

### 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 <sup>1</sup>	Long-Term Phase <sup>2</sup>	Total
Residential	66	62 <sup>3</sup>	128
Commercial <sup>4</sup>	10	0	10
Recreational <sup>5</sup>	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 <sup>1</sup>	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
<b>Total Project</b>	<b>66,924</b>	<b>267,695</b>
<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
<b>Collection System</b>		
Fairhaven <sup>1</sup> Gravity Main	6,100	8-inch
Finntown <sup>1</sup> Gravity Main	1,400	8-inch
Pressure Main	15,600	4-inch
Total	23,100	

Notes:

<sup>1</sup> 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
<b>Project Components</b>			
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
<b>Project Totals</b>	<b>52,595</b>	<b>46,495</b>	<b>99,090</b>
<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
<b>Total</b>					<b>19,617</b>	<b>18,510</b>	<b>38,127</b>

### 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
<b>Total Project</b>	<b>22,482</b>
<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

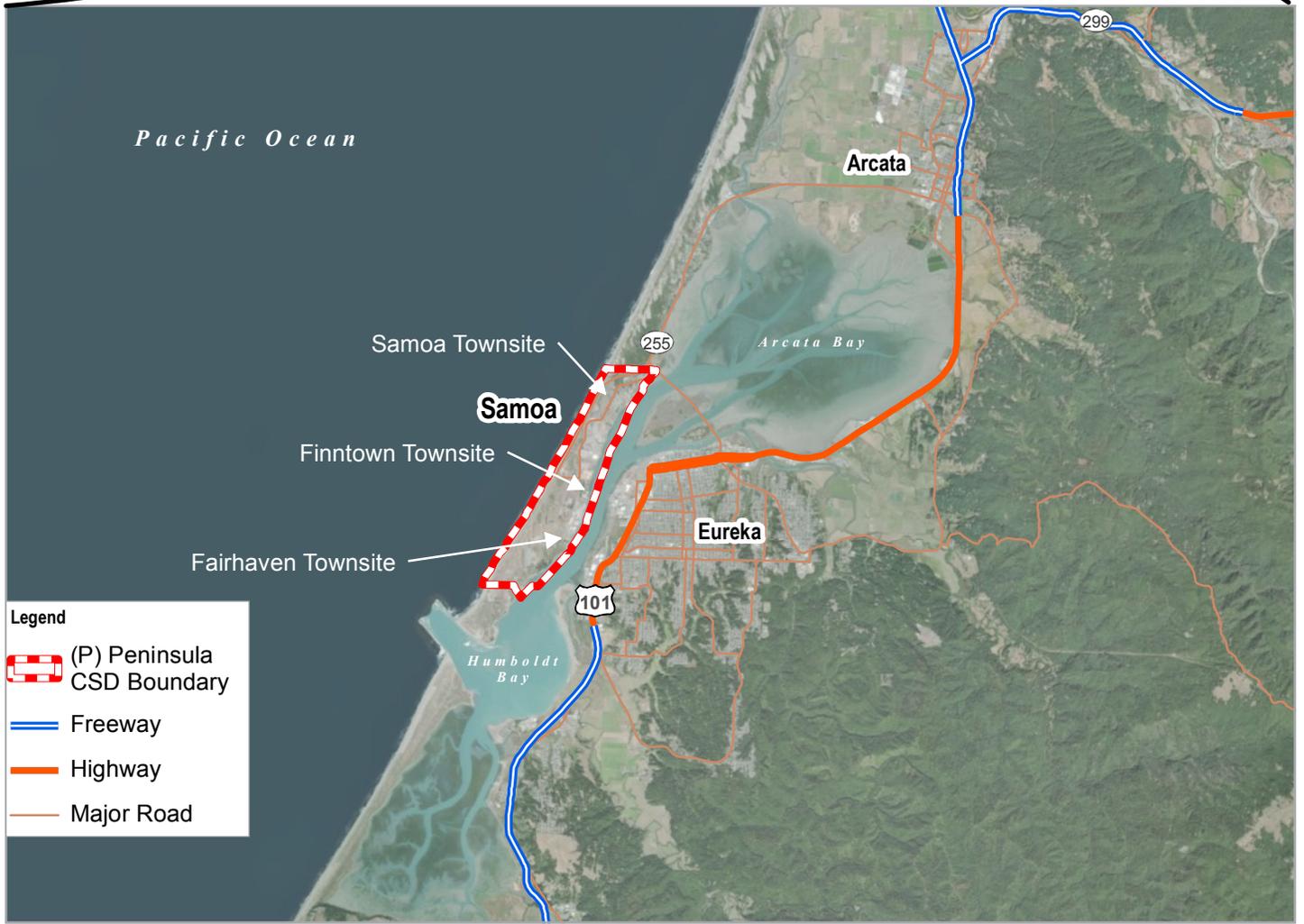
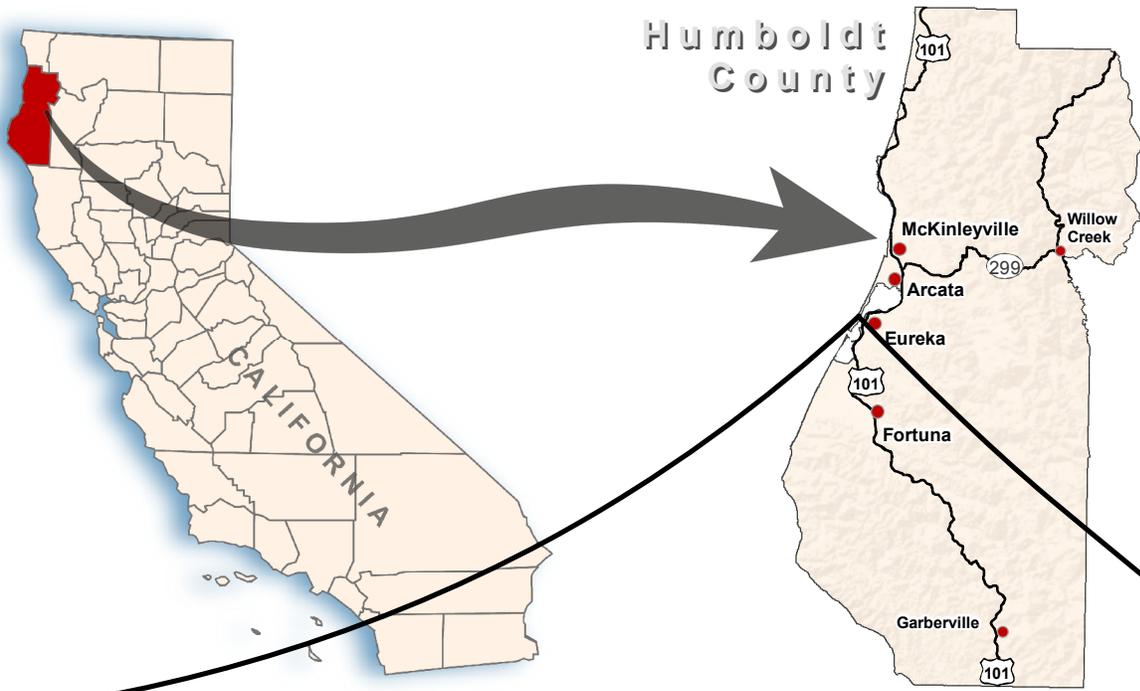
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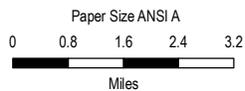
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**Legend**

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



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. -  
Date Jul 2018

**Location Map**

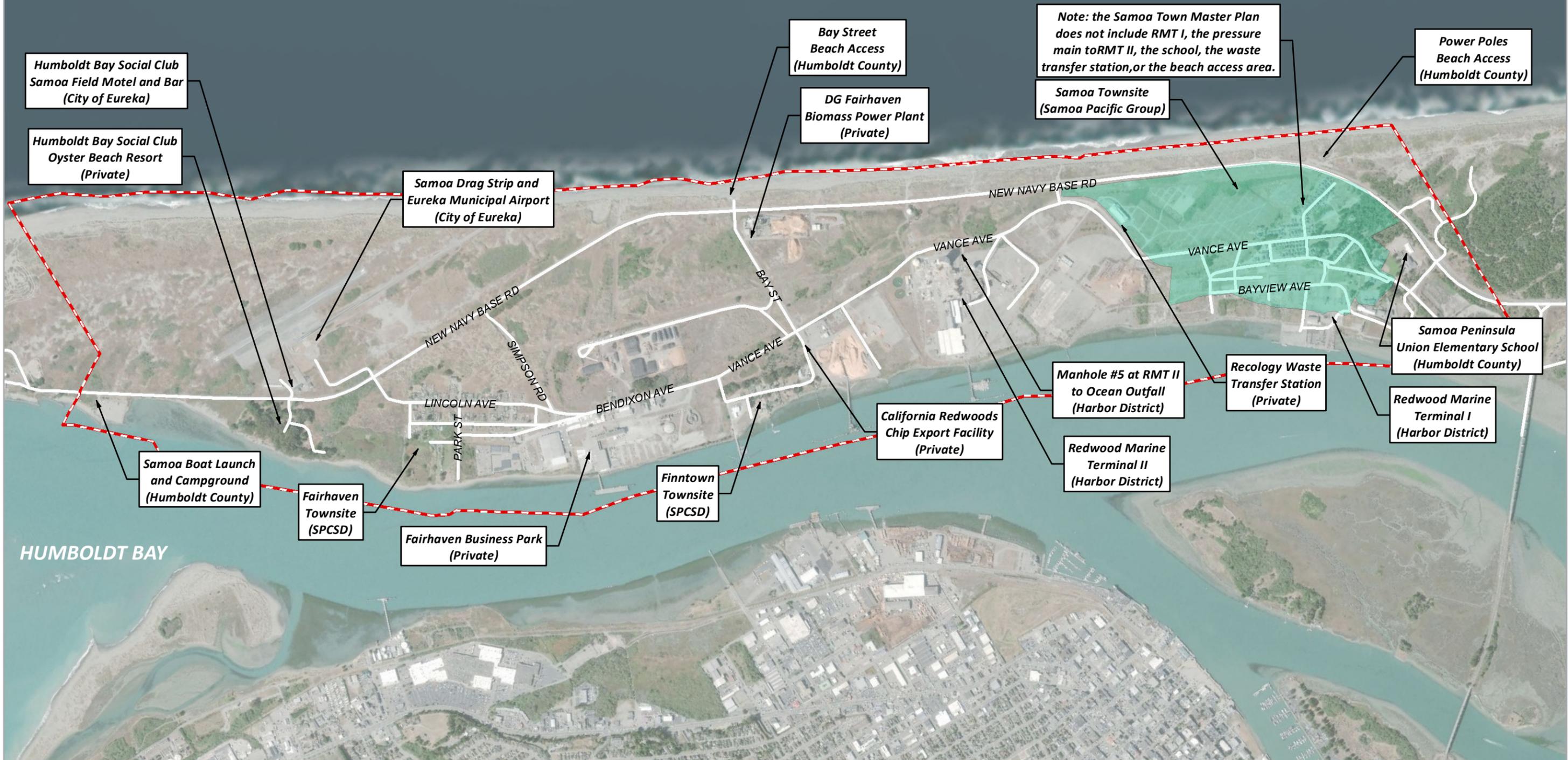
**FIGURE 3-1**

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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.

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 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

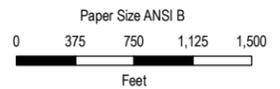
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Pacific Ocean

Humboldt Bay

**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

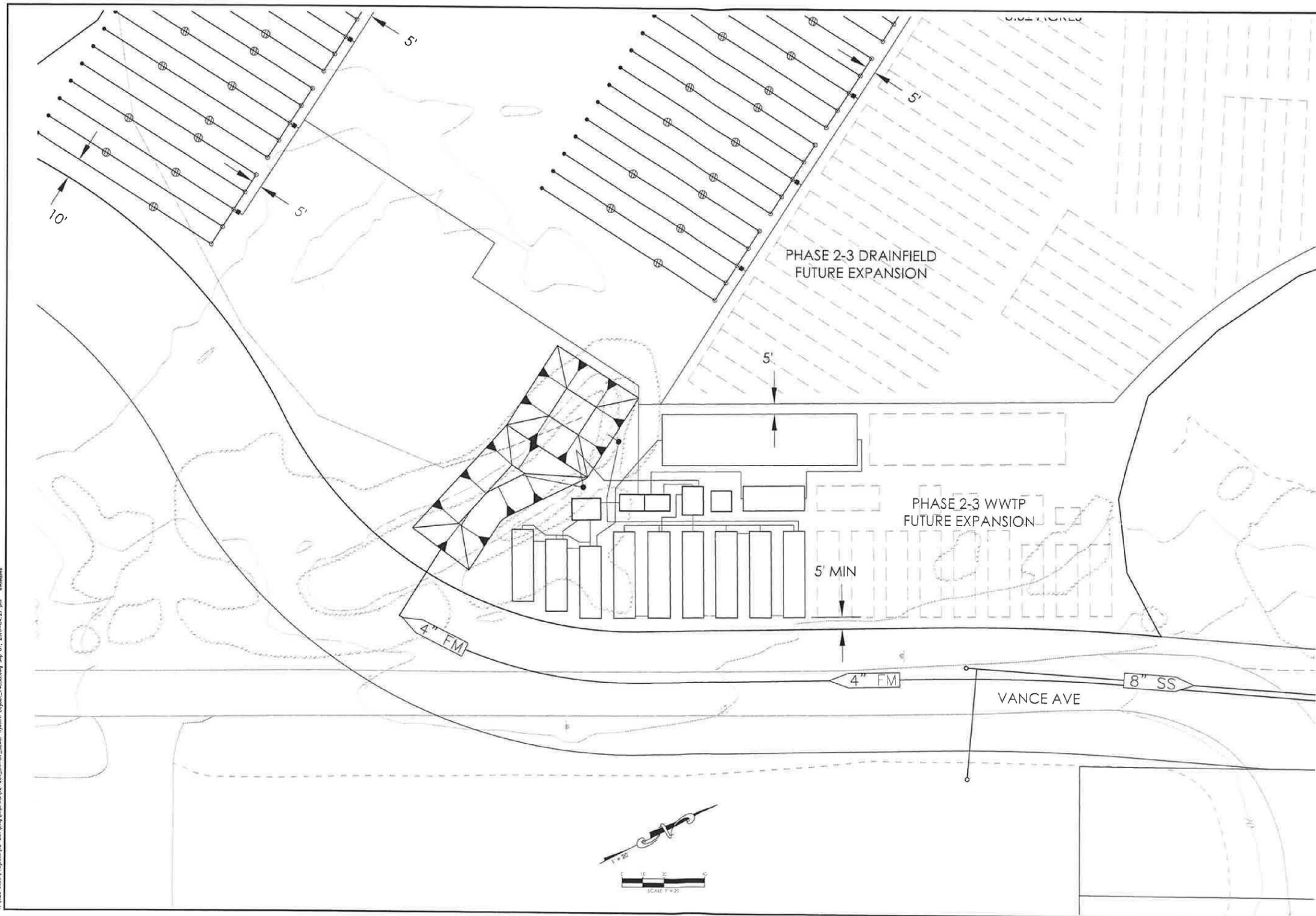
**Project Boundary**

**FIGURE 3-3**

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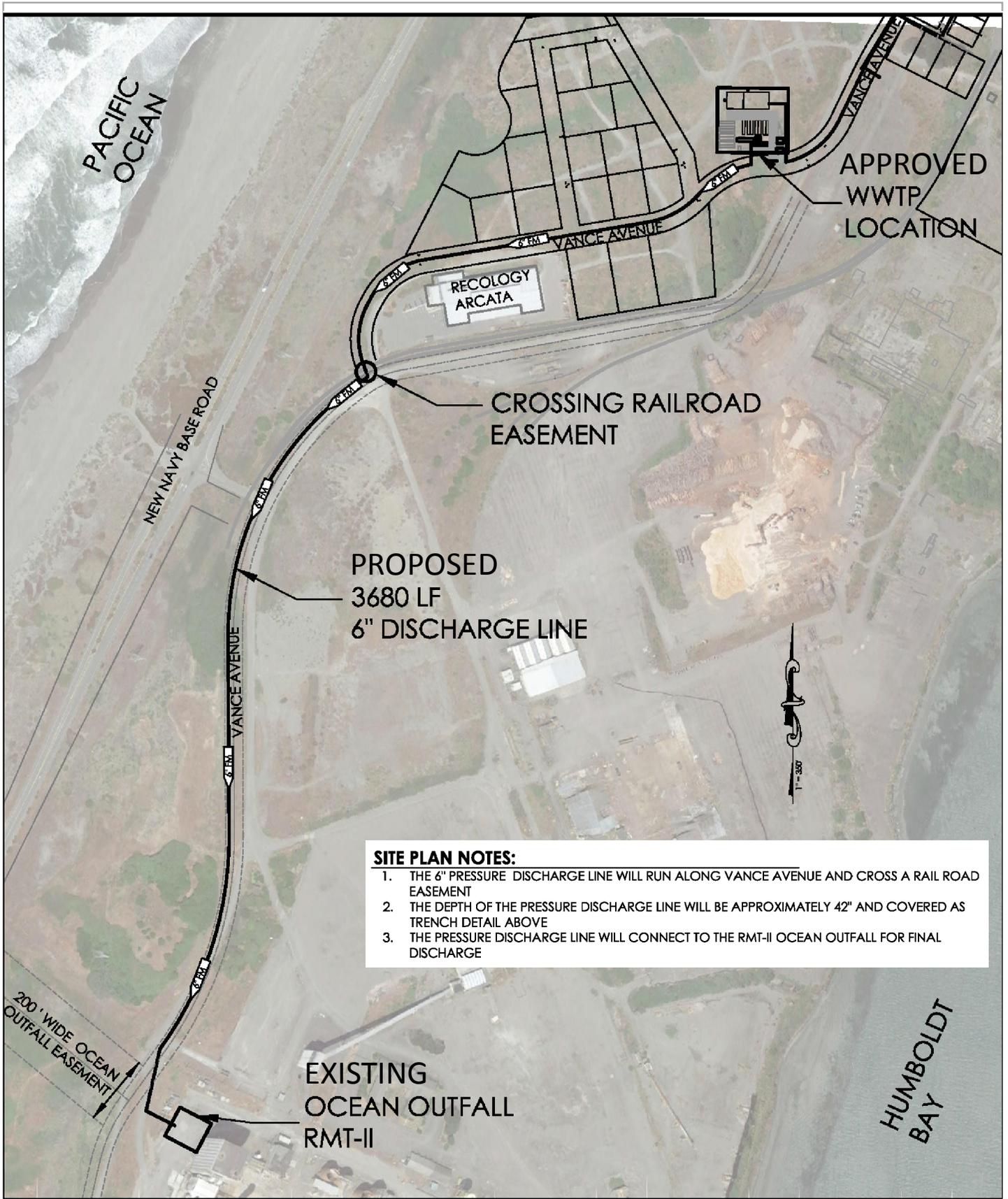


PROJECT NUMBER <b>10-202</b>	SAMAQA WASTEWATER TREATMENT PLANT REHABILITATION PROJECT	
	TOWN OF SAMAQA, HUMBOLDT COUNTY, CALIFORNIA	
SHEET 1 OF 1	 <b>CEC</b> Engineering - Planning - Surveying - Community Development www.cecva.net Office (530) 741-0923 Fax (530) 751-0953 1110 Civic Center Blvd., Suite 404 Yuba City, CA 95993	
DATE: 09-21-2018	NO. 1	DESCRIPTION
SCALE: 1" = 20'	DATE: 09-21-2018	
DRAWN BY: AV/ADG	DATE: 09-21-2018	
DESIGNED BY: AV/ADG	DATE: 09-21-2018	
CHECKED BY: D/ADG	DATE: 09-21-2018	

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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



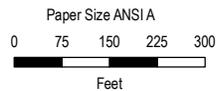
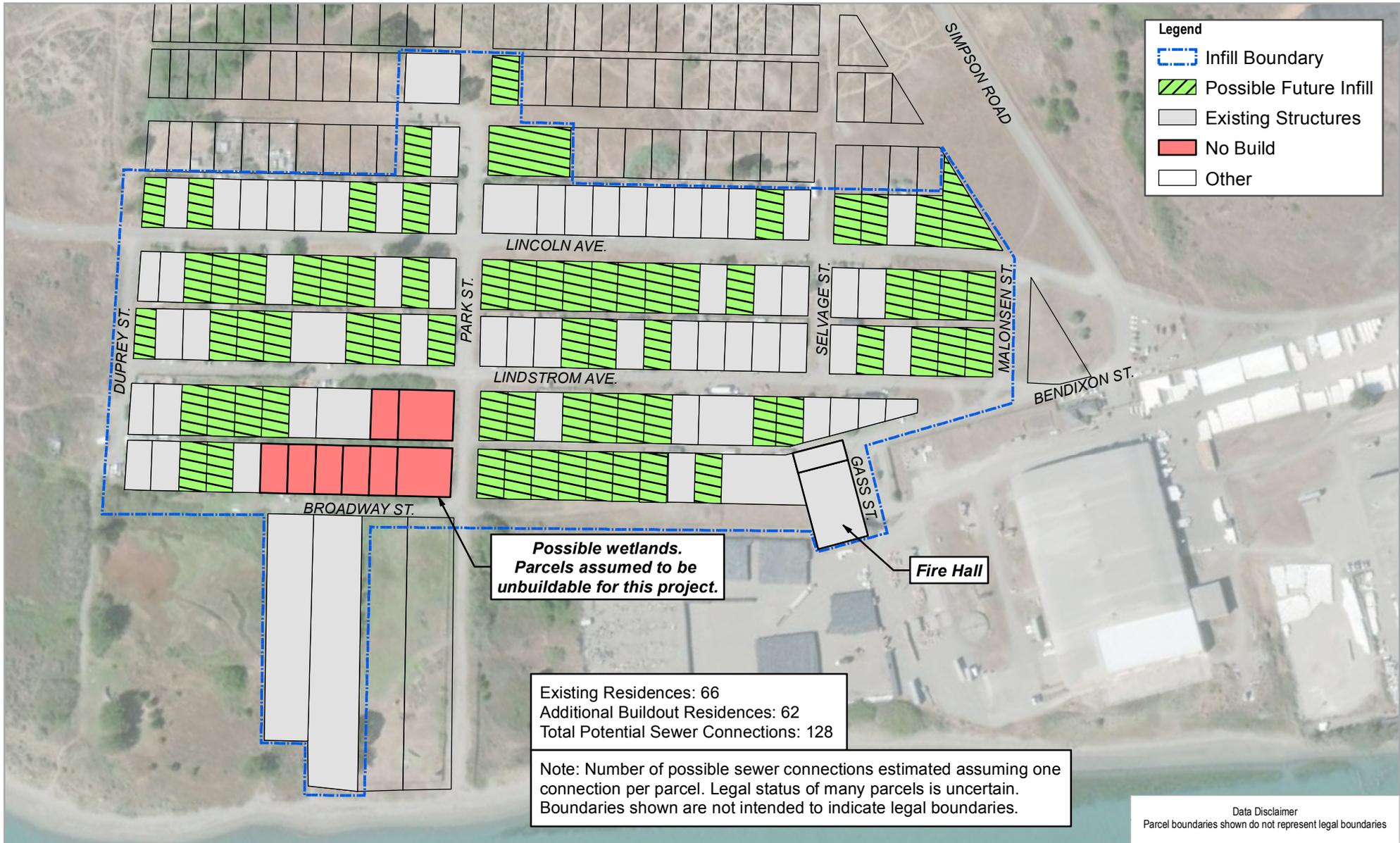
County of Humboldt  
 Samoa Peninsula  
 Wastewater Project  
 Draft EIR

Project No. 11146487  
 Revision No. -  
 Date Sept 2018

**SPG - Proposed Samoa  
 WWTF Improvements**

**FIGURE 3-5**

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



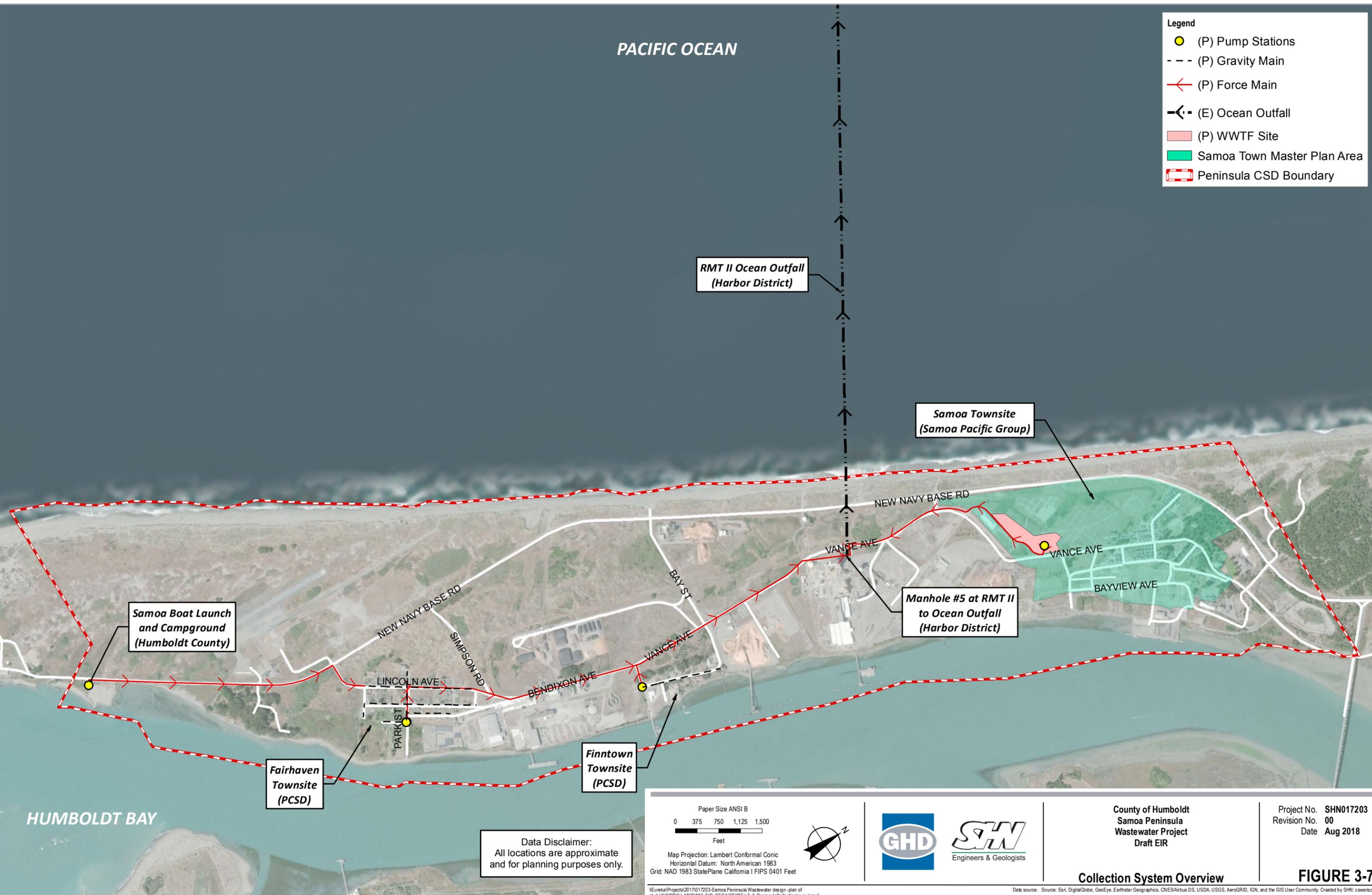
County of Humboldt  
 Samoa Peninsula  
 Wastewater Project  
 Draft EIR

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)**

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

**Finntown  
Townsite  
(PCSD)**

**Fairhaven  
Townsite  
(PCSD)**

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

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

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 No. SHN017203  
Revision No. 00  
Date Aug 2018

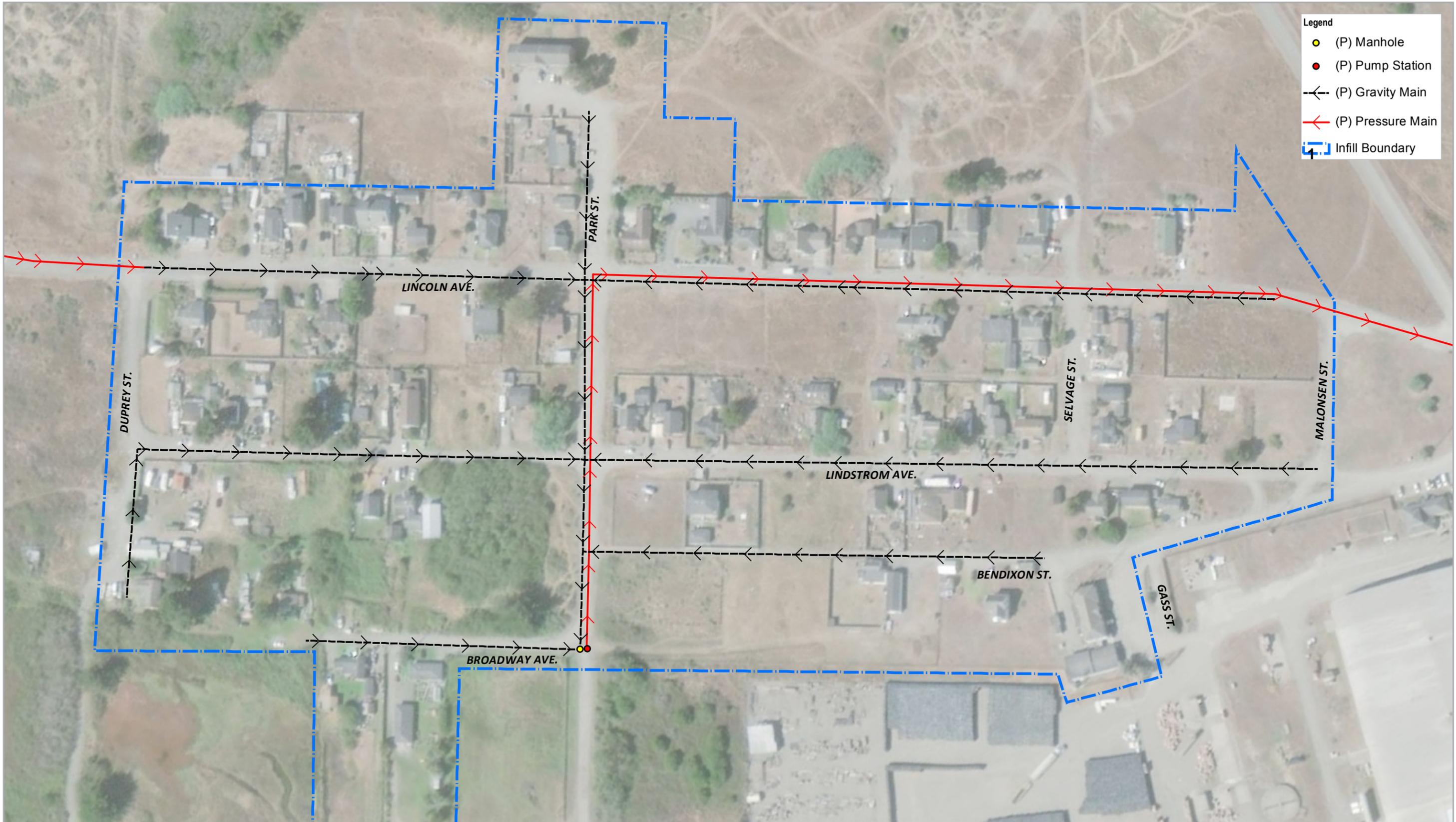
**Collection System Overview**

**FIGURE 3-7**

\\Eureka\Projects\2017017203-Samoa Peninsula Wastewater design - plan of study\GIS\PROJ\_MXD\003\_EIR\_CEQ\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.

Paper Size ANSI B  
 0 50 100 150 200  
 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. **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\_CEQ\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

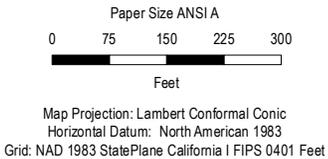
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- Legend**
- (P) Manhole
  - (P) Pump Station
  - (P) Gravity Main
  - (P) Pressure Main

**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.



County of Humboldt  
 Samoa Peninsula  
 Wastewater Project  
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Project No. SHN017203  
 Revision No. -  
 Date Aug 2018

**Collection System Finntown**

**FIGURE 3-9**

\\Eureka\Projects\2017017203-Samoa Peninsula Wastewater design-plan of study\GIS\PROJ\_MXD\003\_EIR\_CEQ\AIDEIR\Fig3\_8\_CollectionSystemFinntown.mxd  
 Print date: 06 Aug 2018 - 09:06

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

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