properties adjacent to roads at all times. Implementation of a Traffic Control Plan would also minimize conflict and confusion related to emergency access and circulation. Contractors would be required to accommodate access by emergency vehicles, such as plating over excavations, and travel lane closures would be managed such that one travel lane would be kept open at all times to allow alternating traffic flow in both directions along affected roadways. Through compliance with County requirements, the potential for project construction activities to result in inadequate emergency access would be **less than significant**.

Operation

Operation and maintenance of the project would result in less than one additional vehicle trip per day. Such a minimal increase in traffic along local roadways would not affect emergency services or response times to the area. The operational impact on emergency access would be **less than significant**.

Summary

During project construction, a Traffic Control Plan would be implemented to ensure adequate emergency access is provided. Implementation of the Traffic Control Plan, as required by the County, would reduce the project’s construction-period impact to **less than significant**. During operation the project would generate less than one vehicle trip per day which is not anticipated to negatively affect emergency access through the area. The impact of project operations would be **less than significant**.

Significance *Less than Significant*

Mitigation **None required**

Impact TRA-6: **Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVI.f) identified in Section 4.13.3.

Construction

There are no commuter transit services or fixed-route public transit routes in the project area. The construction of the collection system would not impact the performance and safety of public transit in the project area. **No impact** would occur.

The Humboldt County Regional Bicycle Plan identifies New Navy Base Road through a portion of the project area as a proposed future Class I bike path. The proposed Class I bike path would continue north along SR 255 to the City of Arcata (HCAOG 2018). Roadways in the project area do not include sidewalks, so pedestrians have to walk along the roadway shoulder or in the road right-of-way. The Traffic Control Plan would provide for alternative routes for pedestrians, if necessary. Construction of the proposed collection system and disposal system is anticipated to occur in the road right-of-way on one side of the road and require temporary, partial lane closures.

Project construction is not anticipated to require the closure of New Navy Base Road or any other local road. The project would not alter the configuration of New Navy Base Road, SR 255, or other roadway. The project would not preclude the future construction of a Class I bicycle facility north along SR 255 to the City of Arcata as listed in the Humboldt County Regional Bicycle Plan. The project would not conflict with an adopted plan regarding public transit, bicycle, or pedestrian facilities. **No impact** from construction activities on existing bicycle or pedestrian facilities is expected to occur during construction.

Operation

Once the project is constructed, all project facilities would be located underground, off existing roads, or at the Approved Samoa WWTF. Operation and maintenance of the project would result in less than one additional vehicle

trip per day, would not result in increases to motor vehicle speeds or queuing of traffic, and would not substantially increase exposure of bicyclists and pedestrians to vehicle conflict areas. The project’s Long-Term Phase would allow future infill development, consistent with the HBAP and zoning, to connect to the project’s infrastructure. However, the population of future infill development, and the associated demands on public transit, bicycle, or pedestrian facilities, have been included and assessed within the County’s certified General Plan EIR. Therefore, the project’s potential conflict with adopted plans for pedestrian, bicycle and public transit facilities, or the performance of such facilities, would **be less than significant**.

Summary

Project construction would not affect the infrastructure for or performance of public transit, bicycle or pedestrian facilities, and would result in **no impact**. Project operations would add less than one additional vehicle trip per day; the increase in trips would not substantially affect infrastructure for or performance of public transit, bicycle or pedestrian facilities. Operational impact would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

4.13.6 Cumulative Impacts

Impact TRA-C-1: Would the project result in cumulatively considerable contributions to cumulative impacts related to transportation?

The geographic scope for the analysis of cumulative impacts on transportation and traffic consists of the areas that use the same roadways as the project. Construction of the project may overlap with the STMP projects that would be under construction or would be reasonably foreseeable in the project area. Operation of the project may overlap with operation of the STMP, Manila Community Service District Modernization, and Coast Seafoods Project. The Samoa Airfield Onsite Wastewater Treatment System would not contribute to operational impacts.

As summarized in Impacts TRA-2, TRA-3, and TR-6, project construction and operational activities would have less-than-significant impacts with regard to conflicting with a congestion management plan, change in air traffic patterns, or conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. Therefore, the project would not substantially contribute to a cumulative impact.

Under Impact TRA-1, project construction traffic would be temporary, and project operation traffic would contribute less than one trip per day to surrounding streets. Other cumulative projects listed in Table 4-1 would also contribute trips to the surrounding roadways. However, the project-affected intersections

currently operate at an acceptable LOS, and one additional trip would not be a considerable contribution to the cumulative impact for the surrounding roadways.

Under Impact TRA-4 and TRA-5, a less than significant impact was identified relative to increased hazards and emergency access during construction of the conveyance system within the roadways. The only cumulative project, from Table 4-1 Projects Considered for Cumulative Impacts, which would overlap during construction with the project is the Approved Samoa WWTF. However, the construction area for the Approved Samoa WWTF does not geographically overlap with the project's proposed in-road collection system and effluent disposal system. While it would overlap with the improvements at the Approved Samoa WWTF, these improvements would not block travel lanes and, redirect bicyclists and pedestrians, and therefore require a Traffic Control Plan as the conveyance improvements would. The project construction would not contribute to a cumulative impact relative to increasing hazards or emergency access. There would be no impact from project operation under Impact TRA-4, therefore project operation could not contribute to a cumulative impact. Under TRA-5, project operation traffic would contribute less than one trip per day to surrounding streets. Other cumulative projects listed in Table 4-1 would also contribute trips to the surrounding roadways. However, one additional trip would not be a considerable contribution to the cumulative impact.

The project's contribution to a cumulative transportation impacts would be **less than significant**.

Significance *Less than Cumulatively Considerable (Less than Significant)*

Mitigation **None Required**

4.13.7 References

Humboldt County Association of Governments (HCAOG) 2018. Humboldt Regional Bicycle Plan. July.

HCAOG. 2017. Regional Transportation Plan for Humboldt County (VROOM – Variety in Rural Options of Mobility), 2017 Update. December.

Humboldt County. 2006. Samoa Town Master Plan Draft Master Environmental Impact Report. January.

Planwest Partners, Inc. 2008. Humboldt County Regional Transportation Plan, prepared for HCAOG.

4.14 Utilities and Service Systems

This section evaluates the potential impacts related to utilities and service systems with implementation of the project.

- Potential impacts to surface water quality are addressed in Section 4.8, Hydrology and Water Quality.

4.14.1 Existing Setting

The following sections on water, wastewater, and storm drainage are excerpted from the Peninsula Community Services District (PCSD) Formation Management Plan prepared by SHN (SHN 2017). The PCSD, which was formerly the Samoa Peninsula Fire Protection District, will provide typical municipal type services related to streets and street lighting, parks and recreation, wastewater collection and treatment, water distribution, and storm drainage.

Water

The Humboldt Bay Municipal Water District (HBMWD) provides wholesale and retail water services to the Samoa Peninsula. HBMWD maintains two separate pipeline systems delivering treated drinking water and untreated raw water to its customers in the area. The untreated raw water is currently supplied to industrial users on the peninsula. With the town of Samoa, the treated water system will change to an individually metered system. Currently, HBMWD also provides retail water service to individual residential and commercial customers in the Fairhaven area.

In both the communities of Fairhaven and Finntown, residential and small business/industrial customers along with the Coast Guard station are provided domestic water through a distribution system and individual metered services owned and operated by HBMWD. The domestic system is served by a 12-inch diameter, concrete-lined transmission pipe that is routed down the peninsula and then looped through a 27-inch diameter, steel pipeline under Humboldt Bay. The steel line under the bay was constructed in the 1970s. The Fairhaven and Finntown distribution lines were also constructed in the 1970s, and are primarily polyvinyl chloride (PVC) with several asbestos-cement (AC) sections.

HBMWD also supplies raw (untreated) water to some of the industrial properties on the peninsula. These include the former LP Samoa Pulp Mill (currently RMT II, and owned by HBHRCD) and the former Simpson Fairhaven Pulp Mill (presently the Fairhaven Business Park and the DG Fairhaven Biomass Power Plant). The raw water transmission line is a 42-inch diameter, concrete-lined corrugated pipeline that ends approximately due east of the DG Fairhaven power plant. Historically, this line served pulp mills on the peninsula; however, the majority of the industrial demand has since subsided.

Wastewater

The only central sewer treatment system on the Samoa Peninsula is within the town of Samoa. There are two separate systems serving the existing houses. One system provides sewer collection, transport, treatment, and disposal to the majority of the houses and buildings. The second system provides sewer collection, transport, treatment, and disposal to approximately 25 homes and the Women's Club located along Sunset Avenue. Currently, the Samoa Pacific Group (SPG) owns,

operates, and maintains both of the existing wastewater systems, which includes three large holding tanks, conveyance piping, pumping, a large holding reservoir/pond, and disposal percolation basin.

All residential and commercial/business properties within the communities of Fairhaven and Finntown are served through onsite, individual septic tank and leachfield systems that are each property owner's responsibility. The North Coast Regional Water Quality Control Board (NCRWQCB) has indicated that physical conditions that exist on the peninsula (high groundwater, coarse sandy soils, and small residential lots) make it infeasible for septic system discharges to meet water quality objectives set forth in the Water Quality Control Plan for the North Coast Region. Active industrial properties are served by onsite wastewater treatment systems.

Stormwater

The peninsula is made up of typically well-drained soils (coarse sands) and topographic features that do not require addressing runoff issues. No formal storm systems, other than a few drainage ditches on some of the industrial properties, are located between the railroad tracks and Humboldt Bay. Some of these industrial areas have storm drain catch basins and underground piping, most of which is not formally mapped, and are owned and operated by private property owners.

Solid Waste

Solid waste and recyclables pickup within the Samoa Peninsula is collected by Recology, which also has a recycling plant on the Samoa Peninsula. The County, through Humboldt Waste Management Authority (HWMA), has been trucking its solid waste approximately 175 miles to two out-of-county landfills. One third of this waste is shipped to Dry Creek Landfill near Medford, Oregon under a long-term contract. The remaining two thirds of solid waste is hauled to the Anderson landfill located near Redding, California. Dry Creek Landfill's projected operational life exceeds 100 years under any scenario. The Anderson Landfill is located at 18703 Cambridge Road in Anderson, California. The land owner is Waste Management of California, Inc a subsidiary of Waste Management, Inc. The landfill's maximum permitted throughput is 1,850 tons per day. The remaining capacity is 11,914,025 cubic yards. The estimated closure date is 2055 (Shasta County 2008). Together, these two landfills would allow the County to meet its landfill disposal needs over the next 20 years.

Energy

Electricity is provided to the Samoa Peninsula by the Pacific Gas and Electric Company (PG&E). Power is transmitted in the project area through 115 kilovolt (kV) lines from the source to the PG&E substation located in Fairhaven. The power is then converted to be suitable for distribution via 12 kV overhead lines. Electricity is distributed via private lines, and each structure has its own meter.

PG&E also provides natural gas to commercial users on the Samoa Peninsula through a pipeline under Humboldt Bay that begins near 14th Street in Eureka and ends south of Samoa near Bay Street. Residences in the project area do not currently have natural gas service. Many homes instead have propane tanks, which are serviced by AmeriGas.

4.14.2 Regulatory Framework

Federal

Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into waters of the United States and regulating quality standards for surface waters. Under the CWA, the U.S. EPA has implemented pollution control programs such as setting wastewater standards for industry and water quality standards for all contaminants in surface waters. The CWA made it unlawful to discharge any pollutant from a point source (direct discharge) into navigable waters. The U.S. EPA's National Pollutant Discharge Elimination System (NPDES) permit program controls direct and non-point discharges through the NCRWQCB (see Regional regulatory below).

State

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (Public Resources Code Division 30), enacted through Assembly Bill (AB) 939 and modified by subsequent legislation, required all California cities and counties to implement programs to divert waste from landfills (Public Resources Code Section 41780). Compliance with AB 939 is determined by the Department of Resources, Recycling, and Recovery (Cal Recycle), formerly known as the California Integrated Waste Management Board (CIWMB). Each county is required to prepare and submit an Integrated Waste Management Plan for expected solid waste generation within the county to the CIWMB. The Act also requires each city to prepare a Source Reduction and Recycling Element for achieving a solid waste diversion goal of 25 percent by January 1, 1995, and 50 percent by January 1, 2000. In 2012, the unincorporated area of Humboldt County met or exceeded the waste diversion mandate of 50 percent set by the Integrated Waste Management Act of 1989 (Humboldt County 2017a). CalRecycle has set an overall statewide diversion rate target of 75 percent by 2020.

Regional and Local

North Coast Regional Water Quality Control Board

The NCRWQCB develops and enforces water quality objectives and implementation plans that safeguard the quality of water resources in its region, including Humboldt County. In accordance with California Water Code Section 13263, the State's RWQCBs are authorized to issue Waste Discharge Requirements (WDRs) as well as periodically review self-monitoring reports submitted by the discharger, and perform independent compliance checking.

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate industrial and municipal discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges including point source municipal waste discharges and nonpoint source stormwater runoff. A NPDES permit is required when proposing to, or discharging of waste into any surface water of the state. The NCRWQCB implements the NPDES permit program at the local level.

County of Humboldt General Plan

The following Humboldt County General Plan policies are applicable to the proposed project.

Policy WR-P11. County Facilities Management. Design, construct, and maintain County buildings, roads, bridges, drainages, and other facilities to minimize erosion and the volume of sediment in stormwater flows.

Policy WR-P35. Implementation of NPDES Permit. Implement and comply with the National Pollutant Discharge Elimination Systems (NPDES) Permit issued by the State Water Resources Control Board to the designated portions of the County.

Policy WR-P44. Storm Drainage Impact Reduction. Develop and require the use of Low-Impact Development (LID) standards consistent with Regional Water Board requirements to reduce the quantity and increase the quality of stormwater runoff from new development and redevelopment projects in areas within the County's MS4 boundary or as triggered under other Regional Water Board permits. For all other watersheds, develop storm drainage development guidelines with incentives to encourage LID standards to reduce the quantity and increase the quality of stormwater runoff from new developments.

4.14.3 Evaluation Criteria and Thresholds of Significance

For the purpose of this EIR, the evaluation criteria and significance thresholds summarized below are used to determine if the project would have a significant effect related to utilities and service systems. The following questions are from CEQA Guidelines' Appendix G Environmental Checklist Section XVIII. Would the project:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
 - An increase in wastewater volume or strength exceeding existing treatment capacity.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
 - Inadequate water supply or sewer capacity to serve the project.
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
 - Inadequate storm water drainage capacity to serve the site.
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
 - Inadequate water supply capacity or infrastructure to serve the needs of the project.
- 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?
 - Inadequate sewer capacity to serve the project and future needs of the PCSD.
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
 - Inadequate regional landfill capacity to serve the project.

- Comply with federal, state, and local statutes and regulations related to solid waste?
 - Non-compliance with applicable solid waste diversion regulations.

4.14.4 Methodology

Potential impacts on utilities are analyzed based on the potential for the proposed project to affect the wastewater, water, stormwater, and solid waste facilities during construction or operation, as indicated in the thresholds above.

4.14.5 Impact Analysis

Impact UTI-1: Would the project exceed the wastewater treatment requirements of the applicable Regional Water Quality Control Board.

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVIII.a) identified in Section 4.14.3.

The project itself includes conveyance, treatment, and disposal improvements to an approved wastewater treatment facility. The improvements are designed to meet the requirements of, and would be permitted by, the NCRWQCB. During operation, the project would allow for existing (Short-Term phase) and future (Long-Term phase) uses within the project area to connect to the Approved Samoa WWTF, as improved by the project. An NPDES permit application has been submitted to the NCRWQCB by the SPG for the Approved Samoa WWTF. With implementation of the project, the NPDES permit would be amended to handle the additional flows associated with the effluent from Fairhaven and Finntown. Discharge of treated effluent would be disposed of in accordance with all requirements in the amended permit. As the project would be consistent with NCRWQCB waste discharge requirements, it is not anticipated that the project would exceed wastewater treatment requirements of the NCRWQCB. The project impact would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact UTI-2: Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVIII.b) identified in Section 4.14.3.

The project would install a wastewater collection, treatment, and disposal system, including improvements at the Approved Samoa WWTF, the impacts of which are evaluated throughout this document (see other resource sections of Chapter 4 or Table 1-1 [Summary of Impacts and Mitigation Measures]). The project itself would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities outside of those included as part of the project and analyzed in this document. The project would

have **no impact** from the construction of new water or wastewater treatment facilities as no such facilities would be required.

Significance *No Impact*

Mitigation **None Required**

Impact UTI-3: Would the project require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVIII.c) identified in Section 4.14.3.

The project's collection and disposal system improvements would be constructed within existing roadways and would not result in an increase in impervious surfaces. Project improvements at the Approved Samoa WWTF would increase the amount of impervious surfaces within the WWTF site. However, stormwater at the Approved Samoa WWTF would divert to on-site stormwater facilities with implementation of the Approved Samoa WWTF. The Approved Samoa WWTF stormwater facilities would accommodate the additional runoff for the projects proposed improvements to the Approved Samoa WWTF. Therefore, no additional stormwater facilities or expansion of new stormwater facilities would be required. There would be **no impact** from the construction of new or expanded storm water drainage facilities as none are required.

Significance *No Impact*

Mitigation **None Required**

Impact UTI-4: Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVIII.d) identified in Section 4.14.3.

Construction

Project construction may utilize a minimal amount of water for dust suppression, cleaning of construction equipment, mixing of concrete, or meeting other construction-related needs. Water use during the construction phase would be intermittent, last up to 12 months, and would cease with completion of construction. No new or expanded entitlements would be required to accommodate water use during construction. The impact would be **less than significant**.

Operation

Minimal potable water will be required for personnel use at the facility. Recycled water will be used for operation and maintenance of the facility. The project's Long-Term phase would remove an existing restriction to residential development of 62 residential infill lots. Water is provided to the Samoa Peninsula

by the HBMWD. According to the HBMWD's 2015 Urban Water Management Plan, serving all of its customers will require less than 20 percent of its 85,000 acre feet per year entitlement in 20 years. Growth projected to occur by 2040 in areas served by HBMWD is not expected to require significant expansion of existing water supply facilities (Humboldt County 2017a). The infill development of 62 units are assumed to be developed under the Humboldt General Plan, the environmental effects of which were analyzed within the certified General Plan EIR, which found impacts to water supplies to be less than significant. Therefore the existing entitlements would be sufficient to serve the project and no new or expanded entitlements would be required. The project's impact during operation would be **less than significant**.

Summary

Limited water may be required for construction-related needs during the construction phase of the project; however, use would be temporary and no new water supplies would be needed. Construction impacts to water supply would be **less than significant**. The project would not increase demand for potable water and the water needs of the 62 residential infill lots that would be allowed to connect to the Approved Samoa WWTF under the Long-Term phase was previously evaluated in the Humboldt County General Plan EIR. No new or expanded entitlements would be needed. Impacts to water supply would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact UTI-5: **Would the project 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.**

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVIII.e) identified in Section 4.14.3.

The project would install wastewater collection and disposal systems, and improvements to the Approved Samoa WWTF. The project facilities would allow for the conveyance and treatment of effluent generated by existing (Short-Term phase) and potential future infill development (Long-Term phase), consistent with HBAP and zoning, to connect to the Approved Samoa WWTF. As detailed within Section 3.5.2, Design Flow and Treated Effluent Standards, the project is designed, and would be constructed, to adequately handle the flow from the existing development that would be allowed to connect under the Short-Term phase, as well as infill development under the Long-Term phase. The impact would be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact UTI-6: Would the project be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs.

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVIII.f) identified in Section 4.14.3.

Construction

Construction would generate a small amount of debris which would be hauled away to an approved transfer station and/or landfill. Because no significant structure demolition that would generate waste is proposed during construction of the proposed project, the temporary impact due to construction of the project on existing landfill capacity would be minor and temporary. The project’s impact on landfill capacity during the construction phase would be **less than significant**.

Operation

Once the project is operational, solids would accumulate in the SBR tanks, which would then be treated. Treated solids would be hauled off-site and disposed of at the Anderson Landfill. It is anticipated that the project would generate four 5 cubic-yard-truckloads of solids per year, including the Short-Term and Long-Term phase, that would be trucked to the Anderson Landfill. As of 2017, the Anderson Landfill had a remaining capacity of about eight million tons and a daily permit disposal of about 1,018 tons/day. The Anderson Landfill is not expected to reach capacity until 2036 (Humboldt County 2017b). Based on the project’s annual waste anticipated to be generated and the available capacity at the landfill, the Anderson Landfill would be able to serve the project during the project operation. The project’s operational impact on landfill capacity would be **less than significant**.

Summary

The minor and temporary impact to landfill capacity during construction would be **less than significant**. Solids created during the operational phase of the project would be hauled to the Anderson landfill, which has a capacity large enough to be able to accept waste from the project during operation. Operational impacts would also be **less than significant**.

Significance *Less than Significant*

Mitigation **None Required**

Impact UTI-7: Would the project comply with federal, state, and local statutes and regulations related to solid waste.

This impact analysis addresses CEQA Guidelines Appendix G checklist item XVIII.g) identified in Section 4.14.3.

Other than the 20 cubic yards of solids produced each year, the project would not generate much in the way of solid waste. The project would comply with all state and local statutes related to solid waste, including the proper disposal of solids. This would include compliance with the Humboldt Waste Management Authority’s recycling, hazardous waste, and composting programs in the county

that are enacted to comply with AB 939. Therefore, the project would not conflict with any statues or regulations and **no impact** would occur.

Significance *No Impact*

Mitigation **None Required**

4.14.6 Cumulative Impacts

Impact: UTI-C-1: Would the project result in a cumulatively considerable contribution to a cumulative impact related to utility or service systems.

The geographic area for cumulative utility and service systems impacts consists of the area within the PCSD of the Samoa Peninsula. As summarized in Impacts UTI-2, UTI-3, and UTI-7, the project would not require new or expanded water, wastewater, or stormwater facilities, or conflict with solid waste regulations. Therefore, the project could not contribute to a cumulative impact.

Under Impact UTI-1, the project would have a less-than-significant impact with regard to exceeding wastewater treatment requirements. Of the cumulative projects listed in Table 4-1, the STMP and Coast Seafoods project also could discharge via the same ocean outfall as the project. However, both projects would be subject to waste discharge requirements imposed by the NCRWQCB through the NPDES permit process, as well as on-going monitoring and permit renewal requirements. Because both projects would be required to abide by the same regulations, there would not be a significant cumulative impact to which the project would contribute.

With regard to Impact UTI-4, there would be little to no change in water use with implementation of the project improvements. Although the project would allow, under the Long-Term phase, development to proceed on 62 infill lots, water supply for this growth was evaluated in the Humboldt County General Plan EIR which found impacts on water supply to be less than significant. The project would not substantially contribute to a cumulative impact with regard to water supply.

With regard to Impact UTI-5, the project is being designed, and would be constructed, to adequately handle the flow from both the Short-Term and Long-Term phases, and does not include development beyond the capacity of the wastewater treatment facility. The Approved Samoa WWTF has been designed to accommodate buildout of the STMP. The remaining projects listed in Table 4-1 are upgrades or expansions of existing facilities and would not tie in to the Approved Samoa WWTF. The project would not substantially contribute to a cumulative impact with regard to wastewater capacity.

Significance *Less than Cumulatively Considerable (Less than Significant)*

Mitigation **None Required**

4.14.7 References

- Humboldt County. 2017a. Humboldt County General Plan for the Areas Outside the Coastal Zone. October 23.
- Humboldt County. 2017b. Humboldt County General Plan Update Revised Draft Environmental Impact Report. April 19.
- SHN. 2017. Management Plan Peninsula CSD Formation, prepared for County of Humboldt and Humboldt Bay Harbor, Recreation, and Conservation District. March.
- Winzler & Kelly. 2008. Community Infrastructure & Services Technical Report, prepared for County of Humboldt Community Development Services Department. July.

5. Alternatives to the Proposed Project

5.1 Introduction

This chapter presents the alternatives analysis for the project. Section 15126.6(a) of the CEQA Guidelines requires EIRs to “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.” Section 15126.6(b) of the CEQA Guidelines also identifies the purpose of an EIR’s discussion and analysis of project alternatives which is to identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

5.2 Identifying Project Alternatives

A Planning and Design Study prepared for the project reported most of the existing septic systems are aging and are poorly suited for the soil and groundwater conditions that exist on the peninsula. Preventative maintenance is uncommon and failing systems are rarely identified until surface seepage is reported to the HCDEH. The North Coast Regional Water Quality Control Board (NCRWQCB) staff has raised concerns prior to and during the preparation of the *Samoa Peninsula Wastewater Project Planning and Design Study* (Preliminary Engineering Report) (GHD/SHN 2018), about the impacts to groundwater quality from continued use and potential future failure of existing private septic systems within Samoa Peninsula. Therefore, the project is considered to be a long-term measure to protect public health.

The Preliminary Engineering Report was prepared to evaluate the potential wastewater collection systems, treatment systems, and disposal options for the town of Samoa, Fairhaven, and Finntown. The main focus of the Preliminary Engineering Report was to evaluate the opportunities, identify approaches to address the constraints, and ultimately determine the path of future wastewater development on the Samoa Peninsula (GHD/SHN 2018). In addition, the report reviews potential alternatives for collection, treatment, and disposal systems. The alternatives identified by the Preliminary Engineering Report, but not carried forward are described in further detail in Section 5.6 below. In summary, alternative collection, treatment, and disposal systems were rejected due to fiscal, feasibility, or environmental impact reasons.

Regarding the location of the proposed Samoa Peninsula wastewater treatment improvements, seven sites were considered and were compared based on the constraints that the site: be zoned Public Facility or Industrial General, minimize impacts to environmentally sensitive habitat areas (ESHA), is available for purchase or lease for the lifetime of the project, minimize operational costs,

have approximately three acres of available space, and is placed north of Fairhaven to allow for potential use of the RMT II ocean outfall. For reasons described in Section 5.6, five of the sites reviewed were not carried forward.

Given the above, there are two remaining potential areas for a treatment site are: 1) the Approved Samoa WWTF within the STMP (proposed project), or 2) at the RMT II site (APN 401-112-21) currently zoned Industrial Coastal Dependent.

The alternatives analyzed in this chapter, in addition to the proposed project, include the No Project Alternative and the RTM II Site Alternative. The environmentally superior alternative is described in Section 5.5, and alternatives which were considered but were not carried forward are described in Section 5.6.

5.3 Description of Alternatives

5.3.1 Alternative 1: No Project Alternative

The CEQA Guidelines require that the alternatives be compared to the proposed project's environmental impacts and that the "no project" alternative be considered (Section 15126.6[d][e]). CEQA Guidelines Section 15126.6(e)(1) states that the purpose of describing and analyzing the no project alternative is "to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." The no project analysis is required to "discuss the existing conditions at the time the notice of preparation is published...as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services (Section 15126.6[e][2]). The discussion would compare the environmental effects of the project site remaining in its existing state against environmental effects which would occur if the project is approved. In certain instances, the no project alternative means "no build" wherein the existing environmental setting is maintained. This would be the case for the proposed project. Under the No Project Alternative, the existing residences, recreational uses, and industrial uses within the PCSD, excluding the STMP area, would continue to be on individual septic systems and leachfields.

None of the short-term construction impacts or long-term operational impacts described in Chapter 4.0, Environmental Analysis, of this EIR would occur. The No Project Alternative would not result in the short-term construction period impacts associated with air quality, biological, cultural and tribal resources, hazardous materials, and hydrology and water quality. Operational impacts associated with operational noise would also be eliminated.

However, there are also negative environmental impacts that would occur under the No Project Alternative. The NCRWQCB has raised concerns about the impacts to groundwater quality from the existing system and would like to see an upgraded system in place. Under the No Project Alternative, the aging septic systems in the project area would likely continue to degrade, impacting ground and surface water quality in the area, negatively affecting public health and the environment, and limiting future residential and commercial development.

5.3.2 Alternative 2: RMT II Site Alternative

Under Alternative 2, the project WWTF improvements would be constructed at the RMT II site instead of the Approved Samoa WWTF site. The RMT II site is located on an approximately 0.5-acre portion of APN 401-112-021 east of Vance Avenue and adjacent to the ocean outfall connection at Manhole

5. The Alternative 2 wastewater treatment improvements would be the same as described in Section 3.5.3, except that Alternative 2 would require construction of a headworks and primary treatment system of screening and grit removal (the proposed project would utilize the Approved Samoa WWTF headworks and primary treatment system). The long-Term Phase, as described in chapter 3.0 Project Description would be the same under Alternative 2. Alternative 2 would satisfy all objectives except the project objective of consolidating wastewater collection and treatment services within the PCSD service area or minimizing project costs by improving the Approved Samoa WWTF.

The location and type of conveyance and disposal improvements would remain as described in Chapter 3 Project Description. The Alternative 2 site is currently zoned Industrial Coastal Dependent which does not allow public facilities. Therefore, this alternative would require a rezone to Industrial General. There is adequate of previously disturbed (i.e., non-ESHA) land available for purchase or lease at the RMT II site. Under Alternative 2 the wetlands at the Approved Samoa WWTF site would not be filled and, therefore, Alternative 2 would not require a Section 404 Permit from the U.S. Army Corps of Engineers. It is currently unknown if a Section 401 Water Quality Certification from North Coast Regional Water Quality Control Board would be required. Alternative 2 would require the following permits, which are also required of the proposed project:

- Certify Humboldt Bay Area Plan amendments by the California Coastal Commission
- Coastal Development Permit by the California Coastal Commission
- Encroachment Permits by Humboldt County
- Grading Permit by Humboldt County
- Construction General Permit by the State Water Resources Control Board
- NPDES Report of Waste Discharge
- Lease by the California State Lands Commission

Because Alternative 2 differs from the project only in the location and extent of the WWTF improvements, the follow analysis focuses on the change from locating the proposed WWTF improvements from the Approved Samoa WWTF site to the RMT II site.

Aesthetics

Alternative 2 would locate the WWTF improvements in an industrial area similar to the Approved Samoa WWTF site. In addition, as with the Samoa Approved WWTF site, the RMT II site would be screened with fencing. The view of the improvements would be the same in both places, and in the case of the RMT II site blend with existing industrial uses. As with the proposed project, the collection system and disposal system would be constructed within existing roadways. Similarly, the pump stations would be constructed below ground surface, each with an approximately 8-foot by 12-foot building near the pump station to house an emergency generator, the power service, and control panel.

Air Quality

The air quality impacts associated with construction of Alternative 2 would generally be similar to the proposed project for both air pollutants and air contaminants, as approximately the same construction effort would be put into each. The operational air quality impacts with this alternative would also be approximately the same as the proposed project because of the similarity in operations. As with the

proposed project, Mitigation Measure AQ-1 Implement Air Quality Construction Control Measures would be required.

Biological Resources

Alternative 2 would have less impacts on biological resources than the proposed project, including no wetland fill. Both alternatives would entail trenching in the same areas for construction of the collection system. However, construction at the RMT II site would occur at a highly disturbed industrial location and the site is assumed to contain fewer biological resources that would be impacted by project construction. As with the proposed project, Mitigation Measures BIO-1a, Bio-1b, BIO-2a, Bio-2b, and HWQ-1 would be required to protect biological resources during construction. However, Mitigation Measures Bio-3a and Bio-3b, related to protection of wetlands and creating compensatory mitigation wetlands, would not be required.

Cultural and Tribal Cultural Resources

The potential impacts on cultural and tribal cultural resources with Alternative 2 would be similar or less than those of the proposed project. The Alternative 2 collection system would be similar to the proposed project, except for the alignment portion along the northernmost portion of Vance Avenue, which would not be required under Alternative 2. Additionally, the disposal system would be shorter as the site is adjacent to manhole 5, where the project would tie in to the existing ocean outfall. Therefore, Alternative 2 would not have potential construction-period impacts to cultural and tribal cultural resources at the northern portion of Vance Avenue or within the Approved Samoa WWTF. As with the proposed project, Mitigation Measures CTR-1, CTR-2, CTR-3, CTR-4, and CTR-5 to reduce impacts to cultural and tribal resources would be required.

Geology and Soils

Alternative 2 would require excavation, backfilling, and structures to be built in the same areas as the proposed project. With the two alternatives being constructed in a similar manner in the same soils, the construction of Alternative 2 would be expected to result in the same potential seismic and erosion hazards that would be anticipated with construction of the proposed project. As with the proposed project, Mitigation Measure GEO-2, Reduce Geologic Hazards through Design and Construction, would be required.

Greenhouse Gas Emissions

During construction, this alternative would have similar GHG emissions as the proposed project. Construction efforts would be approximately equal, and the same equipment would be used for each alternative.

Operation of this alternative would result in slightly less GHG emissions as the proposed project. The operational parameters and energy consumption of pumps and the wastewater treatment plant would be the same as under the proposed project. The pumping of raw or treated effluent would be slightly less than under the proposed project because the Alternative 2 wastewater treatment improvements would be closer to the ocean outfall.

Hazards and Hazardous Materials

Alternative 2 would include the same uses on the same scale as the proposed project. Therefore, this alternative would generally have the same potential hazards and hazardous materials impacts as the proposed project. As with the proposed project, Mitigation Measure HAZ-3, Soil and Groundwater Management during Construction, would be required.

Hydrology and Water Quality

Because Alternative 2 would generally have the same construction footprint as the proposed project (except for the wastewater treatment facility sites), they would both have similar impacts on stormwater runoff and erosion. The collection system piping would generally be placed within existing roadways, so there would be minimal impacts on hydrology and water quality within the Samoa Peninsula. The wastewater treatment improvements at the RMT II site would create slightly more area of additional impervious surfaces and would retain stormwater on site. Both the proposed project and Alternative 2 would use the existing ocean outfall for treated effluent disposal, and would have similar water quality impacts to the Pacific Ocean.

Land Use and Planning

The land use and planning implications, with regard to physically dividing a community and habitat conservation plans, of Alternative 2 would be the same as those described for the proposed project. The RMT II site is currently zoned Industrial Coastal Dependent. Development of the site would require a zone change. It is assumed that a zone change would occur prior to, or as part of, Alternative 2; therefore, the land use and planning impacts for Alternative 2 would be similar to the proposed.

Noise

Similar to the proposed project, development of this alternative would generate construction noise associated with the use of heavy equipment for demolition, site grading and excavation, installation of utilities, paving, and building fabrication.

Under the proposed project, there would be noise generated at the wastewater treatment plant from pumps and the operation of equipment necessary for hauling away dried solids on a regular basis. This would take place approximately 1,000 feet from existing residences. Conversely, Alternative 2 would generate the same operational noise, but at a greater distance from existing residences, thus having less effects on noise sensitive receptors in the project area. As with the proposed project, Mitigation Measure NOI-1 Noise Attenuation Design for Pump Stations would be required to reduce operational noise from pump stations.

Population and Housing

The potential for direct impacts related to population and housing for Alternative 2 would be limited to the short-term increase in employees required to construct the project, which would be similar to that of the proposed project. No new employees would be needed under Alternative 2, same as the proposed project. The service population and assumed infill development parameters for Alternative 2 would be the same as the proposed project, as provided in Section 3.5.1.

Public Services and Recreation

As with the proposed project, Alternative 2 would not result in any new need for additional or altered public/government facilities and services. Impacts would be similar to the proposed project. Similarly, Alternative 2 would not significantly impact recreational resources within the project area.

Transportation

Transportation impacts associated with this alternative would be similar to those of the proposed project. During construction, Alternative 2 and the proposed project would both have minimal traffic impacts in the Samoa Peninsula area. Construction activities for each alternative would impact the same areas, with the exception of the wastewater treatment improvements which would be located at RMT II with Alternative 2. Operationally, the impacts of either alternative on transportation would be minimal.

Utilities and Service Systems

Alternative 2 would cause similar utilities impacts as the proposed project because the function and operation of the WWTF would be the same as the proposed project.

5.4 Comparison of Alternatives Analyzed

Table 5-1 summarizes the environmental advantages and disadvantages associated with the proposed project and the alternatives analyzed above. CEQA Guidelines Section 15126.6(e)(2) states that if the environmentally superior alternative is the No Project Alternative, then the EIR shall also identify an environmentally superior alternative from among the other alternatives.

Table 5-1 Comparison of Alternatives

Resource Category	Alternative 1 No Project Alternative	Alternative 2 RMT II Site Alternative
Aesthetics	Less	Equal
Air Quality	Less	Equal
Biological Resources	Less	Less
Cultural and Tribal Cultural Resources	Less	Less
Geology and Soils	Less	Equal
Greenhouse Gas Emissions	Less	Less
Hazards and Hazardous Materials	Less	Equal
Hydrology and Water Quality	More	More
Land Use and Planning	Less	Equal
Noise	Less	Less
Population and Housing	Less	Equal
Public Services and Recreation	Less	Equal
Transportation and Traffic	Less	Equal

Resource Category	Alternative 1 No Project Alternative	Alternative 2 RMT II Site Alternative
Utilities and Service Systems	Less	Equal

Notes: “Less“ indicates an impact that is less than the proposed project (environmentally superior)
 “More” indicates an impact that is greater than the proposed project (environmentally inferior)
 “Equal” indicates an impact that is equal to the proposed project (neither environmentally superior nor inferior)

5.5 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) states that if the environmentally superior alternative is the No-Project Alternative, then the EIR shall also identify an environmentally superior alternative from among the other alternatives. The No Project Alternative would have the least impacts; however, it would fail to meet the project objectives of providing sewerage service to the service area, and reducing and avoiding degradation of groundwater quality. The No Project Alternative would require the existing conditions to continue, which pose a potential risk to groundwater quality from continued use and potential future failure of existing private septic systems within Samoa Peninsula.

Accordingly, based on the analysis presented above, Alternative 2 would be considered the Environmentally Superior Alternative, as it would satisfy the project objectives of providing wastewater treatment for structures in Fairhaven, Finntown and other areas of the Samoa Peninsula, and reducing and avoiding degradation of groundwater and surface water quality. Alternative 2 would not satisfy the project objective of consolidating wastewater collection and treatment services within the PCSD service area or minimizing project costs by improving the approved Samoa WWTF.

5.6 Alternatives Considered but Rejected

Section 15126.6(c) of the State CEQA Guidelines requires EIRs to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and briefly explain the reasons underlying the lead agency’s determination.

There are four main components that are involved in a new central wastewater system: the collection system, treatment system, disposal system, and solids handling. The following alternatives were identified during the early planning phases of the project and during project scoping. The lead agency has considered the following alternatives and rejected them for the reasons described below.

5.6.1 Alternative Locations

In accordance with CEQA Guidelines Section 15126.6(f)(2) Alternative Locations, research was conducted to determine if suitable alternative locations are available nearby. The sites needed to be zoned Public Facility or Industrial General, minimally impact ESHAs, be available for purchase or lease for the lifetime of the project, minimize operational costs, have approximately 3 acres of available space, and be north of Fairhaven to facilitate use of the RMT II ocean outfall.

Seven sites were considered for placement of the wastewater treatment plant, including the proposed site. The southernmost site is the easiest to purchase as it is already owned by the Samoa Peninsula Fire District, but it would be difficult and costly to permit as there are known ESHA on site and it is located immediately adjacent to Fairhaven, which would likely lead to public opposition due to perceived odor issues. Three of the remaining four sites would also be difficult and costly to permit

as there are known ESHAs on the sites. The final alternative site is owned by Security National, Inc. The site has been previously used as a soil storage location. Security National has stated that they would consider the long-term lease of this site for use as a wastewater treatment plant, but they likely would not sell the land to the District (GHD/SHN 2018). Finally, a potential site at the RMT II located west of the Alternative 2 site is zoned appropriately as Industrial General, but the site is on an ash landfill and near both overhead PG&E power lines and underground municipal water lines, making this a poor site choice.

Given the current peninsula zoning, presence of ESHA across the undeveloped portions of the peninsula, purchase options, and poor site conditions, the five disposal location alternatives discussed above were not analyzed further (GHD/SHN 2018).

5.6.2 Collection System Alternatives

Gravity system (proposed project) and pressure network collection system alternatives for the residential areas of Fairhaven and Finntown were considered. The pressure network collection system was rejected as described below.

Pressure Sewer

A pressure system would eliminate the need for deeper trenching to accommodate sloped gravity pipes, reducing the overall depth of the pipe network to approximately 5 feet. Because a pressure sewer is not dependent on pipe slope to maintain proper flows, the risk of system upset or failure during an earthquake is less than for a traditional gravity system. Pressure sewers also consist of water-tight pipe connections, reducing the potential for exfiltration and groundwater pollution, while virtually eliminating groundwater infiltration. There are two options for a pressurized sewer system: septic tank effluent pump (STEP) and grinder pump (GP).

STEP systems include septic tanks that receive residential wastewater, settle out solids, and then pump the liquid into a pressurized sewer pipe. STEP systems significantly reduce solids and biochemical oxygen demand (BOD) loading to a WWTF by removing primary solids prior to pumping supernatant to the WWTF. Sludge accumulated in each septic tank needs to be removed periodically and disposed of. The cost of pumping septic tanks may be offset by reducing the costs of treatment at the centralized WWTF. The condition of the septic tanks on the peninsula is unclear, however, it is assumed that the majority of the existing tanks would need to be replaced to eliminate potential contamination of groundwater from failing systems. A STEP system could consist of individual septic tanks at each residence, or larger septic tanks that serve multiple homes.

The pressurized system within the residential areas option was rejected due to high annual operation and maintenance costs for the pressurized system, which would include maintenance of numerous small individual residential pump stations, which can require a significant amount of maintenance as the system ages.

5.6.3 Secondary Treatment System Alternatives

Three types of wastewater treatment alternatives were considered for this project: a sequencing batch reactor (SBR) system (proposed project), an AdvanTex system, and a recirculating gravel filter (RGF) system. For the reasons described below, the AdvanTex system and RFG were not carried forward as alternatives.

Recirculating Gravel Filter

A recirculating gravel filter system is a non-proprietary system that uses a community septic tank for primary treatment. After the initial settling of solids, the pre-treated wastewater flows to a recirculation tank and is applied uniformly to gravel filters in small doses, to alternately rest and load the gravel media. The application of wastewater to the filter media results in the development of a thin film of microorganisms, similar to a trickling filter. As the wastewater percolates down through the gravel filter, it comes into contact with this film. The slow-growing organisms that compose the film can exhibit very good rates of BOD, and suspended solids removal. As with an SBR, a recirculating gravel filter would output secondary treated wastewater, so the two alternatives would have the same impacts on water quality. With the environmental impacts of both systems being equal, an SBR system was chosen as part of the proposed project because it is a more robust system that can ensure the level of treatment required for permitting. Additionally, SBR systems can respond better to changes in flow and a new module can be installed with peninsula build-out (GHD/SHN 2018).

AdvanTex

The AdvanTex process is a proprietary technology that uses a textile membrane for the filtration process. Primary treatment is provided by a community septic tank, and septic tank effluent then enters a two-compartment processing tank. In the first compartment, the septic tank effluent separates into three zones: 1) a sludge layer, 2) a scum layer, and 3) a clear layer. Effluent from the clear layer flows into the second compartment of the tank through holes in the tank's baffle wall. A proprietary Biotube pumping package in the second compartment then pumps the filtered effluent to a distribution manifold in the AdvanTex pod. This effluent then percolates through the textile membrane media and is collected at the bottom of the filter basin by a drain pipe. The drain pipe returns the treated water to the recirculating splitter valve (RSV), where it is then split between the processing tank and the final discharge. AdvanTex units are designed to meet effluent ammonia levels of 2 mg/L or less, and they can be coupled with an upflow filter to meet total nitrogen requirements of less than 10 mg/L. The environmental impacts of the two systems (Advantex and the proposed project) would generally be equal, with the exception of water quality. An AdvanTex system could potentially produce slightly higher quality effluent than the proposed project; however, constructing a system of this type would be cost prohibitive and was not considered further (GHD/SHN 2018).

5.6.4 Disinfection Treatment System Alternatives

The project also considered using chlorine disinfection versus ultraviolet disinfection (proposed project). However, chlorine disinfection is not as effective as ultraviolet disinfection, is toxic in aquatic environments, and has a high cost associated with purchasing chlorine for small treatment facilities. Therefore, it was not considered further (GHD/SHN 2018).

5.6.5 Disposal Location Alternatives

Two options for disposal were identified: land disposal and ocean disposal (proposed project). However, the land disposal alternative is harder to permit, has higher capital and energy costs, requires tertiary treatment, expansion with peninsula buildout, and annual groundwater monitoring. As the ocean disposal would be easier to permit, requires less treatment, uses existing infrastructure, and would be able to accommodate both existing and projected build-out flows, the land disposal alternative was not considered further (GHD/SHN 2018).

5.6.6 Solids Handling Alternatives

The following solids handling alternatives were considered but rejected for this project:

- Contracting a local septic pumping service to remove and dispose of solids
- Constructing a facultative sludge lagoon with land application of the stabilized solids
- Constructing a thermal solids treatment system

The facultative sludge lagoon was eliminated as an option due to potential odor generation impacts and thermal treatment was eliminated due to high costs. A cost comparison of contracting a local septic pumping service versus the proposed batch process handling revealed significant lifetime savings by dewatering the solids on-site, making that the preferred alternative. Contracting a local septic pumping service would not require construction, and the proposed solids handling method would require some minor construction. However, the fuel that would be used by the septic pumping service to travel and pump the community septic tank would negatively impact air quality and create GHG emissions (GHD/SHN 2018).

5.7 References

GHD/SHN. 2018. Samoa Peninsula Wastewater Project, Planning and Design Study. May.

6. Other CEQA Sections

6.1 Significant Unavoidable Effects

Section 2100(b)(2)(A) of CEQA and Section 15126.2(b) of the CEQA Guidelines require identification of significant environmental effects that cannot be avoided if the proposed project were implemented.

Detailed mitigation measures proposed by the County of Humboldt have been identified throughout Chapter 4 of this EIR and would mitigate project effects to the extent feasible. The mitigation measures also are summarized in Table 1-1. After implementation of the proposed mitigation measures, there are no significant unavoidable impacts.

6.2 Significant Irreversible Environmental Changes

Section 21100(b)(2)(B) of CEQA requires that an EIR include a discussion of significant irreversible environmental changes that would result from Project implementation. CEQA Guidelines Section 15126.2(c) describes irreversible environmental changes in the following manner:

“Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.”

Construction activities associated with the project would result in an irretrievable and irreversible commitment of non-renewable resources through the use of construction materials. This would include the use of fossil fuels (such as gasoline, diesel and oil) during the construction period, and the use of earth minerals and ores (such as concrete and steel). The project would result in improvements to the Approved Samoa WWTF, and would install collection and disposals systems in areas that have already been developed (existing roadways) or approved for development (Approved Samoa WWTF) and would not expand or modify off-site roadways; therefore, the project would not modify regional access or result in access to a previously inaccessible area. As a proposed utility infrastructure project, the project is not representative of a land use type that would result in accidents that could lead to irreversible environmental damage. Overall, given the project’s low consumption of irretrievable resources, such commitment is justified.

6.3 Growth-Inducing Impacts of the Project

CEQA Guidelines Section 15126.2(d) requires an EIR to discuss the growth-inducing impact(s) of a proposed project. Specifically, CEQA Guidelines state that the EIR shall:

“Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing

community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.”

Projects can have direct and/or indirect growth inducement potential. An example of direct growth inducement would be the construction of new housing. Examples of indirect growth inducement could include establishing substantial new permanent employment opportunities and removing obstacles to population growth (e.g. the expansion or improvement of utilities which allows for more growth within a service area).

Growth inducement itself is not an environmental effect but may lead to an environmental effect(s). Environmental effects may include increased demand on other public services and infrastructure, increased noise and traffic, degradation or loss of plant or animal habitats, degradation of air and water quality, or conversion of open space land to urban development.

The project would provide sewer service to the communities of Fairhaven and Finntown. The project would not provide sewer service to facilities within the STMP. The project's Short-Term Phase would allow existing facilities within the service area to connect to the project facilities. The project's Short-Term Phase would not induce substantial population growth, as it would only serve existing commercial and industrial facilities within the project's service area.

The project's Long-Term Phase would allow future infill development consistent with the adopted HBAP and existing zoning to connect to the project facilities. The assumed number of potential connections and population served by the project's Long-Term Phase is provided in Section 3.5.1. As detailed within that section, the Long-Term Phase may allow up to 62 new sewer connections to residential units and serve associated secondary dwelling units, supporting an estimated population of 273 persons on available infill lots in Fairhaven, development of which has already been evaluated in the Certified Humboldt County General Plan EIR.

Fairhaven is located in the Humboldt Local Agency Management Program Variance Prohibition Areas, as detailed in Section 3.3.1 (Existing Unsewered Condition in Fairhaven and Finntown). Variances cannot be granted for new onsite wastewater treatment system construction. Therefore, development of new residences is restricted within the community of Fairhaven due to the area's current unsewered condition.

Because the Long-Term Phase would allow future infill structures, consistent with HBAP and zoning, to connect to the project's collection system and be served by the wastewater treatment plant, the project would remove an existing restriction to residential development. However, the Humboldt General Plan previously identified that within the Eureka Plain Watershed, within which the project is located, approximately 896 new housing units would be constructed by 2028 with a corresponding population increase of approximately 2,070 persons (Humboldt County 2017b). The population that may be supported by future infill development was estimated using the known average residential occupancy in Samoa, consistent with the Humboldt County certified General Plan Update EIR. Therefore, the estimated population increase of 273 persons has been previously accounted for by the General Plan and analyzed within the certified Humboldt County General Plan EIR (Humboldt County 2017b). The project would not allow any other new development to connect to the Approved Samoa WWTF other than the 62 infill lots identified under the Long-Term Phase. Because the project

would not allow any new development other than that previously evaluated in a Certified EIR, it is not considered growth inducing.

Construction of the proposed project is not anticipated to generate growth, as the construction jobs would be temporary and are anticipated to draw from the local workforce. Additionally, operation of the project is not anticipated to generate new job opportunities beyond those provided by the Approved Samoa WWTF. The proposed additions to the facility would not require additional staff members to maintain and operate the facility. For these reasons, the proposed project would not be expected to generate a substantial demand for new housing, nor be growth-inducing.

6.4 References

GHD/SHN. 2018. Samoa Peninsula Wastewater Project, Planning and Design Study. May.

Humboldt County. 2017a. Humboldt County General Plan for the Areas Outside the Coastal Zone. October 23.

Humboldt County. 2017b. Humboldt County General Plan Update Revised Draft Environmental Impact Report. April 19.

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7. Effects Found Not to Be Significant

CEQA Guidelines Section 15128 requires an EIR to briefly describe any possible significant effects that were determined not to be significant and were, therefore, not discussed in detail in the EIR. As discussed in the NOP issued in April 2018, an evaluation of agricultural and forest resources, and mineral resources were eliminated from further evaluation during scoping for the reasons presented below.

7.1 Agriculture and Forest Resources

The project site does not include any Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or land covered by a Williamson Act contract (California Department of Conservation 2015). There are no parcels in the PCSD service area that are in agricultural production. In addition, the project site is not zoned for agricultural, forest land, or timberland, nor are there any agricultural or forest lands within the confines of the project site (Humboldt County 2018). No impact to agriculture or forest resources would occur.

7.2 Mineral Resources

Humboldt County has not yet been included in the California Mineral Land Classification System by the State Mining and Geology Board to designate lands containing mineral deposits of regional or statewide significance, and there are no mining operations in the project area. Construction of the project would not result in the loss of a known mineral resource or availability of a locally-important mineral resource recovery site as delineated on a land use plan, such as a local general plan or specific plan. Neither the County of Humboldt General Plan or HBAP designate the project site as having a known mineral resource of value (Humboldt County 2014, Humboldt County 2017). No impact to mineral resources would occur.

7.3 References

- California Department of Conservation. 2015. Humboldt County Williamson Act FY 2015/2016 Sheet 2 of 2.
- Humboldt County. 2014. Humboldt County General Plan Volume II, Humboldt Bay Area Plan of the Humboldt County Local Coastal Program. December
- Humboldt County. 2017. Humboldt County General Plan for Areas Outside of the Coastal Zone. October 23.

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