Environmental Assessment
Determinations and Compliance Findings for HUD-assisted Projects
24 CFR Part 58

Project Information

Project Name: Arcata Wastewater Treatment Facility Upgrades Project

Responsible Entity: City of Arcata

Grant Recipient (if different than Responsible Entity):

State/Local Identifier: California

Preparer: City of Arcata

Certifying Officer Name and Title: David Loya, Community Development Director/Environmental Coordinator/Certifying Officer, City of Arcata

Grant Recipient (if different than Responsible Entity): SAME

Consultant (if applicable): NONE

Direct Comments to: David Loya, Community Development Director/Environmental Coordinator/Certifying Officer, City of Arcata Community Development Department, 736 F Street, Arcata, CA 95521, dloya@cityofarcata.org

Project Location:
The proposed Project is located at the northeast edge of Humboldt Bay. The Project site is located primarily on former filled tidelands at elevations of approximately 10-14 (NAVD 88) feet above sea level and is relatively flat. Surrounding land uses include Humboldt Bay to the south and adjacent to the salt marsh habitat between the Bay and project improvements. The Arcata Wastewater Treatment Facility (Treatment Facility) is located at the southern portion of the City. The Treatment Facility is located on 130 acres of City-owned land that includes the Arcata Marsh and Wildlife Sanctuary (Wildlife Sanctuary). All proposed actions/improvements would take place within the existing boundaries of the Treatment Facility. The central area of the Treatment Facility containing the core treatment and City Corporation Yard is located at 601 South "G" Street, and will be referred to herein as the "Treatment Plant". The site is on Assessor's Parcel Numbers: 503-211-005, 503-241-010, 011, 012, 013, and 503-251-003.

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]**:**
The City of Arcata proposes to construct upgrades to the existing Arcata Wastewater Treatment Facility (Treatment Facility, or Facility) to update aging infrastructure and comply with the requirements of the Regional Water Quality Control Board (RWQCB) Order No. 1-2019-0006 to serve the existing City population. Ongoing preventative maintenance has kept the original treatment plant in operation but there has been little replacement of equipment or structures since original construction and minimal maintenance in the natural treatment system.

In 2012, the Arcata Wastewater Treatment Facility began operating under a new National Pollutant Discharge Elimination System (NPDES) permit that specifically addressed several long-term issues due to past compliance problems. The new permit required changes to be made to improve wastewater treatment, protect beneficial uses, increase energy efficiency, and reduce chemical usage in treatment, thereby reducing the potential for permit violations. In response to the new permit requirements, the City initiated an updated Facility Plan intended to address these issues. The Facility Plan (Attachment 19) provides overall direction for the current permit compliance project as well as a future Capital Improvements Program needed to maintain the treatment facility assets, repair, rehabilitate existing assets, and modernize the facility to meet current levels of service.

This Environmental Assessment evaluates the potential environmental effects of the proposed updates outlined in the Facility Plan. The scope of this analysis is not limited to the project element that is receiving Housing and Community Development funds, but instead evaluates the whole of the proposed action.

Current Facility Operations.
Wastewater is treated by the City's wastewater treatment plant and marsh systems. The wastewater treatment plant facilities include headworks, primary clarifiers, oxidation ponds, treatment wetlands, enhancement wetlands, and chlorine disinfection. Solids removed in the primary clarifiers are treated in anaerobic digesters and solids drying beds. The treatment plant is designed for an average dry weather flow of 2.3 million gallons per day, and a peak wet weather flow of 5.0 million gallons per day. The City is currently at approximately 70 percent of dry weather design flow. The City regulates wastewater disposal, including industrial pretreatment standards, according to Chapter 2, Title VII of the Arcata Municipal Code. Wastewater treatment at the Arcata plant includes the following steps:

- Primary treatment using clarifiers (settling tanks) to remove solids and organic matter;
- Secondary treatment using oxidation ponds to remove additional organic matter;
- Additional organic matter and nutrient removal using treatment marshes;
- Mixing with outflow from the marshes at the Arcata Marsh and Wildlife Sanctuary; and
- Chlorination to kill disease organisms, followed by removal of the chlorine (which is toxic to aquatic life).

Under normal conditions, treated wastewater is discharged to Arcata Bay after flowing through the Arcata Marsh. About half of the Arcata Marsh outflow is returned to the treatment plant for mixing, and the rest discharged into Arcata Bay.

The Treatment Facility provides secondary treatment using natural processes including two oxidation ponds and six wetland treatment marshes. Enhancement to the secondary treated water is provided by three enhancement marshes located in the Arcata Marsh Wildlife Sanctuary (Wildlife Sanctuary). The Treatment Facility currently includes headworks, primary clarifiers, oxidation ponds, treatment wetlands, enhancement wetlands, and chlorine disinfection. Treated effluent is discharged into the Humboldt Bay (Outfall 001) or is circulated into Enhancement Wetlands (Outfall 002) in the Wildlife Sanctuary for further treatment. Solids removed in the primary clarifier are treated in anaerobic digesters and solids drying beds.

NOTE: the terms used in various reports, maps, signage, etc., for features within the Arcata Wastewater Treatment Facility (AWTF) have been used interchangeably over the last forty years. For instance, the AWTF consists of both the Arcata Wastewater Treatment Plant (AWTP) and the Arcata Marsh and Wildlife Sanctuary (AMWS). Treatment Wetlands are sometimes referred to as Treatment Marshes; Enhancement Wetlands as Enhancement Marshes; Brackish Marsh as Brackish Pond; Outfall 003 as Discharge Point 003. The reader should be aware that these terms refer to the same features.

Overview of Proposed Updates, History, and Need.

Arcata's wastewater treatment system must comply with regulatory requirements established by its National Pollutant Discharge Elimination System (NPDES) permit issued by the California Regional Water Quality Control Board. As described in the City's Wastewater Treatment Facility Improvements Project Report (2016c), effluent monitoring data shows that there have been ongoing exceedances of discharge limits on total suspended solids (TSS), biochemical oxygen demand (BOD, a measure of biodegradable organic matter), pH, dichlorobromomethane, chronic toxicity, chlorine, and fecal coliform since 2004.

In 2012, the City's wastewater treatment system began operating under a new NPDES permit that specifically addressed several long-term issues regarding disinfection, treatment units, and outfalls. Improvements to the City's wastewater treatment system that are required as part of the 2012 NPDES permit includes the following:

1) Conversion of the flow configuration to a single pass disinfection system and discharge through a new outfall of 5.9 Million Gallons per Day (MGD). Piping, screening, pumps, and pump station modifications will be required to switch to single pass flow through the system.

2) Construction of a new UV disinfection system for the disinfection of secondary effluent up to 5.9 MGD. The UV process will eliminate the disinfection by-product formation and permit violations that are occurring with the use of chlorine.

In response to the new permit requirements, the City initiated a Facility Plan and plant improvement project (2016c) to address several issues including:

- Ongoing NPDES permit violation and regulatory compliance.
- Need to repair or rehabilitate (R&R) aging infrastructure and address deferred maintenance.
- Providing reliable capacity and treatment for both wet and dry weather flows now and into the future.
- Repairing conveyance infrastructure to reduce inflow and infiltration (I&I).

The facility plan provides overall direction for current permit compliance as well as a future Capital Improvements Program (CIP) needed to maintain the treatment facility assets, repair, and rehabilitate existing assets, and modernize the facility to meet current levels of service. As part of the facility plan, the wastewater treatment plant facilities were evaluated for their overall condition. The findings from the assessment indicate that a majority of the mechanical equipment has exceeded its expected life, and that major structures are also starting to approach the end of their useful life. Based on the conditions assessment and capacity evaluations conducted as part of the Facility Plan, numerous facilities will need to be improved in the next ten years based on their expected useful life and current condition.

The project scope is very broad, and includes both routine maintenance activities and reconfigurations of existing treatment methods and systems. Facility elements that will be improved as part of this plan include the headworks, primary clarifiers, anaerobic digesters, and sludge heating/mixing systems. Outdated and aging equipment, including baffles, inlet/outlet structures, and pump stations will be replaced with modern equivalents. The scope also includes maintenance activities such as removal of solids and vegetation from the oxidations ponds and treatment wetlands to improve treatment and hydraulic capacity. In addition to maintenance related activities, the project also includes an updated facility configuration allowing for discharges from the Wildlife Sanctuary to the recently created Brackish Marsh in order to provide overall improvements to effluent quality discharged to Humboldt Bay, and construction of a parallel oxidation ditch treatment system.

In addition to proposed oxidation pond and wetland treatment system improvements, the project scope also includes construction of an Ultraviolet (UV) disinfection system upstream of discharge to the Enhancement Marshes. The upgraded UV System equipment will be purchased with Community Development Block Grant (CDBG) funds, which triggered the requirement to prepare an Environmental Assessment analyzing the whole of the proposed action. The installation of a 9.8 MGD capacity UV disinfection system and replacing the primary disinfection utilizing chlorine gas will reduce the number of violations for dichlorobromomethane, a chlorine disinfection by-product. This byproduct has historically been one of the major issues with Arcata's treated effluent.

Project Phasing.
The full scope of the upgrades to replace worn equipment and address NPDES permit requirements to serve current population will be undertaken in two separate phases, and will include the following elements:

Phase 1 will focus on rehabilitation of the current system and reconfiguring the effluent flow to a single path. Rehabilitation will be done to the natural system facilities (i.e. ponds and the wetlands) and to the aging infrastructure. It will include replacing and installing new equipment (i.e. pumps, aerators, and monitoring equipment), and increasing the resilience of facilities for treatment and hydraulic capacities. Many of the activities associated with Phases 1 and 2 would be considered routine maintenance of the plant if evaluated as stand-alone activities.

Phase 1 includes:

- Rehabilitation of the headworks and primary clarifier, new grit removal, upgraded digester, digester/solids improvements, pump replacement, new valves, minor corporation yard improvements and relocations, and electrical controls, SCADA and utility additions.
- Placement of up to 16 new mixer aerators and relocation of 8 aerators from Oxidation Pond #1 to improve treatment within Oxidation Pond #2.
- Addition of an electrical service drop from PG&E
- Construction of a small electrical building with diesel-powered emergency generator rated at 0.75Mw and removal of an existing natural gas powered 150 KW generator
- Installation of a 9.8 mgd UV-disinfection system into one half of the existing chlorine contact basin, eliminating the use of chlorine gas and sulfur dioxide for disinfection except in an emergency wet weather flow disinfection scenario (flows > 9.8 mgd) or if emergency power is interrupted.
- Replacement of two existing pumps to the WWTP stormwater treatment and pumping system, sized for an anticipated 1% probability storm year storm event. . The existing storm drain pump station, located adjacent to the chlorine contact basins, will have the two existing pumps replaced to provide the required storm water pumping capacity to Oxidation Pond #1
- Demolition and removal of an old wooden pedestrian bridge deck structure over Butcher Slough. Pipes will be sandblasted, recoated and the existing conduit replaced.
- Placement of approximately 3,000 feet of electrical conduit will extend across Butcher Slough on the existing bridge and continue in a 2.2'x2.2' trench straddling the top of the Klopp Lake exterior levees to the South I Street parking lot/Hauser Enhancement Wetland.
- Excavation and contouring of an approximate 500 square feet basin at the outlet of the Hauser Enhancement Wetland for improved water quality and maintenance.
- Replacement/upgrading of vertical pumping stations within the plant and at Hauser Enhancement Wetland pump station with submersible variable speed pumping systems.
- Placement of interlocking PVC sheet pile baffles driven into the bottom sediment between islands in Allen and Gearheart Enhancement Wetlands, placed by cranes, with some areas accessed by barge.
- Placement of structural fill up to 1.5' deep to elevate existing 16' wide roadway between the Hauser Enhancement Wetland and Gearheart Enhancement Wetland to minimum elevation of 8.0' NAVD.
- Construction of discharge pipe to Outfall 003, connecting near the northeast corner of Hauser Enhancement Wetland, and running along I Street to Outfall 003.
- Construction of Outfall 003 and related rock slope protection in the southeast corner of Brackish Marsh

Phase 2 will focus on constructing the additional secondary treatment system, as well as additional site improvements within the City of Arcata Corp Yard and larger Treatment Facility. In general Phase 2 builds on the performance of Phase 1 improvements.

Phase 2 includes the construction of all the additional facilities needed for the parallel secondary treatment facility, including:

- Two 75' diameter secondary clarifiers.
- One 3.6 mgd oxidation ditch (265' x 65') with activated sludge pumps for waste and recirculation in the oxidation ditch at approximately 17' NAVD elevation to match the primary clarifier elevation and utilizing existing water surface elevations from the headworks to allow for gravity flow through the system.
- If determined necessary, following ongoing Phase 1 performance, an alkalinity feed system may be constructed within the existing developed Treatment Facility.

Additionally, the Treatment Facility is adjacent to the Arcata Bay and the entire facility is located at low elevations. The current Base Flood Elevation for a 100-year flood is 10.05 ft (NAVD 88). Current plans call for any new structures and above ground electrical equipment or connections to be located a minimum of 2.0 feet above the Zone "AE" base flood elevations within the existing protective bayfront levee within the core treatment plant and Corporation Yard. The protective levees surrounding the AWTP and oxidation pond/wetlands will be raised/augmented to a minimum of 14 feet (NAVD 88) within the FEMA (VE zones), areas identified for storm driven (erosive) waves or to a minimum of 12 feet' at the additional FEMA (AE zones) surrounding all critical AWTP infrastructure. These actions will allow the core treatment plant to be protected from storm events, and increase levee elevations according to the best available trends and technologies.

- Placement of engineered fill (light rock facing) on top and interior sides of the levees to a minimum elevation of 14' NAVD to be protective of improvements and be incompliance with FEMA standards in the "VE" zone surrounding the AWTF, for approximately 1.25 miles, maintaining a minimum driving surface width of 8' wide. Interior side slopes will be a maximum 1:1.5 or per engineered recommendations.
- Placement of fill, excavations and new structures to the top and interior of existing earthen levees will be engineered. Elevations of all new essential facilities (Flood design class 4) will be protected to the base flood elevation of 10.0' (NAVD 88) plus 2.0' within the protective earthen levee. Engineered Fill will vary from between 0'-3' predominantly from the southeastern and eastern side of the Oxidation Pond earthen levee, and along the trail access to the existing trail parking lot.

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:
At the most basic level, the overarching project purpose is to replace aging infrastructure, improve quality of treated effluent discharged into Humboldt Bay, and meet discharge requirements.

Mechanical equipment is old and no longer performing efficiently. The natural systems have reduced treatment and hydraulic capacities due to years of solids accumulation and vegetation growth. This has resulted in numerous water quality violations that must be addressed.
The proposed project addresses public health needs, including improving the hydraulic and treatment capacity of the treatment facility and meeting National Pollutant Discharge Elimination System (NPDES) permit requirements. The installation of UV disinfectant equipment, proposed

flow reconfiguration, and new effluent limits are driving factors for this project. The need to improve hydraulic and treatment capacity stems from the need to replace the chlorine disinfection system with UV and the need for continuous ammonia treatment.

The primary objectives of the proposed project are as follows:

- The City's primary objective is to provide wastewater treatment and disposal while improving existing levels of regulatory compliance for the protection of water quality and public health.
- The City seeks to address existing effluent violations and to produce a higher quality effluent that can be beneficially reused.
- The City seeks to operate the improved treatment facility with the most cost-effective methods available that meet the City's overall system performance while improving the existing natural system and constructing a mechanical system to assure regulatory compliance requirements.
- The City's goal to minimize or eliminate disinfection byproducts associated with the use of chlorine and health hazards associated with the use and storage of large chlorine cylinders is another major project objective.
- The City seeks to move the existing outfall from the bay at Butcher Slough Outfall #001 to the "Brackish" Pond Outfall #003 to maximize beneficial use of treated wastewater for habitat purposes. *It is important to note that the "brackish" pond was constructed from the City's previous McDaniel Slough Restoration project, and will not contain brackish waters until the Outfall #003 is installed to decrease the salinity of the waters, which are tidally influenced.*

Existing Conditions and Trends [24 CFR 58.40(a)]:
The Treatment Facility is owned and operated by the City of Arcata, serving residents within the City limits and the unincorporated community of Fieldbrook/Glendale. The Treatment Facility has been discharging to Humboldt Bay since about 1949. The Treatment Plant currently discharges treated wastewater to Humboldt Bay in conjunction with enhanced treatment occurring in the Arcata Marsh Wildlife Sanctuary, constructed freshwater wetlands adjacent to the treatment facility. Discharges are regulated by the North Coast Regional Water Quality Control Board (RWQCB) through application of National Pollutant Discharge Elimination System (NPDES) permit. The Wildlife Sanctuary and Bay Trail are within and adjacent to project improvements.

North: To the north of the project site is the urban core of the City of Arcata. The City's Corporation Yard is directly north of and adjacent to the wastewater treatment facility. The South G Street area is to the north and has a mixture of industrial, commercial, residential, and agricultural uses.

South: To the south of the project site is primarily natural and recreational areas: Humboldt Bay, the Bay Trail, and the Wildlife Sanctuary.

East: To the east of the project site is south G Street, and agricultural lowlands adjacent to the Bay. U.S. Highway 101 is located approximately one-quarter mile east of the project site.

West: To the west of the project site is primarily bay land and agricultural land, ending at the Pacific Ocean. The Mad River Slough Wildlife area is roughly 1.25 miles west of the project site; the Pacific Ocean is roughly four miles due west of the project site.

Funding Information

Grant Number	HUD Program	Funding Amount
17-CDBG-12017	CDBG	2,491,694

Estimated Total HUD Funded Amount: $2,491,694

Estimated Total Project Cost (HUD and non-HUD funds) [24 CFR 58.32(d)]**:**

The total cost accounts for design, construction, and inflation. This cost estimate was developed in April 2019 and was updated in March 2020 with the 50% design package.

Construction Costs:	$47,728,000
Non-Construction Costs:	$16,672,000
Total:	**$64,400,000**

Figures

- **Figure 1:** Zoning Map (City of Arcata, 2008)
- **Figure 2:** Area of Potential Effect (City of Arcata, 2020)
- **Figure 3:** Current Map of Arcata Wastewater Treatment Facility (City of Arcata, 2019)
- Figure 4: Current Map of Core Treatment Plant (City of Arcata, 2020)
- **Figure 5-8:** Site Plans (Carollo Engineers, 2020)
- **Figures 9,10:** Current/Proposed Flow Schematics (Carollo Engineers, 2020)
- **Figures 11-14:** Photos of Project Site (Google Earth, City of Arcata, 2020)

Figure 1: Zoning Map (City of Arcata, 2008)

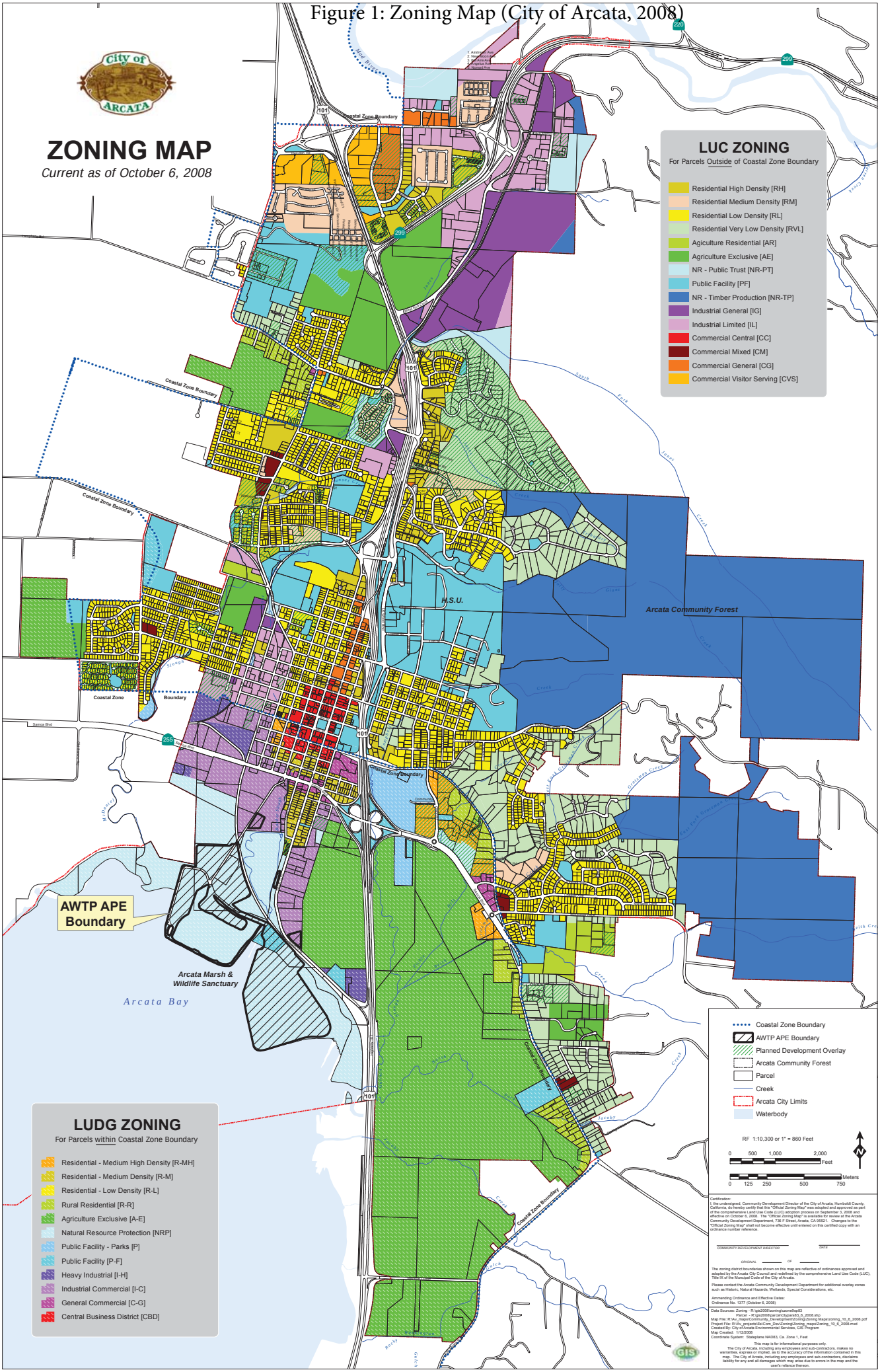


Figure 2: Area of Potential Effect (City of Arcata, 2020)

Area of Potential Effects

2019 Aerial Map

Arcata Wastewater Treatment Upgrade

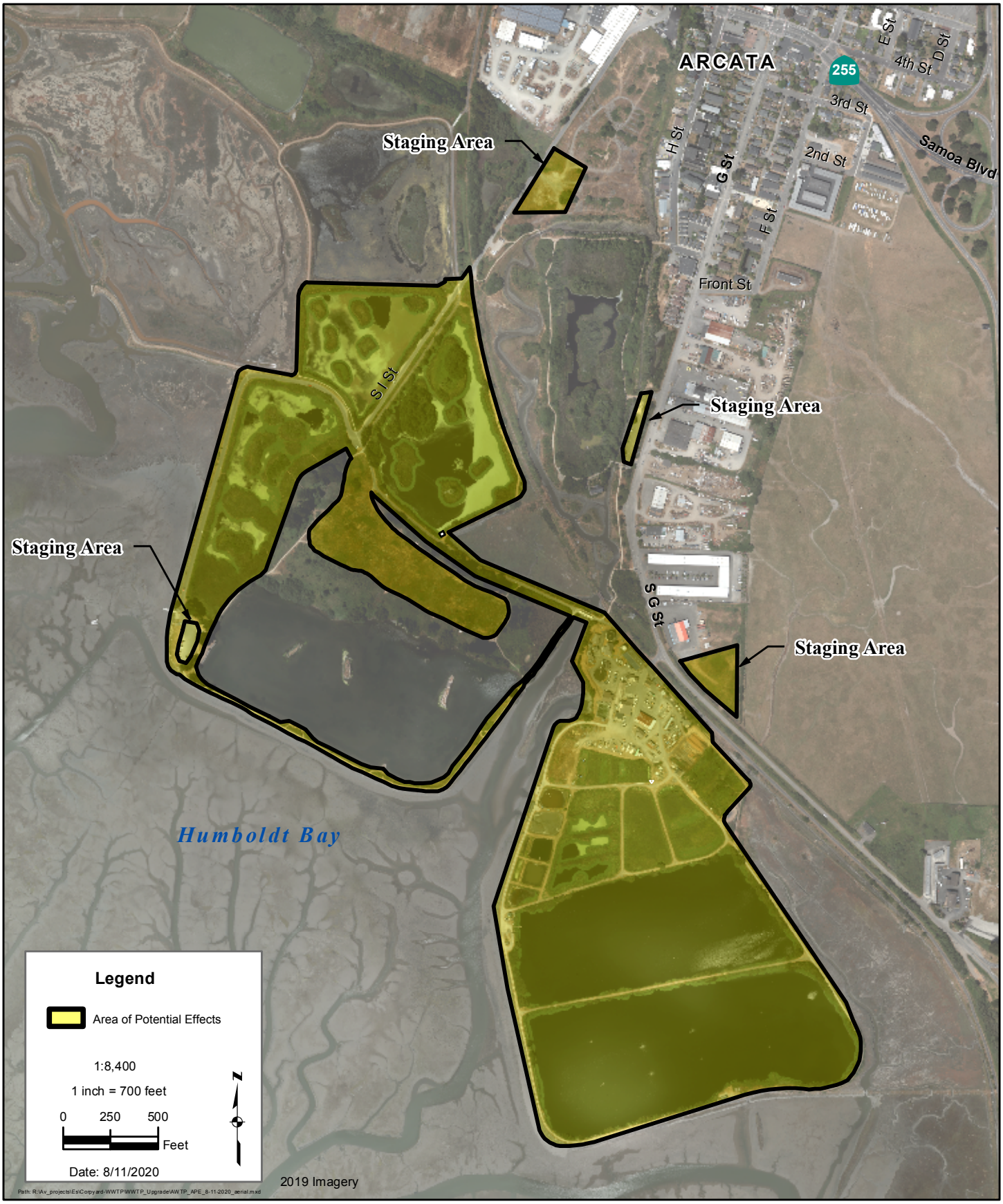


Figure 3: Current Map of Arcata Wastewater Treatment Facility (City of Arcata, 2019)

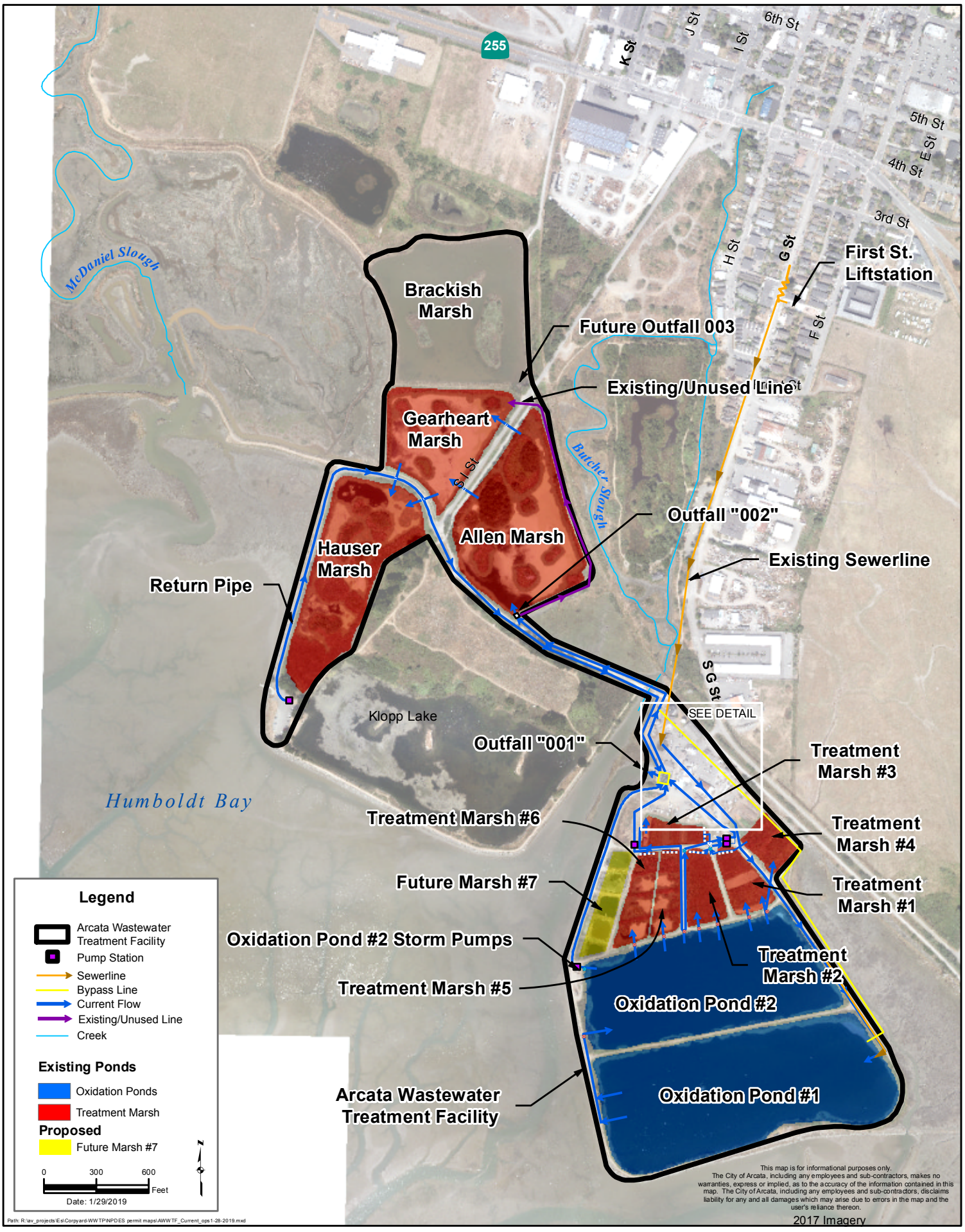
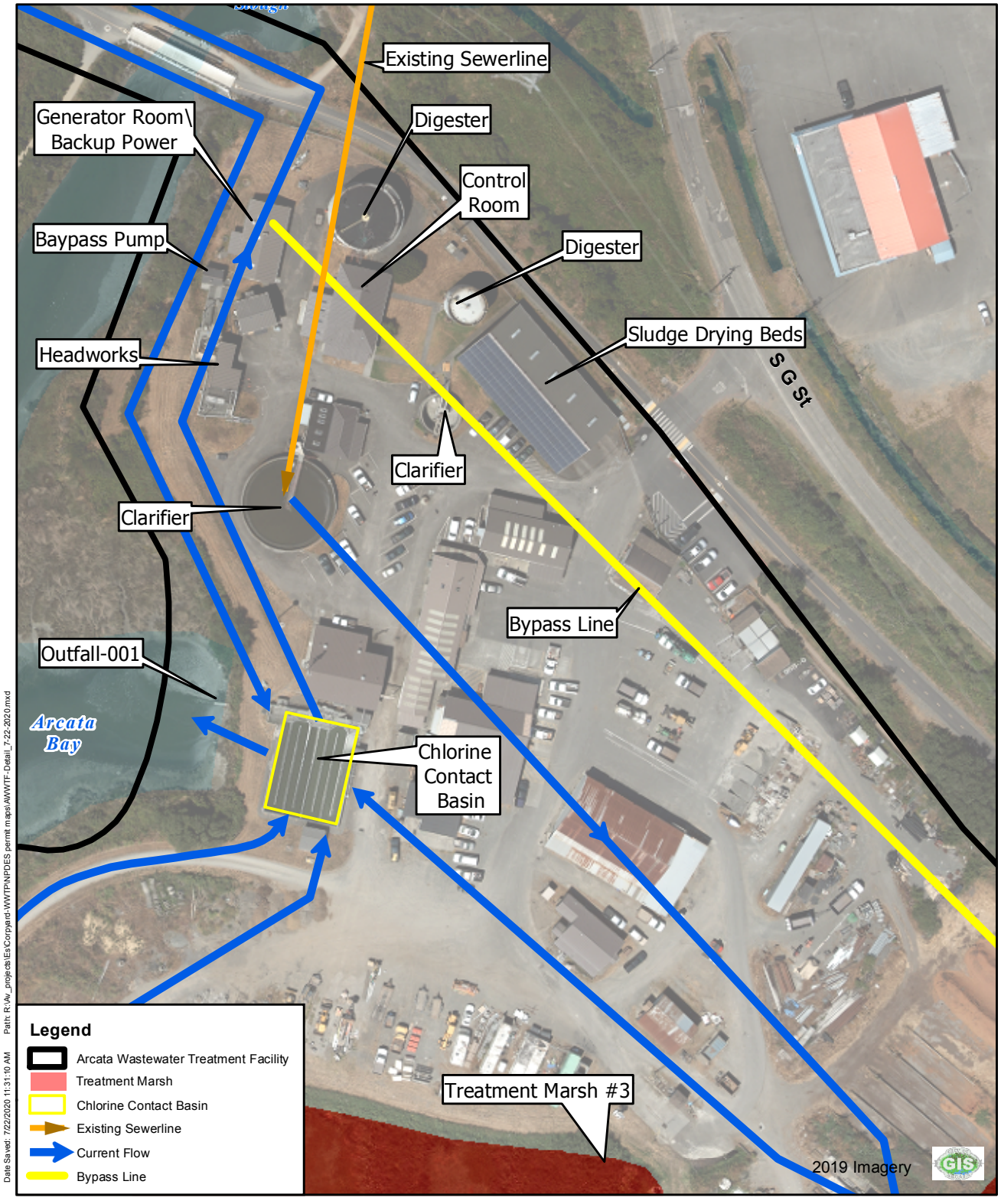


Figure 4: Current Map of Core Treatment Plant (City of Arcata, 2020)



City of Arcata
Environmental Services

Arcata Wastewater Treatment Facility Detail

NORTH
0 40 Feet

Figure 5: Site Plan (Carollo Engineers, 2020)

Plot Date: 7/23/2020 8:12:36 AM

LEGEND
- Phase 1
- Phase 2
- Existing
- New
- Future

OUTFALL 003
BRACKISH MARSH
GEARHEART ENHANCEMENT WETLAND
ALLEN ENHANCEMENT WETLAND
BUTCHER'S SLOUGH
TREATMENT WETLAND NO. 4
TREATMENT WETLAND NO. 1
TREATMENT WETLAND NO. 3
TREATMENT WETLAND NO. 2
TREATMENT WETLAND NO. 5
TREATMENT WETLAND NO. 6
OXIDATION POND NO. 2
OXIDATION POND NO. 1
HAUSER ENHANCEMENT WETLAND
KLOPP LAKE
HUMBOLDT BAY
ENHANCEMENT WETLANDS PUMP STATION
HUMBOLDT BAY

OVERALL SITE PLAN

CITY OF ARCATA

carollo

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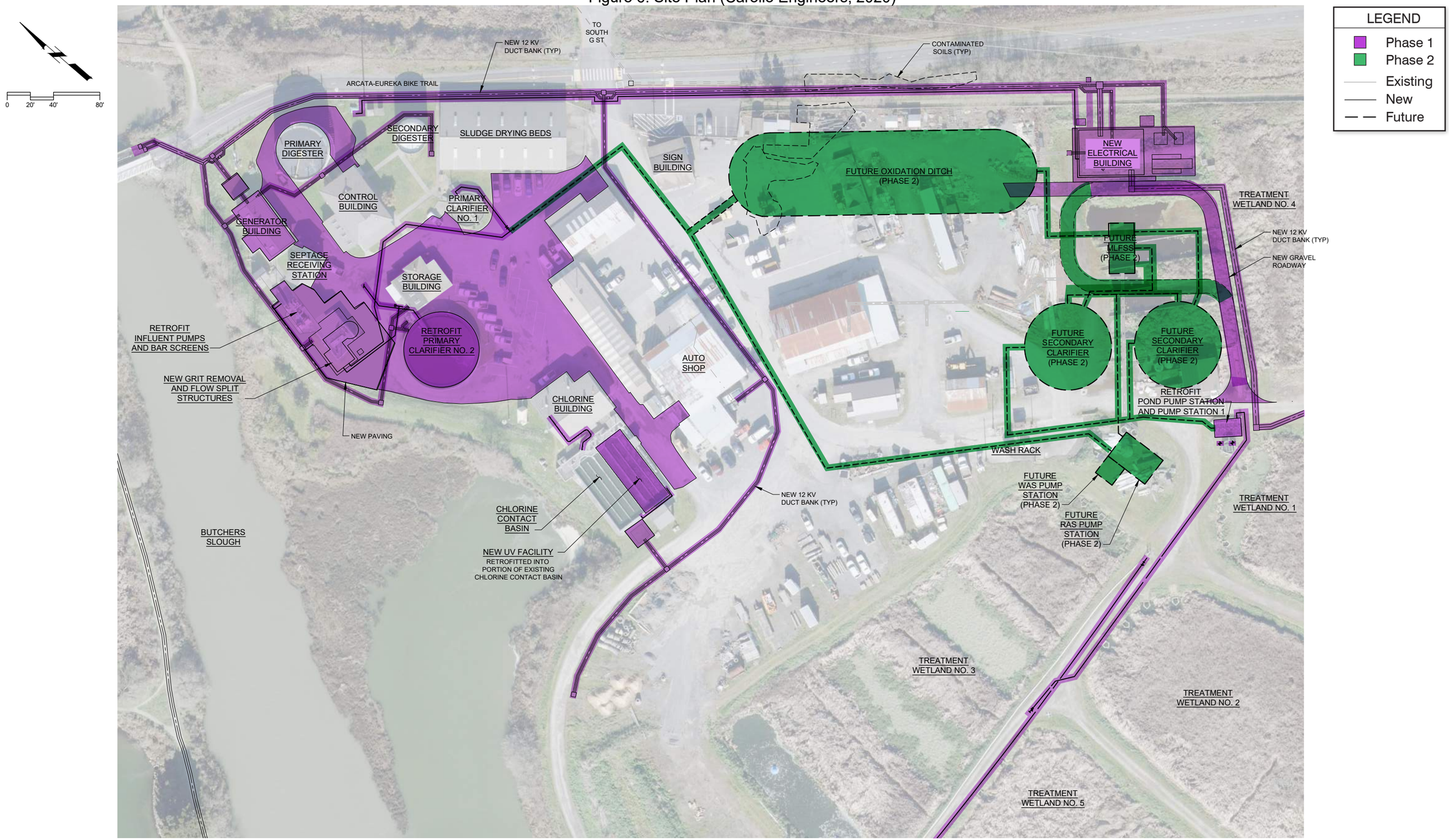
Figure 6: Site Plan (Carollo Engineers, 2020)



CENTRAL SITE PLAN

CITY OF ARCATA

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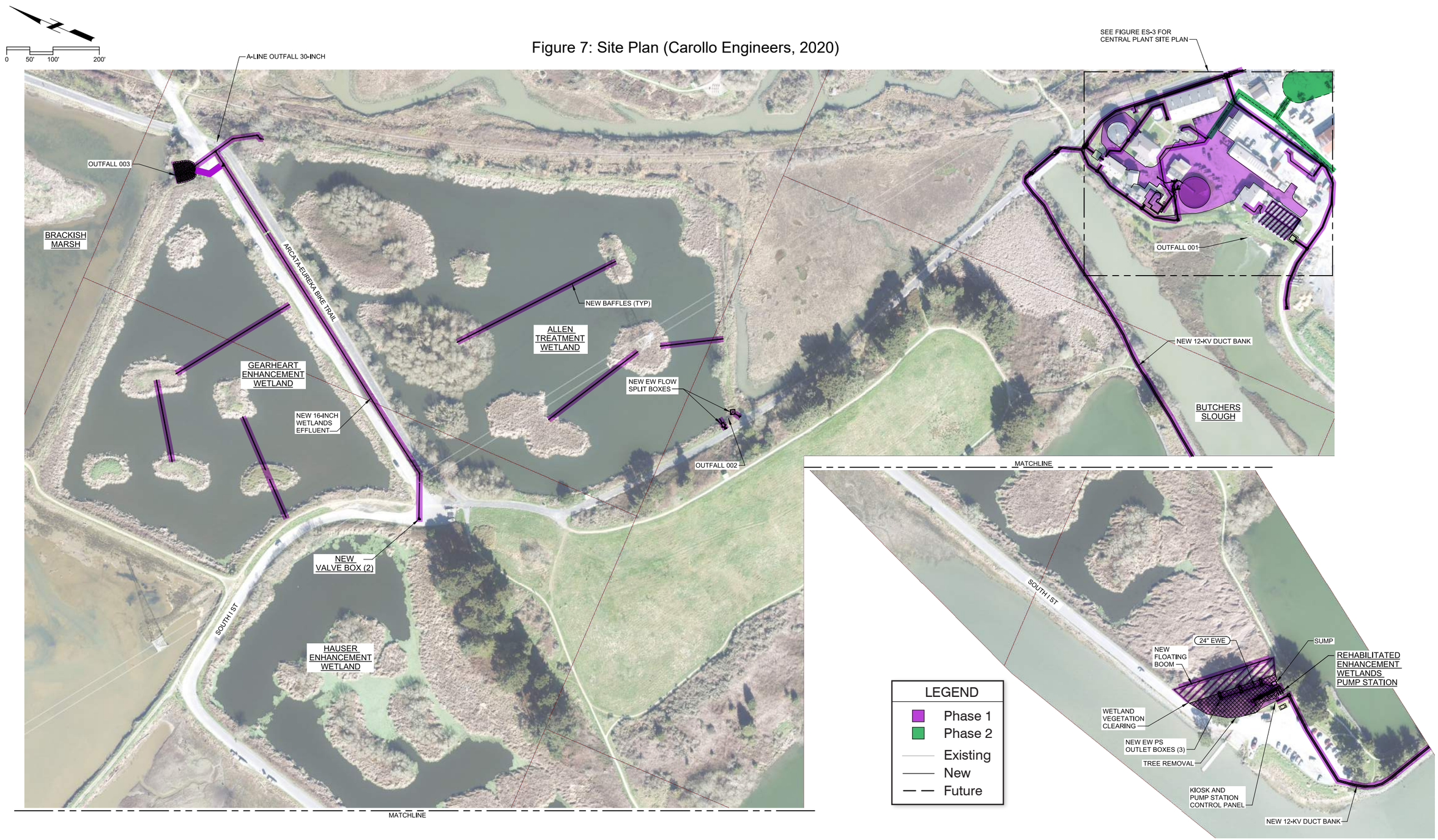
Figure 7: Site Plan (Carollo Engineers, 2020)



ENHANCEMENT WETLANDS SITE PLAN

CITY OF ARCATA

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Figure 8: Site Plan (Carollo Engineers, 2020)

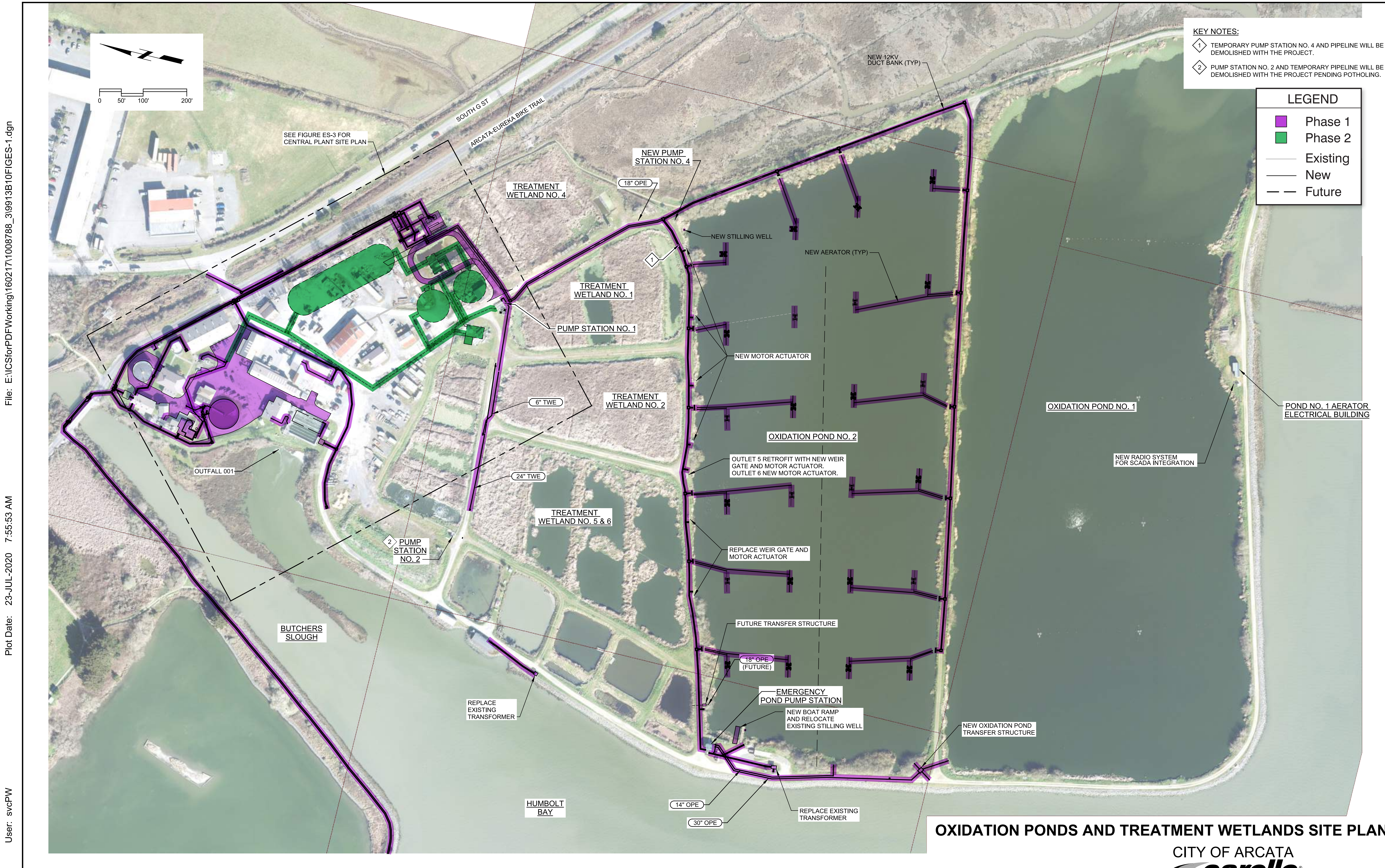

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Figure 9: Existing Flow Schematic (Carollo Engineers, 2020)

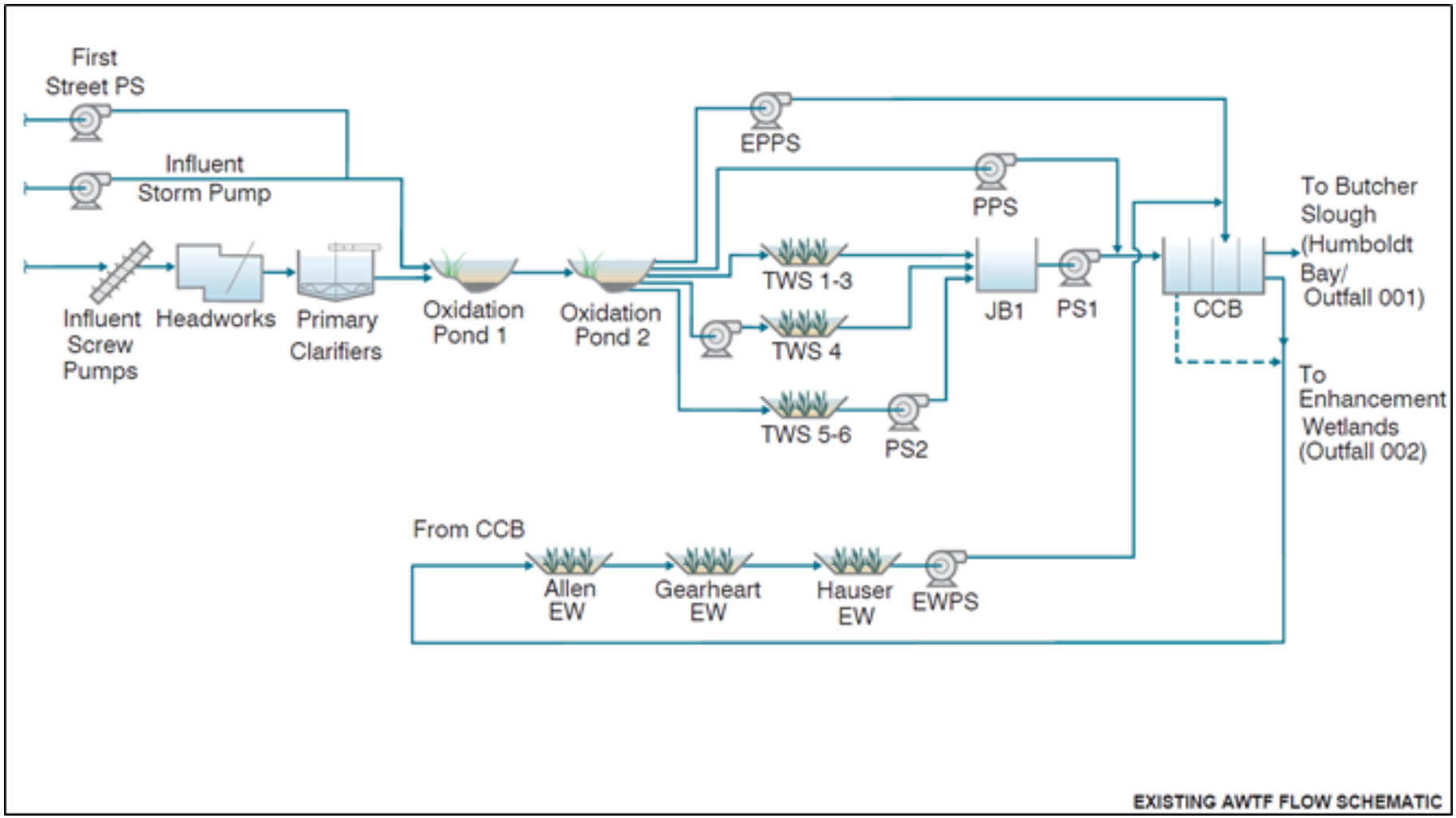
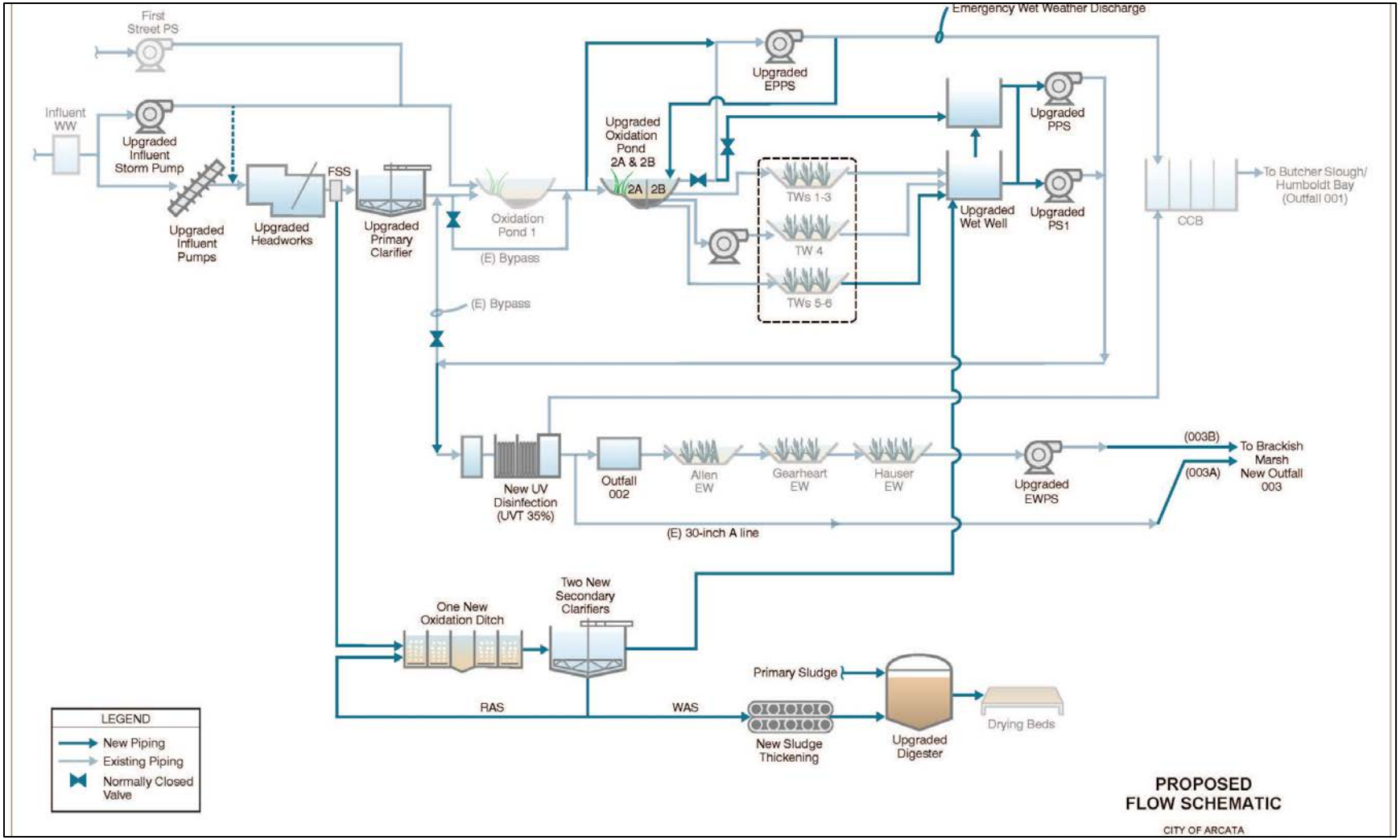


Figure 10: Proposed Flow Schematic (Carollo Engineers, 2020)



U.S. Department of Housing and Urban Development
451 Seventh Street, SW
Washington, DC 20410
www.hud.govespanol.hud.gov

Figures 11-12: Photos of Project Site (Google Earth, City of Arcata, 2020)

Figure 11: existing discharge point 001 at Butcher Slough (image courtesy of Google Earth)

Figure 12: Proposed new discharge point 003 at Brackish Marsh (image courtesy of Google Earth)

Figure 13: Brackish Marsh under construction, ca. 2007 (see note in objectives-statement of purpose and need)

Figure 14: New Outfall 003 Location

Compliance with 24 CFR 50.4, 58.5, and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5 and §58.6	Are formal compliance steps or mitigation required?	Compliance determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes No ☐ ☒	The project site is not located within 2,500 feet of the end of a civil airport runway or within15,000 feet of the end of a military airfield runway. The closest civilian airports to the project area occur approximately 3.6 miles to the south (Murray Field), approximately 8 miles to the north (California Redwood Coast – Humboldt County Airport), and approximately 12.5 miles to the southeast (Kneeland Airport). The closest military airport is the United States Coast Guard Air Station which is located adjacent to the California Redwood Coast – Humboldt County Airport approximately 8 miles to the north of the project site. See attached Humboldt County Web GIS Map which shows that the area of the City of Arcata containing the project site is not located within an Airport Compatibility Zone (see Attachment 12). <u>Further compliance steps and/or formal mitigation is not required.</u> **Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Coastal Barrier Resources Coastal Barrier Resources Act, as amended by the Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes No ☐ ☒	There are no Coastal Barrier Resource System (CBRS) Units, CBRS buffer zones, as defined under the Coastal Barrier Resources Act of 1982 (PL 97-348), as amended by the Coastal Barrier Improvement Act of 1990 (PL 101-591) located within Humboldt County. The

		Coastal Barriers Resources Act primarily applies to the eastern coastline of the United States. The project is therefore not located within a CBRS Unit, or CBRS buffer zone. <u>Further compliance steps and/or formal mitigation is not required.</u> **Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes No ☐ ☒	The Flood Disaster Protection Act of 1973 (42 U.S.C. 4012a) requires that projects receiving federal assistance and located in an area identified by the Federal Emergency Management Agency (FEMA) as being within a Special Flood Hazard Areas (SFHA) be covered by flood insurance under the National Flood Insurance Program (NFIP). In order to be able to purchase flood insurance, the community must be participating in the NFIP. If the community is not participating in the NFIP, federal assistance cannot be used in those areas. The City is a participating community in the National Flood Insurance Program. Based on the 2017 Flood Insurance Rate Map (06023C0852G, revised by FEMA June 21, 2017), the project area is located in a FEMA designated Special Flood Hazard Area (Zone AE), which is defined as "*the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year."* The City is insured through the Redwood Empire Municipal Insurance Fund, and this insurance extends to all City owned, leased, or rented real and personal property per the City's Memorandum of Coverage. The City's insurance policy includes facilities in the "A" or "V' flood zones (refer to "Deductibles for Specific Perils and Coverages, Alliant Property Insurance Program" Binder of Insurance, Attachment 16) In addition to the required Flood Insurance protection, the City has been involved in ongoing collaboration with FEMA on the design and armoring of the site, including

		the raising of the levees around the treatment facility. <u>Further compliance steps and/or formal mitigation is not required.</u> **Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5		
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes No ☐ ☒	The proposed project includes improvements to the AWTF that will involve new construction (new electrical building, new headworks, etc.) to augment the existing public wastewater treatment facility. The scale of the new improvements is small in comparison to the scale of the existing facility. Under State ambient air quality standards, Humboldt County has been designated "nonattainment" for particulate matter less than ten microns in size (PM_{10}) (see Attachment 33; NCUAQMD, 2020). As with any new development project, the proposed project has the potential to generate pollutant concentrations during both construction activities and long-term operation. Both construction and operational emissions for the proposed project were estimated using the California Emissions Estimator Model (CalEEMod). The results of the emissions modeling (see Attachment 34; CAPCOA, 2017) show that both the construction and operational emissions from the project would be well below the NCUAQMD thresholds, on both a daily and annual basis (see Attachment 33, pgs. 7-8, NCUAQMD, 2015). The City's standard condition for controlling dust emissions during construction is included in Arcata General Plan Policy AQ-2f (see Attachment 14) and will be implemented by the City during construction of the project. The following control measures from General Plan Policy AQ-2f shall be followed to reduce dust generation

		during demolition, excavation, or earthmoving construction activities: a. Water all active construction areas twice per day and use erosion control measures to prevent water runoff containing silt and debris from entering the storm drain system; b. Cover trucks hauling soil, sand, and other loose material; c. Pave, water, or apply non-toxic soil stabilizers on unpaved access roads and parking areas; d. Sweep paved access roads and parking areas daily; and e. Sweep streets daily if visible material is carried onto adjacent public streets. In summary, the estimated emissions from project construction and operation would be below NCUAQMD stationary source thresholds and USEPA De Minimis Thresholds. However, to reduce fugitive dust generation during construction activity, the project will be required to comply with the air quality control measures in Policy AQ-2f of the City's General Plan. These control measures are existing regulatory requirements and do not need to be included as mitigation for the project. Therefore, the construction and operation of the project would not result in adverse air quality impacts. <u>Current compliance steps will continue to be implemented. Further compliance steps and/or formal mitigation is not required.</u> *Please see Appendix I for further discussion and analysis of the Proposed Project's potential effects upon Air Quality.* *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes No ☒ ☐	The project site is located inside of the Coastal Zone Boundary. A Coastal Development Permit (CDP) is required for the project that will cover both Phases 1 and 2. Through the CDP process, the project will be required to comply with the Coastal Act,

		which is designed to protect coastal resources. This CDP will ensure consistency with the provisions of the Coastal Zone Management Act. A letter to this effect was received from the California Coastal Commission's Federal Consistency Brach and is included as Attachment 28. Furthermore, improvements to the Wastewater Treatment Facility have been included in the City's adopted Capital Improvements Program, including the Ultraviolet Disinfection/PV System. The Planning Commission is charged with ensuring that City-adopted plans are consistent with the goals and policies of the adopted General Plan [California Government Code, Section 65401]. Therefore, the Planning Commission annually adopts the Capital Improvement Program's list of Projects and makes the finding that the Capital Improvements Program is consistent with the City's General Plan, and the City's adopted Local Coastal program. The most recent consistency determination was made on April 14, 2020, at the regularly scheduled meeting of the Arcata Planning Commission. The Commission voted to find the proposed 2020/2021 Capital Improvements Program consistent with the City General Plan and Local Coastal Program and adopted Planning Commission Resolution No. PC-20-02. Based on the developed condition of the project site, the project's consistency with the City's adopted Local Coastal Plan, and the determination provided by Coastal Commission staff, the project will not adversely impact coastal resources and is compliant with the CZMA Sections 307(c) and (d). <u>As a further compliance step, a Coastal Development Permit shall be obtained. Formal mitigation is not required.</u> *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder*

		in the Community Development Department at City Hall.
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes No ☐ ☒	The site's toxic substances are all currently managed under approved site safety plans and protocols and the site is routinely inspected by the County Certified Unified Program Agency for compliance. The proposed UV Disinfection System will reduce the use of chlorine and sulfur dioxide that the current system requires and is an environmental and employee safety hazard. Moving to a UV Disinfection System will also remove the disinfection byproducts that chlorine creates. As a result, the project is anticipated to have a net positive reduction in toxic substances stored/used onsite. The corporation yard recently underwent a Soil and Groundwater Management Contingency Plan related to a historic leak in an onsite gasoline storage tank. A case was started in 2000 and the City has worked in coordination with the California Regional Water Control Board to work towards continued compliance. The corporation yard site contains contaminated soils due to leaking above-ground storage tanks and pump islands. Investigation and remediation of the release was undertaken by SHN Engineers and Geologists. The site has received closure from the North Coast Regional Water Quality Control Board (RWQCB). However residual petroleum hydrocarbons in the soil and groundwater remain at the site at levels over industrial screening levels. A Soil and Groundwater Management Contingency Plan for the Arcata Corporation Yard was prepared in 2020 for the impacted area and was approved by the RWQCB. However, the proposed improvements analyzed herein have no impact upon the historic gas leak or the City's ongoing compliance efforts. <u>Current compliance steps will continue to be implemented. Further compliance steps and/or formal mitigation is not required.</u> *Please see Appendix A for further discussion and analysis of the Proposed*

		Project's potential effects upon Contamination and Toxic Substances. *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes No ☒ ☐	The project has the potential to impact sensitive natural communities, particularly in the vicinity of the newly proposed Outfall 003 location. A Biological Assessment has been prepared for the project, and is included as Attachment 31. This Assessment has been shared with both US Fish and Wildlife and NOAA Fisheries. Previous consultation has been undertaken with US Fish and Wildlife as part of a formal consultation regarding tidewater goby requested by the US Army Corps of Engineers (US Army Corps) in 2008 and 2016, regarding related improvements to the Brackish Marsh as part of the McDaniels Slough Restoration Project. Federally endangered or threatened aquatic species are most at risk from project activities in the vicinity of the Brackish Marsh, as the planned location of the new effluent Outfall 003. Tidewater goby and other federally threatened aquatic species have a high likelihood to be found at the project site, and the Brackish Marsh has been mapped as critical goby habitat as a result of restoration efforts to the Brackish Marsh undertaken in the last ten years. A Section 7 Consultation will be intiated by the Army Corps of Engineers as Federal Lead with the submittal of the project's 404 permit. Informal consultation has been undertaken with USFW and NOAA Fisheries for the respective species in their jurisdiction as part of the Section 7 Consultation including tidewater goby. Informal consultation with USFW and NOAA

		Fisheries agency partners have indicated the 2008 and 2009 Biological Opinions resulting from the Section 7 consultation initiated as part of the McDaniel Slough Restoration effort can be used to guide recommendation for the Proposed Project, and they anticipate being able to undertake minor amendments to update the expiration of the Opinions and update recommendations as necessary based on any finding of altered site conditions. Consultation for other marine species with critical habitat in the project area, including northern California steelhead and coho salmon, are being undertaken with NOAA Fisheries. The Assessment identifies and discusses potential impacts to Federally threatened and endangered species, and found that all impacts could be adequately mitigated by following the guidance of USFW through the Section 7 Agency consultation process. <u>Formal Mitigations Required:</u> ***Mitigation Measure 1: Section 7 Consultation*** Through the Section 7 process, continue ongoing consultation with the U.S Fish and Wildlife Service and NOAA Marine Fisheries Service regarding federally listed species. Adhere to minimization measures that are developed as part of this process to ensure that no adverse impacts occur. ***Mitigation Measure 2: Conduct Nest Survey and Establish Buffers*** To minimize potential adverse impacts to avian species associated with vegetation removal, vegetation removal will occur outside of the avian nesting season (generally March - August) to the extent practicable. If vegetation removal or

		disturbance cannot be confined to periods outside of the nesting season, a qualified biologist shall conduct pre-construction surveys, within the vicinity of the Proposed Project to check for nesting activity and to evaluate the site for presence of special-status bird species. The biologist shall conduct a minimum of one day pre-construction survey within the 7-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the breeding season, a qualified biologist shall conduct a supplemental avian pre-construction survey before project work is reinitiated. If active nests are detected within the construction footprint or within the construction buffer established by the Project biologist, the biologist shall flag a buffer around each nest. Construction activities shall avoid nest sites until the biologist determines that the young have fledged, or nesting activity has ceased. If nests are documented outside of the construction (disturbance) footprint, but within the construction buffer, nest buffers would be implemented as needed. Buffer sizes would take into account factors such as (1) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; (2) distance and amount of vegetation or other screening between the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds. If active nests are detected during the survey, the qualified biologist shall monitor all nests at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified biologist, disturb nesting activities (e.g.,

		excessive noise), shall be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified biologist shall immediately implement adaptive measures to reduce disturbance. These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed, placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, and/or reorienting and/or relocating construction equipment to minimize noise at noise-sensitive receptors. ***Mitigation Measure 3: Sedimentation and Turbidity Best Management Practices*** Areas where sedimentation or turbidity impacts could occur will use best management practices (BMPS) to minimize potential impacts. This could include implementation of fiber rolls, silt fences, and post-construction stabilization/revegetation to ensure bare soil is not left exposed. All non-biodegradable temporary erosion control measures will be removed from wetlands and waters of the US/State immediately on cessation of construction. ***Mitigation Measure 4: Spill Prevention and Clean-up*** To prevent potential spills or leaks associated with construction activities, construction crews will be trained on spill prevention, response, and good housekeeping. Additionally, spill clean-up

		kits will be readily available onsite during construction activities to ensure appropriate and timely response to any spills or leaks, should they occur. ***Mitigation Measure 5: Construction Equipment Maintenance*** Refueling or maintenance of construction vehicles or equipment will only occur in upland environments. If equipment must be washed, washing will occur where wash water cannot flow into wetlands or waters of the US/State. ***Mitigation Measure 6: Fish Relocation*** Prior to construction, areas of the Brackish Marsh where construction will occur will be isolated and surveyed for aquatic species, which will be relocated to adjacent appropriate areas if found. Surveys and relocation will be completed by a qualified biologist. All translocation and surveys of Federally-listed species will be conducted under a scientific recovery permit. ***Mitigation Measure 7: Isolated Work Area*** Prior to construction and after fish relocation, the work area surrounding Outfall 003 will be isolated and dewatered to minimize potential sedimentation and turbidity-related impacts to aquatic species. ***Mitigation Measure 8: Vegetation Surveys*** Areas where vegetation removal is planned to occur will be surveyed at the appropriate time of year for best detection for Western Lily prior to removal. Should any species be found within the construction vicinity, it will be flagged for avoidance. ***Mitigation Measure 9: Compensatory Vegetation*** In the very low chance that a Western Lily is encountered during construction activities

		and avoidance is not feasible, the species will be relocated and monitored for survival. Should the survival be unsuccessful, the City will work with USFWS to ensure appropriate compensatory mitigation. *Please see Appendix B for further discussion and analysis of the Proposed Project's potential effects upon Federally Threatened and Endangered Species.* *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes No ☐ ☒	The site is pre-existing and any explosive and flammable hazards onsite have been previously mitigated for through pre-existing standard adopted safety control standards. Onsite staff receive safety trainings and the site is not open to the public. The proposed project will not significantly increase hazards onsite. The only new flammable equipment is the newly proposed diesel storage tank, which will be regulated under the same safety protocol as the rest of the equipment onsite. There will be no increase to the risk of explosive or flammable hazards as a result of the project. <u>Current compliance steps will continue to be implemented. Further compliance steps and/or formal mitigation is not required.</u> *Please see Appendix C or further discussion and analysis of the Proposed Project's potential effects upon Explosive and Flammable Hazards*. *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes No ☐ ☒	Project improvements will take place on developed property on public-facility and natural-resource zoned lands. The Area of Potential Effect does not include farmlands or areas zoned for agricultural use. (see Figures 1 and 2 –City of Arcata Zoning Map and Project Area). As shown on the City of Arcata Zoning Map, the closest agriculturally-zoned properties are located

		roughly 0.2 miles from the project site on the north side of South "G" Street (Coastal Agriculture-Exclusive). Farmlands will not be impacted by this project. <u>Further compliance steps and/or formal mitigation is not required.</u> *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes No ☐ ☒	Although the site's location puts it at risk of coastally-influenced flooding, the site is pre-existing and its proximity to the Bay is necessary for its functioning. In addition, the project scope includes activities undertaken to increase the facility's resiliency to flooding and sea level rise, under specific direction from FEMA. These improvements include flood proofing existing structures, raising levees surrounding the core treatment plant area, and raising new structures above base flood elevation to increase the facility's ability to withstand extreme weather events. The proposed improvements will be undertaken in coordination with the City's Floodplain Administrator, FEMA requirements, and the City's adopted Floodplain Ordinance. These actions will allow for the treatment plant to be protected from future storm events and will be designed according to the best available data trends and technologies. The project will have a net beneficial impact on the site's ability to withstand flood hazards. <u>Current compliance steps will continue to be implemented. Further compliance steps and/or formal mitigation is not required.</u> *Please see Appendix D for further discussion and analysis of Floodplain Management. Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Historic Preservation	Yes No ☐ ☒	The City contacted the State Historic Preservation Officer (SHPO) on July 21, 2020, requesting formal SHPO consultation, and received a clearance letter dated July 28,

National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800		2020 (see Attachment 1). See *Appendix E-Historical Preservation* for more information. Based on site analysis undertaken by qualified professionals and supported by both the State Historic Preservation Officer and the local Tribal Historic Preservation Officers during formal consultation, it has been determined the project would have no impact on historic or cultural resources with the incorporation of standards inadvertent discovery protocol. <u>Current compliance steps will continue to be implemented. Further compliance steps and/or formal mitigation is not required.</u> Please see *Appendix E for further discussion and analysis of the Proposed Project's potential effects upon Historical Resources*. *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes ☐ No ☒	The site is pre-existing and does not include residential uses, either onsite or within a quarter mile of the project site. Existing land use patterns provide separation between sensitive uses/users and the project site. There are no noise-sensitive urban needs, such as housing and schools, within a quarter mile of the project site. The treatment facility would not be considered a major noise source or noise exposed area per the Noise Control Act (major noise sources include airports, highways). The project is limited to improvements to increase the efficient functioning of a pre-existing site and there will be no significant increase in ongoing operational noise at the treatment facility or environs in excess of the pre-existing general noise levels. However, construction of the proposed Project would temporarily increase noise in the immediate vicinity of the Project site. To the extent feasible, temporary construction noise will be mitigated by applying Noise

		reduction policies included in the adopted Noise Element of the General Plan. <u>Current compliance steps will continue to be implemented. Further compliance steps and/or formal mitigation is not required.</u> *Please see Appendix F for further discussion and analysis of the Proposed Project's effects upon Noise Abatement and Control.* *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes No ☐ ☒	According to the U.S. EPA website, the project site is not located on nor does it affect a sole source aquifer (see Attachment 3). The closest sole source aquifer located near Fresno, California is more than 350 miles from the site of the Proposed Project. <u>Further compliance steps and/or formal mitigation is not required.</u> **Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes No ☒ ☐	Proposed upgrades to address NPDES permit requirements include oxidation pond and wetland treatment system improvements. The project will not generally impact the overall functioning of existing wetland systems onsite, but will have temporary impacts to vegetation during construction, and will permanently affect small amounts of onsite wetland areas in four locations, two which will affect waters of the state and two which will affect waters of the United States. A final wetland delineation was completed by Stillwater Sciences in August 2020 (Attachment 9). Stillwater's impacts analysis indicated the Proposed Project has the potential to permanently impact approximately 0.07 acres of wetland area and temporarily impact 0.44 acres of wetland area (Attachment 11). Because of the potential impact to wetlands, the impact would be less than significant with the incorporation of the formal

		Mitigation Measure outlined below, which ensures no net loss of wetlands through a minimum 1:1 replacement of permanently impacted wetlands, avoidance and minimization of permanent impacts and temporary impacts to wetlands during construction, restoration of pre-Project conditions at the conclusion of construction, and compensation of wetlands such that no net loss occurs and ensuring no significant impact to wetlands due to project implementation. <u>Formal Mitigation Required: *Compensatory Mitigation for Wetlands Impacts*</u> *As specifically determined during preparation of construction bid documents, the City shall identify specific wetlands to be directly impacted by construction activities and compensate for these permanent wetland impacts through restoration, rehabilitation, and/or creation of wetland at a ratio of no less than 1:1. A Wetlands Mitigation and Monitoring Plan shall be prepared prior to project construction in coordination with the North Coast Regional Water Quality Control Board, US Army Corps of Engineers, and California Coastal Commission. Compensation for wetlands shall occur so there is no net loss of wetland habitat at ratios to be determined in consultation with the permitting authorities. Wetland mitigation monitoring will be conducted for a minimum of five years to ensure successful establishment. Specific monitoring and remediation procedures will be developed in coordination with permitting authorities to ensure that the plan meets regulatory agency requirements.* *The Wetlands Mitigation and Monitoring Plan shall be acceptable to the permitting authorities and include the following elements: proposed mitigation ratios; description and size of the restoration or compensatory area; site preparation and design; success criteria; monitoring schedule; and remedial measures. The Plan shall be implemented by the City.*

		Please see Appendix G for further discussion and analysis of the Proposed Project's potential effects upon Wetlands Protection. **Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes No ☐ ☒	Rivers designated as Wild & Scenic in Humboldt County include the Eel River, Trinity River, and Klamath River. All of these rivers are more than ten miles from the project site. The project does not interfere with locally identified Wild and Scenic designated rivers (see Attachment 13). <u>Further compliance steps and/or formal mitigation is not required.</u> **Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes No ☐ ☒	The area in which project site is located is an industrial/recreational area, and does not include any residential uses or residentially-zoned lands within one-quarter mile of the project site (see Figure 2 – Project Area). The project site is zoned Public Facility (P-F) and is within the City Urban Services Boundary and inside of the Coastal Zone Boundary (see Figure 1- City Zoning Map). The treatment facility is not a major source of noise, air, or light pollution that would have a significant negative effect on the health of nearby residents. In fact, the treatment facility is housed within the larger marsh and wildlife sanctuary, which is a pristine recreational area that attracts visitors to the site. The U.S. EPA EJSCREEN shows that the project site is in an area (1-mile radius) with an approximate population of 2,295 individuals. Of the 2,295 residents, 29% are considered minority populations, and 69% of residents are low income (see Attachment 8). According to the U.S. Census Bureau, the median household income in the City of

		Arcata in 2018 was $31,674 (see Attachment 6). The project will rehabilitate an existing facility that is not located directly adjacent to housing. The improvements will rehabilitate the facility to make it safer by removing the use of chlorine to treat wastewater, and ensuring the facility is generally in good repair. The facility itself treats the community's wastewater, and benefits all users equally, while not negatively affecting some surrounding residents more than others. Therefore, the project would not result in disproportionately adverse environmental effects on minority or low-income populations. Further compliance steps and/or formal mitigation is not required. **Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.

(1) Minor beneficial impact
(2) No impact anticipated
(3) Minor Adverse Impact – May require mitigation
(4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		

Conformance with Plans / Compatible Land Use and Zoning / Scale and Urban Design	2	The proposed project is consistent with the City of Arcata General Plan and Zoning Ordinance. The guiding principles and goals in the General Plan Land Use Element include maintaining public facilities and recreation areas. The project site is zoned Public Facility (P-F) and is within the City Urban Services Boundary and inside of the Coastal Zone Boundary. No General Plan amendment or zone change is proposed; public infrastructure is a permitted use within the P-F zone (see Attachment 21). Furthermore, the treatment facility is a pre-existing use, and the project does not propose an expansion in use. The project is also supported by policies PF 2-B and PF 2-C of the Public Facilities and Infrastructure Element of the General Plan, as the project will maintain infrastructure and water quality of the wastewater treatment system.. Policy PF 2-B states: ***Arcata Marsh wastewater treatment system.*** *The City shall update its Wastewater Treatment Plant Master Plan, at least every five years, to evaluate the entire system; reflect any changes in treatment standards; ensure wastewater treatment is meeting current standards; verify that there is adequate treatment system capacity; and ensure adequate water flows to maintain habitat. The City shall maintain the existing facilities of the Arcata Marsh and Wildlife Sanctuary and construct new facilities consistent with the Marsh Enhancement Plan adopted by the City Council.* Policy PF-2c states: ***Compliance with California Regional Water Quality Control Board wastewater treatment and discharge standards.*** *The City shall regularly test its wastewater and make necessary adjustments in treatment levels, to ensure that it meets California Regional Water Quality Control Board standards. The City shall also keep its National Pollution Discharge Elimination System Permit (NPDES) current and in compliance with U.S. Environmental Protection Agency standards.* Finally, Improvements to the Wastewater Treatment Facility have been included in the City's adopted Capital Improvements Program, including the Ultra Violet Disinfection/PV System. The Planning Commission is charged with ensuring that City-adopted plans are consistent with the goals and policies of the adopted General Plan [California Government Code, Section 65401]. Therefore, the Planning Commission annually adopts the Capital Improvement Program list of Projects and makes the finding that the Capital Improvements

		Program is consistent with the City's General Plan, and the City's adopted Local Coastal program. The most recent consistency determination was made on April 14, 2020, at the regularly scheduled meeting of the Arcata Planning Commission. The Commission voted to find the proposed 2020/2021 Capital Improvements Program consistent with the City General Plan and Local Coastal Program and adopted Planning Commission Resolution No. PC-20-02. Based on the developed condition of the project site and the project's consistency with the City's General Plan Policies, the project is in compliance with City Plans and Policies, including the Land Use Plan and Zoning Code. The site's footprint will not be expanded and all structural improvements will be of similar scale to the pre-existing facility's scale and massing. <u>Further compliance steps and/or formal mitigation is not required.</u> *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	3	On April 24-26, and May 7-10, 2018, LACO explored subsurface conditions at the Site. Results are discussed in brief below. This section is also informed by the soils data provided in the delineation of waters and wetlands in the APE prepared by Stillwater Sciences in April 2020 (Attachment 9). See Appendix H, *Soil Suitability and Drainage*, for more detail. *Subsurface Conditions/Soils* The Project site is in the Mad River Lowland Subbasin of the Mad River Groundwater Basin. Historically, the region consisted of bay tidelands that were eventually diked and used for various industrial and agricultural purposes. As such, soils at these locations are disturbed and contain dredge spoils and non-native fill material. The potential for liquefaction-related settlement and lateral spreading exists at the Project site, but it has been determined the proposed project will not create risks to life and property because although new structures are proposed, they will be designed and built to withstand the effects of liquefaction and shrinking soils through adherence to the standards of the 2019 Uniform Building Code. Adherence to the set design requirements will ensure all site modifications will not

		result in liquefaction, lateral spreading from expansive soils, and will reduce the effects of unstable soils upon the project. <u>Drainage/Water Runoff</u> The project site is generally flat (<2% slope). The core treatment plant will receive the majority of earth-moving work and is currently developed with existing structures. The majority of the core treatment plant and corporation yard site is graveled or paved on level ground. No significant grading is proposed. The potential impacts to drainage patterns of the Project Area are limited to utilities improvements and the construction of a small number of new structures, only within the footprint of the existing treatment facility. According to the project engineer these improvements would not result in a realignment of the existing drainage patterns onsite. Due to the flat topography, the lack of significant cut or fill slopes and the requirements of the City and State with regard to stormwater management and erosion control, the project's effect to soil stability and drainage will be kept to a less-than-significant level. In addition, based on the above considerations, the Project would not significantly impact drainage conditions based on project scope, existing site conditions, and post-construction requirements of the MS4 permit. The project would not result in erosion, siltation, or flooding on- or off-site; significantly increase runoff; or create runoff water that would exceed capacity of drainage systems. <u>Current compliance steps will continue to be implemented. Further compliance steps and/or formal mitigation is not required.</u> *Please see Appendix H for further discussion and analysis of the Proposed Project's potential effects upon Soils.* *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Hazards and Nuisances including Site Safety and Noise	2	<u>Hazardous Materials</u> As discussed in the section entitled "Contamination and Toxic Substances," the project will have a net beneficial impact on toxic substances by removing chlorine and sulfur dioxide used onside. Site safety protocols currently protect authorized personnel from hazards and

		nuisances related to the treatment of wastewater, and the storage and operating of equipment. Soils at the project may contain contamination from past use of storage tanks at the property, but the City is currently in the process of closing the case, in coordination with the CA State Water Board, and has no bearing on the improvements currently under review. <u>Noise</u> As discussed in the section entitled "Noise Abatement and Control," site operations post-project would not involve significant new sources of noise that would impact sensitive communities. Construction noise would be temporary and would be subject to Arcata General Plan Policies N-5d and N-5e, which places restrictions on the days and hours of construction activities and requires the proper maintenance of construction equipment. As discussed in the section entitled "Noise Abatement and Control," the project does not contain any new sources of significant noise-producing uses such as heavy commercial or industrial uses, a new highway, or new airport. Based on the fact that the treatment facility is pre-existing, and the proposed improvements activities will not result in permanent significant noise level increases that would affect sensitive users in the vicinity of the project site, the project does not conflict with the policies of 24 CFR Part 51 subpart B. <u>Further compliance steps and/or formal mitigation is not required.</u> **Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Energy Consumption	3	The proposed improvements to the AWTF will result in both short and long-term increases in energy demands in the project area. Short-term increases in energy use will occur during project construction activity. This will be limited to use of construction equipment and vehicles, which will require both diesel and electrical power. Construction would consist of demolition, site preparation, grading, building construction, trenching, paving, and architectural coating. There are no unusual project characteristics that would need construction equipment or practices that would be less energy efficient than at comparable

		construction sites in the region or state. Construction activity would be temporary and energy consumption would cease once construction ends. Further, various equipment would be supplied by onsite generators, and would not require permanent connections to or otherwise burden local utilities. Due to the temporary nature of construction activities, the fuel and energy needed during project construction would not be considered a wasteful or inefficient use of energy. Therefore, it is expected that construction energy consumption associated with the proposed project would be comparable to other similar construction projects and would therefore not result in adverse energy impacts. The AWTF operational energy use will also increase with the implementation of the new treatment processes and facilities. Long-term increases in energy demand will primarily result from the new UV system's light banks. Although more energy intensive, the UV system is a net beneficial change to the existing operations and various measures have already been undertaken or are built into the Project scope to reduce inefficient use of energy where possible. This includes the installation of onsite solar panels to offset 60 kW of energy use and the replacement of outdated equipment with energy-efficient models. This also includes enrollment in the RCEA CCE REpower+ service, which would provide 100% renewable energy to the AWTF. Other than an increase in electricity use during project operation, which will be offset to the extent feasible as noted above, there would be no effect on the use, extraction, or depletion of a natural resource. Therefore, operation of the project would not result in adverse energy impacts. Further compliance steps and/or formal mitigation is not required. *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*

Environmental Assessment Factor	Impact Code	Impact Evaluation
SOCIOECONOMIC		
Employment and Income Patterns	**1**	The U.S. EPA EJSCREEN shows that the project site is in an area (1-mile radius) with an approximate population of 2,295 individuals. Of the 2,295 residents, 69% of residents are low income (see Attachment 8). According to the U.S. Census Bureau, the median household

		income in the City of Arcata in 2018 was $31,674 (see Attachment 6). The proposed project will perform improvements to an existing public facility. The project will result in short-term opportunities for construction workers during the construction phase. These jobs will be paid at prevailing wage. The proposed improvements, including the new UV treatment system, may justify the hiring of one additional full time employee at the treatment facility. There is an anticipated small net beneficial impact to employment as a result of the project and no anticipated impact to income patterns. <u>Further compliance steps and/or formal mitigation is not required.</u> *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*
Demographic Character Changes, Displacement	**2**	The U.S. EPA EJSCREEN shows that the project site is in an area (1-mile radius) with an approximate population of 2,295 individuals. Of the 2,295 residents, 29% are considered minority populations (see Attachment 6). The project is being undertaken to serve the existing City population. The proposed project will perform improvements to an existing public facility. No part of the project area is zoned or currently used for residential purposes. The project will not create or remove housing units, or lead to growth inducing impacts that could result in future housing that would displace existing communities. The project will not result in new commercial activities that could displace existing businesses. <u>Further compliance steps and/or formal mitigation is not required.</u> *Documentation can be found in The Treatment Facility Upgrades Project Environmental Binder in the Community Development Department at City Hall.*

Environmental Assessment Factor	Impact Code	Impact Evaluation
COMMUNITY FACILITIES AND SERVICES		

Educational and Cultural Facilities	2	Based on the fact the project is limited to repairs and modifications to the City's existing wastewater treatment facility, and will not result in a population increase, there will be no increase in the demand for educational or cultural facilities in Arcata. This project does not propose new commercial development that may displace existing retail establishments in the City of Arcata. Further compliance steps and/or formal mitigation is not required.
Commercial Facilities	2	Based on the fact the project is limited to repairs and modifications to the City's existing wastewater treatment facility, and will not result in a population increase, there will be no increase in the demand for commercial facilities in Arcata. This project does not propose a new larger commercial development that may displace existing smaller retail establishments in the City of Arcata. Further compliance steps and/or formal mitigation is not required.
Health Care and Social Services	2	Based on the fact the project is limited to repairs and modifications to the City's existing wastewater treatment facility, and will not result in a population increase, there will be no increase in the demand for health care or social services. There will be no need for expansion of services or facilities. Further compliance steps and/or formal mitigation is not required.
Solid Waste Disposal / Recycling	1	This project is limited to improvements to the wastewater treatment facility, and will not result in a population increase. There will be no increased demand for solid waste disposal. The project will improve the functioning of the existing treatment facility, including more efficient waste digesting and composting. Therefore the project will result in a net beneficial increase in solid waste disposal. The project will have no impact to existing recycling waste creation or disposal methods. Further compliance steps and/or formal mitigation is not required.
Waste Water / Sanitary Sewers	1	This project is limited to improvements to the wastewater treatment facility, and will not result in a population increase. There will be no increased demand for

		wastewater. The project will improve the functioning of the existing treatment facility and ensure compliance with NPDES requirements. Therefore the project will result in a net beneficial increase in waste water capacity and functioning. <u>Further compliance steps and/or formal mitigation is not required.</u>
Water Supply	2	Based on the fact the project will not result in a population increase, there will be no increase demand for water. Construction activities (e.g. dust control) may require small amounts of water throughout the construction period, but this impact will be short-term and will not exceed the City's ability to supply water to the project site. The project will not have an effect upon the City's existing water supply. <u>Further compliance steps and/or formal mitigation is not required.</u>
Public Safety - Police, Fire and Emergency Medical	2	Emergency response and evacuation in the project area is the responsibility of the Arcata Volunteer Fire Department and City Police Department. These agencies provide critical emergency response services and leadership, and serve as the community's primary response agencies under the City's Emergency Response Plan. The Arcata Police Station is located at City Hall which is approximately three quarters of a mile from the project site. The Arcata Fire Protection District Headquarters is located approximately five blocks from the project area. The project site is a city facility and houses some of the City's public safety equipment. The treatment facility is regulated under emergency protocols that are regularly updated and all staff and trained on emergency protocols in case of fire or other emergency. Based on the fact the project will not result in a population increase, and that existing safety protocols are in place to ensure the safety of onsite staff, there will be no increase in the demand for police, fire, or emergency medical services, and would not require the construction of new police, fire, or emergency medical facilities. <u>Further compliance steps and/or formal mitigation is not required.</u>
Parks, Open Space and Recreation	2	This project is limited to improvements to the wastewater treatment facility, and would not eliminate any parks,

		recreational facilities or open space and would not require the development of additional parks, recreational facilities or open space for the City. Minor short term impacts may occur to trail users along South "G" Street in the vicinity of the corporation yard during construction, but the trails will still be accessible, as will the rest of the marsh and wildlife sanctuary. The project will not create an increase in population that would drive the need for the creation of new parks facilities or open space, and will not create a significant barrier to use of existing parks or open space. <u>Further compliance steps and/or formal mitigation is not required.</u>
Transportation and Accessibility	2	The project is limited to improvements to the functioning of the treatment facility, and will not result in new housing units or a significant number of new daily vehicle trips. Per the project manager, construction is anticipated to result in 69 vehicle trips per day during construction. Ongoing operation of the plant will not result in a significant number of new vehicle trips, as site improvements are not anticipated to require the hiring of more than one additional staff members, and the site is pre-existing. The site is within the Arcata City limits, and is located less than one mile from the Arcata Plaza, the informal "City center". The treatment facility includes the City corporation yard, which houses the majority of the project improvements. The corporation yard is accessed from South G Street, but is typically off-limits to non-authorized personnel whose accessibility needs could be accommodated on a case-by-case basis. <u>Further compliance steps and/or formal mitigation is not required.</u>

Environmental Assessment Factor	Impact Code	Impact Evaluation
NATURAL FEATURES		
Unique Natural Features, Water Resources	2	<u>Unique Natural Features</u> Unique natural features are primarily geological features which are unique in the sense that their occurrence is infrequent or they are of special social/cultural, economic, educational, aesthetic, or scientific value.

		Development on or near them may render them inaccessible to visitors or otherwise limit potential future use and appreciation of these resources. Examples of unique natural features may include: sand dunes, waterfalls, unique rock outcroppings, caves with limestone or gypsum deposits, canyons, or petrified forests. The key criterion in defining a unique natural feature is the comparative rareness of the feature. The project area of potential effect includes portions of the Marsh and Wildlife Sanctuary, which is a locally significant area, and significant as part of the pacific flyway for migratory bird species. However, the project will not have permanent impacts upon the larger marsh ecosystem, with the exception of the installation of Outfall 003, which will impact a recently-constructed marsh, and cannot therefore be categorized as a unique, naturally-occurring feature. No unique geologic features or other rare naturally-occurring features are present in the project area or immediate vicinity. <u>Water Resources</u> The site is located in disturbed historic baylands, directly adjacent to Humboldt Bay, a sensitive surface water body. There are no groundwater resources within the project area. Humboldt Bay is not unique, as there are other Bays and baylands in the State and Country; however, Humboldt Bay is well-known as one of the most pristine water bodies of its kind in on the west coast. Improvements to the treatment facility and corporation yard area will result in net beneficial impacts to Humboldt Bay, as the overarching goal of the project is to resolve a longstanding effluent issue and improve the water quality of Humboldt Bay by addressing issues with the discharged treated effluent. Physical disturbance that will take place outside of the corporation yard boundary is limited to 1) short term impacts related to construction activities (staging areas, trenching) and 2) long-term impacts of the placement of Outfall 003 into the brackish marsh. Short term impacts will be subject to BMPs and mitigations to ensure the site is returned to its pre-construction condition. The Outfall 003 will result in a small visual change in the area of the brackish marsh, but will have a net beneficial impact on the functioning of the marsh system, and will not negatively affect the larger marsh and wildlife sanctuary, or the water quality or visual quality of Humboldt Bay. Based on the project location and design, and compliance with existing regulatory requirements, the

		project will not result in adverse impacts to water resources. <u>Further compliance steps and/or formal mitigation is not required.</u>
Vegetation, Wildlife	3	<u>Wildlife</u> As discussed in the "Endangered Species" and "Wetlands Protection" sections above, the project may have an impact on vegetation and wildlife in the immediate vicinity of the new Outfall 003 and the Brackish Marsh. In particular, aquatic species inhabiting the Brackish Marsh will be affected by the addition of a new freshwater source to the Brackish Marsh. However, as noted, the "Brackish" Pond was constructed in the last ten years to improve habitat for wildlife in the Marsh and Wildlife Sanctuary. Furthermore, the pond's waters are not currently brackish, and will not be so until the completion of this project, which will add freshwater to the currently tidally-influenced pond. The current conditions of the Brackish Marsh are not functioning at the desired future condition anticipated when the City and its various funding partners (including California Department of Fish and Wildlife) approved the project several years ago. This project and the location of the new outfall will complete the intent of the Brackish Marsh. Impacts to federally threatened and endangered species will be kept below set thresholds through application of the required mitigations included in this assessment, and continued consultation with US Fish and Wildlife as part of the State Water Board's required Section 7 process. <u>Vegetation</u> The majority of project activities will be related to improvements within the central plant area, which is highly disturbed and contains no known sensitive plant communities. Disturbed vegetation will only be temporarily impacted during construction, and if necessary, will be re-vegetated post-construction. The Biological Assessment (Attachment 31) analyzed federally-listed plant species with potential to be found in the project area and it was determined that the project area does not include suitable habitat for listed plant species that had the potential to be present based on known favorable habitat conditions. Only a small amount of wetlands will be permanently affected by the Project. This permanently affected wetland will be mitigated for on a minimum 1:1 basis in

		conformance with City and Coastal Commission policy. Wetland mitigation areas will be located within the marsh and wildlife sanctuary, ensuring that the mitigation improves existing habitat in the project area itself. Formal Mitigation **will be required** for effects to Vegetation and Wildlife.
Other Factors	2	None.

Additional Studies Performed:

- Biological Assessment, August 2020. City of Arcata (Attachment 31)
- Cultural Resource Assessment Report, November 2019. DZC (Attachment 5)
- Geotechnical Hazards Report, August 2018. LACO Associates (Attachment 7)
- Final Wetland Delineation, August 2020. Stillwater Sciences (Attachment 9)
- CalEEMod Air Quality Modelling, July 2020. SHN (Attachment 34)
- Engineering Geologic and Hydrogeologic Exploration, February 2017. LACO Associates (Attachment 10)
- Arcata Final Pre-design Report, May 2019. Carollo Engineers (Attachment 24)

Field Inspections (Date and completed by)**:**

- Stillwater Sciences –May and June 8, 2020
- DZC Archeology and Resource Management-October 9th, 2019 and November 5th, 2019
- Brackish Marsh Fish sampling-California Department of Fish and Wildlife and City staff (bimonthly 2014-2017)
- Coastal Commission and City staff -Summer/Fall 2019

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]**:**
Each individual report (listed in project Attachments) has a list of sources, references and persons/agencies consulted, as appropriate for that report. In addition, the following agencies and persons were consulted in the development of this EA.

ATTACHMENTS
These documents are also available for review at the City of Arcata Community Development Department, 736 F Street, Arcata, CA 95521.

Attachment 1: State Historic Preservation Officer Clearance. July 28, 2020.

Attachment 2: Bear River Band of Rohnerville Rancheria, Blue Lake Rancheria, and Wiyot Tribe. 2020. *E-mails from Wiyot Area Tribal Historic Preservation Officers (THPO) Erika Cooper of the Bear River Band of Rohnerville Rancheria, Jacob*

Pounds of the Blue Lake Rancheria, and Ted Hernandez of the Wiyot Tribe stating that the inadvertent discovery protocol for Native American archaeological deposits recommended in the Cultural Resources Study performed by DZC Archeology and Cultural Resource Management is sufficient. July 9, 15 and 16.

Attachment 3: United State Environmental Protection Agency (EPA). 2020*. Sole Source Aquifers.* Available at: https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b
Accessed on: 9/21/20

Attachment 4: Carollo Engineers. 2020. *Project Figures*.

Attachment 5: DZC Archeology and Cultural Resource Management. 2019. *Cultural Resource Assessment Report for the City of Arcata Wastewater Treatment Facilities Improvement Project*. November 2019.

Attachment 6: U.S. Census Bureau Website. 2019. *City of Arcata: Quick Facts*. Available at: www.factfinder.census.gov. Accessed on: 12/17/18.

Attachment 7: LACO Associates. August 28, 2018. *Geotechnical Exploration and Geologic Hazards Report Part One.*

Attachment 8: U.S. Environmental Protection Agency (EPA) Website. 2019. Environmental Justice Screening and Mapping Tool (EJSCREEN) – City of Arcata, CA. Available at: https://ejscreen.epa.gov/mapper/. Accessed on: 9/25/20

Attachment 9: Stillwater Sciences. April and August 2020. *Final Delineation of Waters and Wetlands for the City of Arcata Wastewater Treatment Plant Improvement Project, California.*

Attachment 10: LACO Associates. 2017. *Engineering Geologic and Hydrogeologic Exploration Arcata Waste Water Treatment Plant, Arcata, Humboldt County, California.*

Attachment 11: Stillwater Sciences. August 2020. *Wetlands Impacts Assessment.*

Attachment 12: Humboldt County. 2020 *Humboldt County Web GIS – Airport Compatibility Zones. Available at: http://www.humboldtgov.org/1357/Web-GIS.* Accessed on: August 2020.

Attachment 13: National Wild and Scenic Rivers System Website. 2020. *California Designated Wild & Scenic Rivers.* Available at: www.rivers.gov/california.php. Accessed September 2020. Accessed 08/31/20.

Attachment 14: City of Arcata. 2000. *Excerpts from Air Quality Element of the Arcata General Plan.*

Attachment 15: Redwood Empire Municipal Insurance Fund. 2020. *Program Year 2020-2021 Memorandum of Coverage-Property.*

Attachment 16: Alliant Insurance Services. 2020. *Alliant Property Insurance Program Binder of Insurance.*

Attachment 17: City of Arcata. 2002. *Report of Findings for City of Arcata Corporation Yard Phase II Over Excavation and Stockpiling of Contaminated Soils and Proposed Groundwater Monitoring Well Installation.*

Attachment 18: City of Arcata. 2016. *Adopted Floodplain Ordinance.* Adopted 11/02/2016.

Attachment 19: Carollo Engineers. 2016. *City of Arcata Facility Plan.* Revised July 2017.

Attachment 20: City of Arcata. 2000. *Noise Element of the Arcata General Plan.*

Attachment 21: City of Arcata. 2000. *Land Use Element of the Arcata General Plan.*

Attachment 22: City of Arcata. 2010. Hazardous Materials Business Plan Modules for Use with CERS Electronic Reporting. Revised 12/14/10.

Attachment 23: City of Arcata. 2016. *City of Arcata Risk Management Plan.* Adopted January 11, 2016.

Attachment 24: Carollo Engineers. 2019. *City of Arcata Predesign Report.*

Attachment 25: City of Arcata. 2020. *Early Notice and Public Review of Proposed Activities in 100-Year Floodplain and Mapped Wetland Area.* Published 07/08/2020.

Attachment 26: North Coast Regional Water Quality Control Board. 2019. *Order No. R1-2019-0006. Waste Discharge Requirements for the City of Arcata Wastewater Treatment Facility, Humboldt County.* Signed 11/06/2019.

Attachment 27: City of Arcata. 2020. *Letter to California Coastal Commission Federal Consistency Division.* Sent 08/12/20.

Attachment 28: California Coastal Commission Federal Consistency Brach. 2020. *Federal Consistency Letter.*

Attachment 29: SHN Engineers. May 2020. *Soil and Groundwater Management Contingency Plan. Arcata Corp Yard, Arcata California, Case No. 1NHU767.*

Attachment 30: Federal Emergency Management Agency. 2017. *Flood Insurance Rate Maps.* Updated June 21, 2017.

Attachment 31: City of Arcata. September 2020. *Biological Assessment September 2020. City of Arcata-Wastewater Treatment Facility Upgrades Project.*

Attachment 32: City of Arcata. September 2020. *US Department of Housing and Urban Development: 8-Step Process. Arcata Wastewater Treatment Facility Upgrades Project-Arcata, CA.*

Attachment 33: North Coast Unified Air Quality Management District. 2015. Rule 110 – New Source Review (NSR) and Prevention of Significant Deterioration (PSD). Adopted 07/09/20.

Attachment 34: CAPCOA. 2017. *California Emission Estimator Model (CalEEMod). Version 2016.3.2*. Model for project used on: 8/7/20 and 9/15/20.

Attachment 35: North Coast Unified Air Quality Management District (NCUAQMD). 2020. *Website – Air Quality Planning & CEQA.* Available at: www.ncuaqmd.org/index.php?page=aqplanning.ceqa#T1. Accessed on: 9/15/20.

Attachment 36: U.S. Environmental Protection Agency (EPA) Website. 2020. *Current Nonattainment Counties for All Criteria Pollutants*. Available at: www.epa.gov/airquality/greenbook/ancl.html. Accessed on: 10/9/20.

Attachment 37: U.S. Environmental Protection Agency (EPA) Website. 2020. *General Conformity - De Minimis Tables*. Available at: https://www.epa.gov/general-conformity/de-minimis-tables. Accessed on: 9/30/20.

Attachment 38: North Coast Regional Water Quality Control Board. *Email Correspondence regaridng Site Closure*. October 19, 2020.

Attachment 39: City of Arcata. September 2020. *Final Notice and Public Explanation of a Proposed Activity in a Wetland*. Published 09/16/20.

PERSONS/AGENICES CONSULTED

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List of Permits Obtained:

The following agencies will require review and/or permits. No permits have been obtained for the project to date; however, the completion of the project is an integral component of the City's ability to retain its existing National Pollutant Discharge Elimination System permit, and the completion of the project is a provision of the time schedule order issued by the North Coast Regional Water Quality Board.

Summary of Agency Approvals	
Agency	**Permit/Review Required**
California Department of Fish and Wildlife	Trustee Agency - Review of MND for compliance with the California Endangered Species Act
North Coast Regional Water Quality Control Board	CWA §402(p) (33 U.S.C. 1342) General Permit for Construction Activities. Review of CWA §402(p) Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit
California Coastal Commission	Coastal Development Permit
North Coast Regional Water Quality Control Board	Clean Water Act Section 401 Certification and Wetland Program compliance determination.
Army Corps of Engineers/ US Fish and Wildlife Service	ESA Section 7- Wetland Mitigation and monitoring requirements
U.S. Army Corps of Engineers	Clean Water Act Section 404 Permit for discharge of fill to Waters of the U.S.
State Water Resources Control Board	CEQA+/NEPA adoption for funding from the State Revolving Fund.
CA Department of Housing and Community Development (HCD)	CEQA/NEPA adoption for CDBG funding for UV improvements
State Water Resources Control Board	General Construction Activity Storm Water Permit and preparation of a Storm Water Pollution Prevention Plan (SWPPP).
State Historic Preservation Office	Pursuant to Section 106 of the National Historic Preservation Act (NHPA) regarding (joint consultation with tribes) potential impacts to cultural resources resulting from the Proposed Project.
National Marine Fisheries Service	Section 7 of the FESA and Magnusson Stevenson's Fisheries Act regarding potential impacts to federally listed special status fish species and essential fish habitat.

Public Outreach [24 CFR 50.23 & 58.43]**:**
The City of Arcata, as the Responsible Entity under NEPA, will comply with the following requirements for public outreach:

- Public noticing shall be published in an appropriate local printed news medium, and sent to individuals and groups known to be interested in the proposed action, concerning the availability for review of the Environmental Assessment (EA) completed for the proposed project (24 CFR 50.23).

    - Publishing of the Finding of No Significant Impact (FONSI) and observance of the corresponding comment periods (24 CFR 58.43).

Cumulative Impact Analysis [24 CFR 58.32]**:**
Cumulative impacts of a project are defined as a series of related activities within a close timeframe and geographic proximity that when considered separately, may be viewed as individually insignificant, but when analyzed together, result in compounded effects that could lead to harmful effects on human or natural communities.
In the case of the wastewater treatment facility improvements project, a cumulative impact could be a nearby construction project, or another physical action in the vicinity of the project areas that could compound impacts to wildlife or habitat. There are no known development or restoration projects slated for work to begin in the next few years that would negatively impact wildlife, habitat, or other natural resources. In addition to these considerations, the treatment facility is pre-existing, and will only be improved in order to better serve the existing City population. As a result, the project would not result in additional cumulative impacts from future related actions.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]
The Project has undergone a technical and community review process to assist in determining the preferred project. As stated previously, numerous facilities are in need of improvement at the Treatment Facility based on useful life and current conditions. Additionally, new facilities need to be constructed to meet the NPDES permit requirements. Five alternatives and a "No Project" alternative were developed to address improvements for the Treatment Facility. Each alternative was analyzed to determine how it met the NPDES permit requirements after being developed, as well as how effectively the alternatives met identified project objectives.

The primary objectives of the Proposed Project are as follows:

- The City's primary objective is to provide wastewater treatment and disposal while improving existing levels of regulatory compliance for the protection of water quality and public health.
- The City seeks to address existing effluent violations and to produce a higher quality effluent that can be beneficially reused.
- The City seeks to operate the improved treatment facility with cost-effective methods available that meet the City's overall system performance goals while improving the

existing natural system and constructing a mechanical system to assure compliance with regulatory requirements.

- The City's goal to minimize or eliminate disinfection byproducts associated with the use of chlorine and health hazards associated with the use and storage of large chlorine cylinders is another major project objective.
- The City seeks to move the existing outfall from the bay at Butcher Slough Outfall 001 to the "Brackish" Marsh Outfall 003 to maximize the volume of effluent receiving enhanced treatment and maximize the beneficial use of treated wastewater for habitat purposes. It is important to note that the "Brackish" Marsh was constructed from the City's previous McDaniel Slough Restoration project, and will not contain brackish waters until Outfall 003 is installed to decrease the salinity of the waters, which are tidally influenced.

Common Improvements

Each alternative is a combination of multiple projects within the Treatment Facility. The project will incorporate various improvements to a wide variety of facilities and processes. Below are common improvements that will be done in each alternative. Alternatives may address the needed improvements in various ways.

- *Headworks Improvement:* Improve existing headworks equipment including new screw pump(s), new bars screens and vortex grit chamber replacement. A new flow split chamber to direct wastewater to the primary clarifier or the proposed oxidation ditch. No increase in the flow capacity of the headworks is proposed from 5.0 MGD.

- *Primary Clarifiers:* Replace the primary clarifiers due to poor condition and age. Replacement capacity varies with alternatives. Primary Sludge and Scum Pumps: Replace the primary sludge and scum pumps due to condition and age. Replacement capacity varies with alternatives.

- *Oxidation Ponds Solids Removal and Transfer Structure Reconfiguration:* Dredging, dewatering and disposal of accumulated sludge in the oxidation ponds to address decreased capacity. Installation of new aeration and mixers to improve treatment. Reconfigure pond transfer structures for better flow and distribution.

- *Emergency Pond Pump Station:* Add suction and discharge piping to allow the pump station to pump out of Pond 1 and into Pond 2 for Pond(s) storage control and storm/extreme high flow pumping. Improve existing building structure and resiliency against storm or flooding conditions.

- *Treatment Wetland Nos. 1 – 4 Solids and Vegetation Maintenance:* Improve the hydraulic capacity of Treatment Wetlands 1 – 4 by removing solids and vegetation, regarding deep and shallow zones and replanting vegetation.

- *Treatment Wetland No. 4 Influent Pumps and Treatment Wetlands Pump:* Treatment wetland No. 4 was regraded and is being reconstructed for continued use in the wetlands treatment system.

- *Enhancement Wetlands Improvements:* Vegetation maintenance, new baffles and new inlet/outlet structures to improve treatment and hydraulic efficiency and capacity.

- *Pond Pump Station/Pump Station 1:* Replace mechanical assets and upgrade to a combined wet well in order to improve flow by gravity. Replacement capacity will vary with each alternative up to 10 MGD.

- *Enhancement Wetlands (Hauser) Pump Station:* Replace mechanical assets equipment due to poor condition and age and permit requirements. Replacement pump capacity will be based on new permit requirements of up to 6 MGD.

- *Anaerobic Digesters and Sludge Heat/Mixing System:* Improve structural and mechanical assets in phases. Project varies with alternative.

- *Outfall 003:* Construct effluent piping from the UV system and the new permitted outfall. Outfall 003 will discharge at the Brackish Marsh and be sized for up to approximately 6 MGD.

- *UV Disinfection:* The Treatment Facility will install a 9.8 MGD capacity UV disinfection system to replace the primary disinfection utilizing a chlorine gas disinfection system.

- *Secondary Treatment Unit:* A majority of the alternatives propose an additional secondary treatment unit to help meet treatment standards. Conventional activated sludge, oxidation ditch, and trickling filters were all considered as secondary treatment options. The oxidation ditch was the preferred secondary treatment system due to its reliability, simplicity and low maintenance. Each alternative that incorporates an additional secondary treatment system will use oxidation ditches. Oxidation ditches require secondary clarifiers and a sludge processing and thickening systems.

Considered Alternatives

Offsite Alternative.

The project's intent is to rehabilitate and improve the existing wastewater treatment system, and a full relocation would not fit these parameters. This objective is based on both the logistic and economic and time constrained infeasibility of a full relocation of the facility. Arcata's treatment facility is an integral part of the City's environmental and cultural identity; its unique pairing of technical and natural treatment is one of the City's landmark successes and its relocation would require a redesign of the existing marsh system as well as the purchase and construction of a new facility offsite. There are only a handful of parcels within City limits that could house such a large facility, and the majority of them are already developed. In addition, many of the suitable industrially-zoned parcels in the northern portion of the City are subject to inundation in the case of a catastrophic failure of Matthew's Dam at Ruth Lake. Suitably large parcels in the southern or eastern portion of Arcata would likely require conversion of prime agricultural lands, and would remain located in the Coastal Zone with similar impacts and permit processes. A further logistical challenge of a full relocation would be re-configuring the existing accompanying infrastructure, including pump stations and lines, which would involve a complete flow reconfiguration if and when the site is relocated in future. As a result of these considerations, an offsite relocation is not considered feasible at this time.

Onsite Alternatives.

Four onsite alternatives were developed to address required improvements at the treatment facility. Alternatives were developed through collaboration between City staff, LACO Associates, Carollo Engineers, and public participation and were presented in the 2016 Facility Plan (Attachment 19).

Onsite Alternative 1: Existing System Rehabilitation

Alternative 1 proposes rehabilitating the existing wastewater treatment system without constructing an additional secondary treatment system. Flows up to 5.9 mgd would go through primary treatment and flow through the oxidation ponds. Flows less than 2.3 mgd would then enter the treatment wetlands. Flows greater than 2.3 mgd would bypass the treatment wetlands and be mixed with the treatment wetlands effluent. Blended effluent less than 2.3 mgd would route to the enhancement wetlands. Blended treatment wetland effluent greater than 2.3 mgd would be mixed with enhancement wetlands effluent before entering the UV disinfection system and discharging into the Brackish Marsh (Outfall 003). Wet weather flows greater than 5.9 mgd would be stored in the Oxidation Pond 1. Flows exceeding storage would be pumped to the chlorine contact basin and discharged into Humboldt Bay (Outfall 001).

Specific improvements unique to Alternative 1 include:

- Constructing two new primary clarifiers, each with a 3.0 mgd capacity. This includes replacing the primary sludge and scum pumps and upgrading the sludge digestion system to accommodate the new capacity.
- Adding new aerators to Oxidation Pond 2 to improve BOD treatment capacity.
- Constructing a new Treatment Wetland No. 7 to increase the hydraulic capacity of the treatment wetlands from 1.8 mgd to 2.3 mgd.
- Replace Treatment Wetlands Pumps Station 1 pumps due to age and condition.
- Replace the Pond Pump Station with new pumps to increase capacity from 2.9 mgd to 3.6 mgd.
- Replace Enhancement Wetlands (Hauser) Pump Station pumps to increase capacity from 1.2 mgd to 2.4 mgd.

Onsite Alternative 2: Existing System with Side-Stream Treatment

Alternative 2 proposes constructing a side-stream secondary treatment system. Influent up to 5.9 mgd would be routed to the primary clarifiers and then be split to either the natural system or a side-stream secondary treatment system. Normal flows up to 2.3 mgd would be treated through the oxidation ponds and the treatment wetlands. Minimum flow between 0.5 mgd and 2.0 mgd would be routed to the side-stream secondary treatment. The effluent from the side-stream treatment system could be routed to the Treatment Wetlands or blended with the natural system effluent. The two secondary effluents would be combined and flows below 2.3 mgd would be sent to the enhancement wetlands. Flows between 2.3 and 5.9 mgd would be mixed with the enhancement wetland effluent, disinfected in the UV system and discharged into the Brackish Marsh (Outfall 003). Wet weather flows above 5.9 mgd would be stored in Oxidation Pond 1. Flows exceeding storage would be pumped to the chlorine contact basin and discharged into Humboldt Bay

(Outfall 001).

Specific improvements unique to Alternative 2 include:

- Construct two new primary clarifiers each with a 3.0 mgd capacity.
- Adding aerators to Oxidation Pond 2 to improve mixing and reduce treatment capacity of the side-stream secondary treatment.
- Construct an oxidation ditch and a primary clarifier with a 2.0 mgd capacity. The oxidation would need to able to reduce the flow to 0.5 mgd.
- Additional sludge digestion capacity for the sludge from the secondary clarifier.
- Install a sludge thickening system for the oxidation ditch.

Onsite Alternative 3: Existing System with Parallel Treatment
Alternative 3 reduces the flow entering the natural system (oxidation ponds, treatment wetlands and enhancement wetlands) to 1.8 mgd year-round. This low capacity would maintain treatment and permit compliance. Flows between 1.8 mgd and 5.9 mgd would be sent to the parallel secondary treatment train. The two effluents would be mixed prior to entering the UV disinfection system. The proportion could be adjusted to achieve desired effluent water quality. Flow exceeding 5.9 mgd would be stored in the Oxidation Pond 1 or, if needed, routed to the chlorine contact basin, treated and discharged to Humboldt Bay through Outfall 001.

Specific improvements unique to Alternative 3 include:

- Constructing one new primary clarifier with a 1.8 mgd capacity. Primary sludge and scum pumps would also be replaced with pumps sized for the 1.8 mgd clarifier.
- Construct two oxidation ditches and secondary clarifiers. Each oxidation ditch and secondary clarifier will have a 2.0 mgd capacity and the total system capacity will be 4.1 mgd.
- Increase the capacity of the sludge digestion system to account for the secondary clarifier.
- Install a sludge thickening system for the oxidation ditch.

Because this system decreases the hydraulic capacity of the natural system to 1.8 mgd, the construction of Treatment Wetland No, 7 is not required. Construction is still recommended as a future, separate project.

Onsite Alternative 4: Enhanced Natural System with Parallel Treatment
Alternative 4 allows the natural system to handle 1.8 mgd during dry weather flows and up to 2.3 mgd during peak wet weather flows. The natural system includes the oxidation ponds and the treatment wetlands. Plant effluent between 2.3 mgd and 5.9 mgd would be sent to the parallel secondary treatment system (oxidation ditch). The two secondary effluents would be blended, sent to the new UV system and then discharged into the enhancement wetlands. The UV system would have a 9.8 mgd capacity. The

enhancement wetland pump station would be replaced and would pump effluent from the enhancement wetlands to the Brackish Marsh (Outfall 003). Peak Influent flows greater than 5.9 mgd would be stored in Oxidation Ponds. If storage is at capacity, flows could be sent to the UV disinfection (up to 9.8 mgd) and discharged to Humboldt Bay (Outfall 001) as well as Outfall 003.

Specific improvements unique to Alternative 4 include:

- Reconstruct the primary clarifier with one rated for 2.3 mgd
- Install aerators in Oxidation Pond 2
- Construct oxidation ditches and secondary clarifiers that would handle flows between 2.3 and 5.9 mgd.
- Increase capacity of sludge digestion system and construct a sludge thickening system.
- Increase the pump capacity of the enhancement wetlands to 5.9 mgd.
- Construct the 9.8 mgd UV treatment system and use a single pass system where enhancement marsh (EM) waters are no longer brought back to the plant for disinfection for a second time

Onsite Alternatives Comparison

The following section compares the above alternatives based on economics, construction and operation factors. Table 1 compares the cost of each alternative. Cost estimates include construction, engineering, legal, administrative, permitting costs and estimating contingencies. Cost estimates are not escalated for future years.

Table 1 Cost comparison between each alternative. Costs are shown per million dollars

Alt.	Description	Total Project Cost with 10% Growth	Total Project Cost with 20% Growth	O&M Cost		Lifecycle Cost
				Annual	Present Worth	
1	Existing System Rehabilitation	$35.1	$35.2	$0.67	$11.7	$46.9
2	Existing System Rehabilitation with Side-Stream Treatment	$44.7	$45.7	$0.76	$13.3	$58.0
3	Existing System Rehabilitation with Parallel Treatment	$43.8	$45.5	$0.43	$7.6	$51.3
4	Enhanced Natural System with Parallel Treatment	-	$52.4	$0.78	$13.6	$66.1

Table 2 compares the non-economic factors that the City deemed important when considering different alternatives. The City and consultants (LACO Associates and Carollo Engineers) determined the five criteria that were important for the project and ranked each project. A score of 1 is the least favorable, while a score of 4 is the most favorable.

Table 2: Alternative comparison of non-economic criteria. Table adapted from the City of Arcata Facility Plan.

Alternatives	Meets Permit	Ease of O&M	Constructability	Reliability	Ammonia Removal
1. Existing System Rehabilitation	1	4	1	1	1
2. Existing System with Side-Stream Treatment	2	1	2	2	2
3. Existing System Rehabilitation with Parallel Treatment	3	3	3	4	4
4. Enhanced Natural System with Parallel Treatment	4	2	4	3	3

- **Onsite Alternative 1** was the least expensive alternative, however it received the lowest scores for meeting permit requirements, constructability, reliability and ammonia removal. The current facility has a limited BOD treatment capacity and relies on the chlorine disinfection system for additional BOD treatment. The new UV disinfection system required for all alternatives will reduce the BOD treatment capacity. Alternative 1 will rely only on the natural system for BOD removal. Improvements to the natural system will improve BOD treatment capacity. However, it will not be enough year round and with population growth. Alternative 1 will also not consistently meet ammonia and nitrogen limits.

- **Onsite Alternative 2** provides an additional secondary treatment system that provided BOD treatment and meet ammonia and nitrogen limits. Alternative 2 is the second most expensive alternative and received low ranking regarding the non-economic criteria. The low ranking was due Alternative 2 requiring the most project elements. This would increase the difficulty of operating and maintaining the treatment processes and facilities. Additionally, Alternative 2 still has limited capacities regarding the natural system and enhancement wetlands.

- **Onsite Alternative 3** also constructs an additional secondary treatment system with a larger capacity than Alternative 2. Because less treatment will occur in the natural system, Alternative 3 requires less construction and maintenance than Alternative 2. Alternative 3 was the highest scoring alternative for the non-economic criteria presented in Table 4.2. It achieved high rankings in reliability and ammonia removal due to the larger treatment capacity of the oxidation ditches compared to Alternative 2.

- **Onsite Alternative 4** was designed after the first three alternatives were presented to the Regional Water Quality Control Board. The RWQCB found that the alternatives would not achieve the requirements of the permit. Alternatives 1, 2 and 3 did not provide the peak wet weather flow capacity (5.9 MGD) to pass through the Enhancement Wetlands. This is not in compliance with the Enclosed Bays and

Estuaries Policy. Alternative 4 allows a peak flow of up to 5.9 MGD at outfall #003 to utilize the Enhancement Wetlands for additional treatment and meet the discharge requirements.

Selected Project

Onsite Alternative 4: Enhanced Natural System with Parallel Treatment was selected as the preferred alternative. Alternative 4 was preferred because it would have the best chance to meet treatment objectives in the 2019 NPDES permit year-round. This alternative is the most expensive and has the largest physical footprint. This alternative enables the City to meet new permit discharge requirements while continuing to promote the beneficial uses of the system for the future. The Proposed Project would undertake the necessary site improvements and would enable the City to comply with its NPDES requirements.

No Action Alternative [24 CFR 58.40(e)]:

Arcata's wastewater treatment system must comply with regulatory requirements established by its NPDES permit issued by the California Regional Water Quality Control Board. As described in the City's Wastewater Treatment Facility Improvements Project Report (2016c), effluent monitoring data shows that there have been ongoing exceedances of discharge limits on total suspended solids (TSS), biochemical oxygen demand (BOD, a measure of biodegradable organic matter), pH, dichlorobromomethane, chronic toxicity, chlorine, and fecal coliform since 2004.

The Treatment Facility system relies heavily on land-based, natural treatment systems. This system has served the City well but has a number of drawbacks in that there is not sufficient room to further expand the natural treatment systems for additional capacity, and natural systems are inherently greatly affected by the weather (temperature and precipitation). As regulatory requirements have gotten more stringent over the years and with the initiation of mandatory minimum penalties in 2000, it has become more difficult to reliably meet permit compliance with the land-based natural system. In 2012, the Facility began operating under a new NPDES permit that specifically addressed several long-term issues regarding disinfection, treatment units, and outfalls. The new permit enabled changes to be made to improve wastewater treatment, protect beneficial uses, increase energy efficiency, reduce chemical usage, and reduce the potential for permit violations. Accordingly, the City initiated the Facility Plan and plant improvement project analyzed herein, which proposes a variety of improvements to the wastewater treatment system to increase treatment capacity and prevent the exceedance of discharge limitations. The Proposed Project addresses the following issues that must be addressed:

- Meet permit/regulatory requirements that protect public health and the environment; and in particular, address ongoing NPDES permit violations and regulatory compliance.
- Repair or rehabilitate aging infrastructure and address deferred maintenance.
- Provide reliable hydraulic and treatment capacity for both wet and dry weather flows, both now and in the future.
- Address City and Agency goals for facility resilience to flooding and sea level rise.

If the Proposed Project is not undertaken, ammonia discharge to Humboldt Bay will not improve and eventually the Facility would not be able to operate, which would render Arcata essentially uninhabitable for all residents and businesses. It has been determined that moving the facility is not warranted or feasible, as the facility also serves as the City's corporation yard for the streets, utilities and equipment maintenance departments.at the present time due to both lack of available land and cost. The facility must continue to operate at its present site for the next 30-40 years at minimum. If the Proposed Project in not undertaken, the Facility will remain out of compliance with the requirements of the NPDES permit and the quality of treated effluent discharged into Humboldt Bay will not be addressed, which has the potential to result in a variety of negative effects to humans and wildlife. The City's continued ability to utilize the Treatment Facility relies on undertaking the improvements discussed in this environmental assessment.

Summary of Findings and Conclusions:

This Environmental Assessment supports the finding of no significant impact on the environment. The Project will have a net beneficial impact on the environment and the larger community of Arcata. Its anticipated completion by the Water Board will ensure ongoing treatment feasibility. This is a project acknowledged as necessary by a variety of related agencies that have control over some aspect of the project, all of whom have been consulted with during project scoping, and who will continue to be involved throughout the required permitting for the project. Without the proposed project, the City will be unable to meet its obligations agreed upon with Time Schedule Order No. R1-2019-011.

The project's negative impacts are primarily related to wildlife and habitat that will be impacted by the installation of the new Outfall 003 discharge point. This outfall will have impacts upon wetlands in the project area and will also have the potential to affect critical goby habitat. However, impacts to wetlands will be mitigated through re-creation of wetland habitat within the Marsh and Wildlife Sanctuary on a minimum 1:1 basis. Furthermore, it is a very small area of wetland (~0.04 ac) that is proposed to be permanently affected through the installation of Outfall 003. Neither effect is considered significant with the mitigation incorporated.

The discharged effluent will have an effect upon the salinity and turbidity of the Brackish Marsh which will affect tidewater goby that may be currently residing in the Brackish Marsh, and will alter the pre-existing condition of a mapped critical habitat area. However, the alterations to the Brackish Marsh resulting from the new water input have been previously analyzed in the 2008 and 2016 Biological Opinions from USFW and were found to be less than significant. Furthermore, the Brackish Marsh itself was created in the last 20 years as a habitat restoration project, with the intent of ultimately installing the new discharge point into the Marsh. The Marsh was later designated as critical Goby habitat. As such, the current project seeks to finalize a process started more than a decade ago, and has already been analyzed and mitigated for; staff will continue consultation with USFW and other applicable agencies to ensure the outfall design will ensure acceptable impacts to goby as well as other endangered aquatic species. This potential impact is not considered significant with the mitigation that was approved through Section 7 consultation.

Finding: 1) The project as designed, with mitigation incorporated, will not have a significant impact on the human environment. 2) The mitigations are feasible, practicable, and supported by the Environmental Review Record. 3) The mitigation measures will be implemented by the

City and overseen by Federal and State Agencies to ensure mitigation commitments are fulfilled.

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Formal Mitigation Required: Compensatory Mitigation for Wetlands Impacts

As specifically determined during preparation of construction bid documents, the City shall identify specific wetlands to be directly impacted by construction activities and compensate for these permanent wetland impacts through restoration, rehabilitation, and/or creation of wetland at a ratio of no less than 1:1. A Wetlands Mitigation and Monitoring Plan shall be prepared prior to project construction in coordination with the North Coast Regional Water Quality Control Board, US Army Corps of Engineers, and California Coastal Commission. Compensation for wetlands shall occur so there is no net loss of wetland habitat at ratios to be determined in consultation with the permitting authorities. Wetland mitigation monitoring will be conducted for a minimum of five years to ensure successful establishment. Specific monitoring and remediation procedures will be developed in coordination with permitting authorities to ensure that the plan meets regulatory agency requirements.

The Wetlands Mitigation and Monitoring Plan shall be acceptable to the permitting authorities and include the following elements: proposed mitigation ratios; description and size of the restoration or compensatory area; site preparation and design; success criteria; monitoring schedule; and remedial measures. The Plan shall be implemented by the City.

Formal Mitigation Required: Section 7 Consultation

Through the Section 7 process, continue ongoing consultation with the U.S Fish and Wildlife Service and NOAA Marine Fisheries Service regarding federally listed species. Adhere to minimization measures that are developed as part of this process to ensure that no adverse impacts occur.

Formal Mitigation Required: Conduct Nest Survey and Establish Buffers

To minimize potential adverse impacts to avian species associated with vegetation removal, vegetation removal will occur outside of the avian nesting season (generally March - August) to the extent practicable. If vegetation removal or disturbance cannot be confined to periods outside of the nesting season, a qualified biologist shall conduct pre-construction surveys, within the vicinity of the Proposed Project to check for nesting activity and to evaluate the site for presence of special-status bird species. The biologist shall conduct a minimum of one-day pre-construction survey within the 7-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the breeding season, a qualified biologist shall conduct a supplemental avian pre-construction survey before project work is reinitiated.

If active nests are detected within the construction footprint or within the construction buffer established by the Project biologist, the biologist shall flag a buffer around each nest.

Construction activities shall avoid nest sites until the biologist determines that the young have fledged, or nesting activity has ceased. If nests are documented outside of the construction (disturbance) footprint, but within the construction buffer, nest buffers would be implemented as needed. Buffer sizes would take into account factors such as (1) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; (2) distance and amount of vegetation or other screening between the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds.
If active nests are detected during the survey, the qualified biologist shall monitor all nests at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified biologist, disturb nesting activities (e.g., excessive noise), shall be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified biologist shall immediately implement adaptive measures to reduce disturbance.

These measures may include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed, placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, and/or reorienting and/or relocating construction equipment to minimize noise at noise-sensitive receptors.

Formal Mitigation Required: Sedimentation and Turbidity Best Management Practices
Areas where sedimentation or turbidity impacts could occur will use best management practices (BMPS) to minimize potential impacts. This could include implementation of fiber rolls, silt fences, and post-construction stabilization/revegetation to ensure bare soil is not left exposed. All non-biodegradable temporary erosion control measures will be removed from wetlands and waters of the US/State immediately on cessation of construction.

Formal Mitigation Required: Spill Prevention and Clean-up
To prevent potential spills or leaks associated with construction activities, construction crews will be trained on spill prevention, response, and good housekeeping. Additionally, spill clean-up kits will be readily available onsite during construction activities to ensure appropriate and timely response to any spills or leaks, should they occur.

Formal Mitigation Required: Construction Equipment Maintenance
Refueling or maintenance of construction vehicles or equipment will only occur in upland environments. If equipment must be washed, washing will occur where wash water cannot flow into wetlands or waters of the US/State.

Formal Mitigation Required: Fish Relocation
Prior to construction, areas of the Brackish Marsh where construction will occur will be isolated and surveyed for aquatic species, which will be relocated to adjacent appropriate areas if found. Surveys and relocation will be completed by a qualified biologist. All translocation and surveys of Federally listed species will be conducted under a scientific recovery permit.

Formal Mitigation Required: Isolated Work Area

Prior to construction and after fish relocation, the work area surrounding Outfall 003 will be isolated and dewatered to minimize potential sedimentation and turbidity-related impacts to aquatic species.

Formal Mitigation Required: Vegetation Surveys
Areas where vegetation removal is planned to occur will be surveyed at the appropriate time of year for best detection for Western Lily prior to removal. Should any species be found within the construction vicinity, it will be flagged for avoidance.

Formal Mitigation Required: Compensatory Vegetation
In the very low chance that a Western Lily is encountered during construction activities and avoidance is not feasible, the species will be relocated and monitored for survival. Should the survival be unsuccessful, the City will work with USFWS to ensure appropriate compensatory mitigation.

Law, Authority, or Factor	Conditions of Approval
North Coast Unified Air Quality Management District Rule (NCUAQMD) 104(D)	This NCUAQMD rule prohibits the generation of fugitive dust emissions. All site preparation work, demolition, or other construction activity that could create dust, must employ best management practices to minimize fugitive dust emissions. The project will be conditioned to require implementation of the control measures in Arcata General Plan Policy AQ-2f as noted below.
City of Arcata General Plan Policy AQ-2f (Enforce air quality control measures and monitoring at construction sites)	This policy requires air quality control measures to be implemented during construction activity. To reduce potential air quality impacts during construction activity, a condition of approval has been included requiring the control measures in this policy to be implemented.
City of Arcata General Plan Policy PS-2d (Requirement for and review of "Geotechnical Reports")	This policy requires the preparation of geologic reports for all development in areas subject to seismic hazards. The reports shall recommend minimization measures for any potential impacts and shall outline alternative solutions. To comply with this policy, a geotechnical report was prepared by LACO for the project and the recommendations of the report will be incorporated into the structural plans for proposed structures.
California Health and Safety Code, Division 20, Chapter 6.11, Sections 25404-25404.9 as implemented by the Humboldt County Division of Environmental Health as a Certified Unified Program Agency (CUPA)	The County Division of Environmental Health requires the preparation and submittal of Soil and Groundwater Management Contingency Plans for development on sites with past soil and groundwater contamination. The purpose of these plans is to address potential worker safety issues associated with future site development as areas of residual soil and groundwater contamination may remain in place. The project has been conditioned to require preparation of a Soil and Groundwater Management Contingency Plan that will be implemented during construction activities.
Section 106 of the National Historic Preservation Act (36 CFR 800) and the California Environmental Quality Act (Section 15064.5)	Due to the potential for discovering cultural archaeological resources during site preparation and construction activities, a condition of approval has been included requiring compliance with the inadvertent discovery protocol recommended in the Cultural Resource Study to prevent potential impacts to cultural archaeological resources.
City of Arcata General Plan Policy N-5d (Construction site tool or equipment noise) and N-5e (Stationary and construction equipment noise)	These goals concern protecting Arcata residents from the harmful and annoying effects of exposure to excessive noise. To reduce potential noise impacts of construction activity, a condition of approval has been included to restrict the hours and days of construction and require the proper maintenance of equipment.

Determination:

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

Preparer Signature: _____ Date: 10/19/2020

Name/Title/Organization: Delores Freitas, Senior Planner, City of Arcata

Certifying Officer Signature: _____ Date: 10/19/20

Name/Title: DAVID T. LOYA, ENVIRONMENTAL COORDINATOR

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record (ERR) for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).

Appendix A
Contamination and Toxic Substances

Housing and Community Development Department (Department) Policy requires that property used for Department programs be free of hazardous materials, contamination, toxic chemicals and gasses, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property. In general, the provisions of 24 CFR Part 50.3(i) and 24 CFR 58.5(i)(2) are intended to address residential projects that may be located in close proximity to sites that were historically used as industrial sites or dumps, may otherwise contain toxic or hazardous substances from other past uses that conflict with the new intended use of the property.

The wastewater treatment facility is currently operational and has been for decades, and the proposed improvements do not constitute a new use at the site. The continued intended use of the site remains: to disinfect and treat wastewater, which currently requires a balance of chemicals to ensure the treated effluent meets the standards of the National Pollution Discharge Elimination Standards (NPDES). The proposed project will generally reduce the treatment facility's reliance on toxic substances for the treatment of wastewater, most notably chlorine. The project as proposed will reduce toxic substances onsite by significantly reducing the use of chlorine gas for the treatment of wastewater. The proposed ultraviolet light (UV) Disinfection System will reduce the use of chlorine and sulfur dioxide that the current system requires and is an environmental and employee safety hazard. Moving to a UV Disinfection System will also remove the disinfection byproducts that chlorine creates. Chemicals used onsite for the treatment of wastewater that are categorized as "Toxic Substances" are discussed below.

- Chlorine Gas and Sulfur Dioxide.
  The Treatment Facility currently uses liquid chlorine, extracted as a gas, to treat wastewater. After the disinfection process is complete, the water is dechlorinated prior to discharge by adding sulfur dioxide. Both chlorine and sulfur dioxide are considered potentially hazardous toxic substances. Both substances are stored onsite and are subject to the City's Risk Management Prevention Plan (Attachment 23) to ensure site safety. It has been reported in the City's Risk Management Prevention Plan that the AWTF has been handling chlorine for over 25 years and has never experienced a release. As noted in the plan, the plant, on average, has fifteen (one ton) chlorine cylinders on site. Typically six cylinders are on-line and nine are in storage. In addition, there are also six sulfur dioxide containing cylinders on-site, with two cylinders on-line and four in storage. As part of the Risk Management Prevention Plan evaluation, plant staff determined that due to an annual average chlorine consumption of 1.5-2 tons per week, chemical supplier location (500 miles away), delivery delays due to road conditions and effluent disinfection requirements, that the amount of on-site chemical was necessary.

  The facility operates under an NPDES permit issued in 2012 and updated in 2014 and 2019, which includes requirements for disinfection, treatment processes, and outfalls. Due to compliance issues, new regulatory discharge requirements and the City's desire to change from chlorine to UV disinfection for environmental reasons, the permit was changed to improve wastewater treatment and reduce chemical usage. The 2019 permit introduced new lower limits for effluent ammonia, and revised requirements for the new UV disinfection system.

  The City of Arcata will phase out the existing chlorine and sulfur dioxide gas system as the primary disinfection process after the implementation of the new UV system in an attempt to improve water quality and move away from use of gaseous chlorine as a disinfectant. The existing system will still remain as a backup to the UV and for peak wet

weather flow disinfection. This will require that the plant maintain the system and store chlorine and sulfur dioxide ton cylinders on site, especially during wet weather.

Improvements include a 9.8 million gallons per day effluent UV disinfection facility, and new UV and enhancement wetlands effluent flow meters. Flows in excess of 9.8 million gallons per day will still need to be treated by other disinfection methods, which may include continued chlorine use, but any use of chlorine past Phase 1 of the proposed improvements will use chlorine in a solid, not gaseous form, which significantly reduces its potential toxicity. Furthermore, the likelihood of needing to utilize other disinfection methods in addition to UV is very small, as the highest daily flow recorded from 2013-2017 was 9.1 million gallons per day, and the average annual flow is only 1.7 million gallons per day (Carollo pre-design report, 2019-Attachment 24). The improved system will significantly reduce the need for toxic substances in the treatment of Arcata's wastewater. Reduced need for chlorine and sulfur dioxide will ensure reduced potential of chlorine cylinder spills in the event of a catastrophic event, and will reduce hazards to employees on an ongoing basis.

While the amount of chemical stored on-site in this scenario can be reduced once the UV system is online, chlorine and sulfur dioxide will still need to be stored on-site, and ready for use during wet weather. In future the system could be retrofitted to a liquid chemical system for use during wet weather or as a redundant system to the new UV system. The reason to retrofit the system is to reduce the overall potential risk from the one-ton chlorine cylinder system. Commonly sodium hypochlorite and sodium bisulfite are used to retrofit gas systems. The benefit of using the liquid chemical is lower potential for release of hazardous gas, and a fairly simple chemical dosing system. The chemicals would be stored in high density polyethylene tanks. The tanks could be located in the existing chlorine gas storage area, with slight modifications to provide containment. Chemical metering pumps could be installed adjacent to the tanks, and used to pump chemical solution directly to the existing Chlorine Contact Basin. The existing chemical induction units could be reused for this application.

- <u>Alkalinity Solution.</u>
  Future wastewater treatment may require an alkalinity solution to treated wastewater to ensure the proposed pH level of treated effluent prior to discharge. Based on current testing results it is unlikely to be needed, as alkalinity readings are currently within optimal range. Continued testing over the course of Phase 1 will determine if sodium hydroxide or other chemical compounds will be required to balanced pH of treated effluent, and provide alkalinity and buffering capacity. Large quantities of alkalinity solution may be required if it is determined the site needs buffering capacity when attempting to reach desired alkalinity. Adopted safety protocols currently in place will be expanded to include sodium hydroxide /or other chemicals determined to be necessary to achieve desired pH per the site's adopted Hazardous Materials Business Plan (Attachment 22).

- <u>Historic Contaminated Soils.</u>
  The corporation yard site contains contaminated soils due to leaking above-ground storage tanks and pump islands. Investigation and remediation of the release was undertaken by SHN Consulting Engineers and Geologists (SHN). The site remains open and is in the process of being "Closed" by the North Coast Regional Water Quality

Control Board (RWQCB). Residual petroleum hydrocarbons in the soil and groundwater remain at the site at levels over industrial screening levels. A Soil and Groundwater Management Contingency Plan for the Arcata Corporation Yard was prepared in 2020 for the impacted area and was approved by the RWQCB. In addition, a land used covenant will be in place for the impacted area that will restrict future uses but maintain industrial type current uses. Residential development is restricted and installation of water supply wells without RWQCB approval is prohibited (Attachment 29). These provisions will ensure that contaminated soil and groundwater is handled properly and disposed in accordance with applicable regulations for protection of worker safety and the environment.

The project's staging areas include a City-owned site located on South "I" Street in the northernmost section of the Area of Potential Effect. Now known as the "Little Lakes" site, the area consists of three parcels that historically housed mill yard operations and the soils contains trace amounts of historic contaminants from mill operations including diesel, motor oils, metals and dioxins (RWQCB Case No. 1NHU018). The site also included two 1,000-gallon underground storage tanks that were removed in 1987. The City of Arcata acquired the property in 2001, and by 2010, all structures located on the property had been removed. The site currently consists of building foundations and footings, bare ground, vegetated areas, and various stockpiles of soil and gravel. Two targeted Brownfields assessments of the site were completed by Weston Solutions in December 2002 (Phase II) and April 2004 (Phase IIB) to determine if soil and groundwater at the site were impacted by contaminants. Based on the findings of the Weston Phase II and Phase IIB reports, as well as current site investigation data prepared by SHN in 2019 and 2020, onsite contamination above regulatory screening levels is present in soils located at the former kiln buildings in the northern portion of the site. Impacts to groundwater at the site from mill operations appears to be limited and further investigation is not warranted based on current findings. Supplies staged at the central and southern portion of the Little Lakes site will have no effect upon equipment or personnel onsite if used for short-term staging. No ground-disturbing activity is proposed and historic contamination in this area is observed to be below environmental screening levels.

As discussed above, the City's wastewater treatment system requires use of chemicals, some of which may be categorized as hazardous in concentration; however, the area where chemicals are used is secure and closed to the public and safety protocols are in place to ensure onsite staff handles all chemicals safely. The State Water Board regulates chemical use through its NPDES permit procedures, which requires daily reporting and testing onsite.

In addition to adopted protocols, the treatment facility and corporation yard are inspected on a semi-annual basis by the County Certified Unified Program Agency (CUPA). The CUPA is charged by the State Secretary for Environmental Protection and Hazardous Materials Program of the Humboldt County Division of Environmental Health with the responsibility of conducting compliance inspections of facilities handling hazardous materials, generating or treating hazardous waste and/or operating underground storage tanks in Humboldt County. The CUPA uses education and enforcement to minimize the risk of chemical exposure to human health and the environment. The CUPA forwards important facility information to local fire prevention agencies that enables them to take appropriate protective action in the event of an emergency at regulated facilities.

The proposed project improvements will reduce the potential for site contamination and will reduce risks to onsite staff and the greater community by instituting a significant decrease in the amount of gaseous chlorine used onsite. Any other potentially hazardous chemicals associated with ongoing disinfection and treatment will continue to adhere to adopted site protocols and

safety data sheets, and will receive oversight from the County Certified Unified Program Agency. The project will have a net beneficial impact on toxic substances and will reduce potential contamination.

Appendix B
Endangered Species

Project Setting

The Project is located within the Humboldt Bay Sub-watershed (Hydrologic Unit Code [HUC] 12: 180101020601) of the Humboldt Bay-Frontal Pacific Ocean watershed in the North Coast Hydrologic Region and within the Jacoby Creek Watershed of the Eureka Plain Hydrologic Unit No. 110.00 (NRCWCB 2019). The Project is also within the Janes Creek and Jolly Giant Creek watersheds within the City of Arcata. The Action Area abuts Arcata Bay, the northernmost portion of Humboldt Bay. Humboldt Bay is one of the most ecologically diverse embayments on the Pacific coast. Numerous watercourses meander through the City and empty into Arcata Bay. Freshwater, brackish, and saltwater marshes throughout the area are highly productive, sensitive habitats requiring special protection. The Planning Area's diverse habitat types support a wide variety of plant, fish, and wildlife species.

The Arcata Wastewater Treatment Facility is a unique hybrid of wastewater treatment and wildlife habitat. A series of oxidation ponds, treatment wetlands and enhancement marshes are used to treat Arcata's wastewater. The marshes also serve as a wildlife refuge, and are on the Pacific Flyway, a major north-south corridor for migratory birds, extending from Alaska to Patagonia (Flyways-Administrative, USFW). Arcata's Wastewater Treatment Plant is a pre-existing facility that, in conjunction with the Arcata Marsh and Wildlife Sanctuary, by providing fresh water and brackish habitat adjacent to Humboldt Bay has resulted in a net benefit for a variety of wildlife species.

The Treatment Facility human-made freshwater marshes in the AMWS include Allen Marsh, Hauser Marsh, Gearheart Marsh, as well as the Brackish Marsh. Water flowing through Allen, Gearheart, and Hauser enhancement marshes originates from the disinfection basins of the Wastewater Treatment Facility. The Brackish Marsh has a direct connection to Humboldt Bay (via McDaniel Slough) via a 48" diameter float actuated fish passage tide gate that has a smaller hinged square barn door and hinged top gate capable of passing up to 80 CFS. Currently, the Brackish Marsh's only source of water is the McDaniel Slough tide gate and rainfall. The only planned future connection will be the fully treated effluent from the AMWS marshes that are part of the AWTF. It is anticipated that these flows to the Brackish Marsh will range from 0-6 MGD.

Overview of Potential Impacts

The Proposed Project includes both new construction and rehabilitation and maintenance on existing Facility structures and equipment, and as such many aspects of the Project will have no impact upon natural resources, or federally endangered or threatened species in the project area. Elements of the Proposed Project that could potentially impact natural resources during construction include: vegetation maintenance of Treatment and Enhancement Marshes; rerouting of underground pipelines and electrical conduit; construction of Outfall 003; removal of a bridge deck over Butcher Slough; raising levee elevations above flood elevations; and construction of proposed wetland mitigation areas and areas temporarily disturbed by construction activities, such as staging and stockpiling areas. Post-construction biological impacts are not expected to be substantially different from the current environmental setting, and the majority of Facility improvements that have the potential to impact the natural environment will take place in Phase 1.

Proposed Project improvements that have the potential to more permanently impact biological resources are limited to the vicinity of the newly proposed Outfall 003 location. A Biological Assessment has been prepared for the project, and is included as Attachment 31 to this Environmental Assessment. In addition to the Biological Assessment, which catalogues Federally listed species that may be present in

the project area, the analysis included in this section also draws from previous consultation undertaken with US Fish and Wildlife as part of a formal consultation regarding tidewater goby requested by the US Army Corps of Engineers (US Army Corps) in 2008 and 2009, as well as from the McDaniel Slough Restoration Project Environmental Impact Report (City of Arcata and CDFW, 2006, SCH# 2003022091). The proposed location and use of Outfall 003, located in the Brackish Marsh, was analyzed in the McDaniel Slough EIR. Please refer to that document for more detail on the Biological environmental analysis for Outfall 003. In addition, much of the Project area has been studied as part of environmental review for the previously described projects and has been continuously studied/monitored. This information, along with past federal and state agency permits/approvals, has been used to inform the analysis of the currently Proposed Project.

The Biological Assessment provides an analysis potential impacts to federally listed Endangered or Threatened species that have suitable habitat or have been documented within the Action Area. It also discusses federally-listed species that were identified in either the Rarefind5 query of the California Natural Diversity Database (CNDDB) within the 9 USGS Quadrangles surrounding the project area, or on the US Fish and Wildlife Service IPaC Resources List that was generated for the project area, but do not have suitable habitat within the project area (see Attachment 31 for further detail). The following federally-listed species were determined to have suitable habitat in or adjacent to the Action Area:

1. Yellow Billed Cuckoo (Coccyzus americanus): Federally Threatened
2. Coho Salmon (Oncorhynchus kisutch): Federally Threatened
3. Northern California Steelhead (Oncorhynchus mykiss irideus): Federally Threatened
4. Green Sturgeon (Acipenser medirostris): Federally Threatened
5. Tidewater Goby (Eucyclogobius newberryi): Federally Endangered
6. Chinook Salmon (Oncorhynchus tshawytscha): Federally Threatened
7. Eulachon (Thaleichthys pacificus): Federally Threatened
8. Western Lily (Lilium occidentale): Federally Endangered

Federally endangered or threatened aquatic species that are most at risk from project activities, particularly in the vicinity of the Brackish Marsh, are found at the planned location of the new effluent Outfall 003. Tidewater goby (Eucyclogobius newberryi) has a high likelihood to be found at the project site, and the Brackish Marsh has been mapped as critical goby habitat as a result of restoration efforts to create the Brackish Marsh undertaken in the last ten years. Informal consultation with USFW and NOAA Fisheries has occurred and agency partners have indicated the 2008 and 2009 Biological Opinions resulting from the Section 7 consultation initiated as part of the McDaniel Slough Restoration effort can be used to guide recommendation for the Proposed Project, and they anticipate being able to undertake minor amendments to update the expiration of the Opinions and update recommendations as necessary based on any finding of altered site conditions. Consultation with USFW and NOAA Fisheries for the respective species in their jurisdiction will occur as part of the Section 7 Consultation. Recommendations for ensuring adverse impacts to tidewater goby do not occur will be undertaken in partnership with USFW. Other marine species with critical habitat in the project area, including northern California steelhead and Coho salmon, are being undertaken with NOAA Fisheries. A Section 7 Consultation will be initiated for the project. For the purposes of this Environmental Assessment, determinations of effects to species of concern will tier off of the McDaniel Slough Consultation.

Potential Impacts by Species Type (informed by Project Biological Assessment, September 2020)
The following section analyzes effects on Federally Threatened and Endangered species with potential to be found within the Proposed Project's Area of Potential Effect. It is important to keep in mind that primary objectives of the Proposed Project include 1) improving the quality of treated and discharged effluent into Humboldt Bay; and 2) moving the existing outfall from the bay at Butcher Slough Outfall 001 to the "Brackish" Marsh Outfall 003 to maximize the volume of effluent receiving enhanced treatment and maximize the beneficial use of treated wastewater for habitat purposes. As noted in the project description, it is important to note that the "Brackish" Marsh was constructed from the City's previous McDaniel Slough Restoration project, and will not contain brackish waters until Outfall 003 is constructed to provide a freshwater input into the existing tidal waters. The impact analysis below uses these overarching project objectives to guide evaluation of project elements upon federally listed species.

1. Special Status Aquatic Species

Potential Impacts to listed aquatic species are limited to activities associated with construction of Outfall 003 in Brackish Marsh, and levee improvements surrounding the Oxidation Ponds. Tidewater Goby is the only Federally-listed species that has been documented within the Action Area, and is known to inhabit the Brackish Marsh. However, the Brackish Marsh provides suitable habitat for other federally-listed aquatic species identified in this documents, and they may be found on a transient basis. Additionally, designated critical habitat for Coho Salmon, Steelhead, Green Sturgeon, and Chinook exists within the Action Area. Therefore, potential effects to all federally listed aquatic species with suitable habitat in the Action Area is also analyzed.

Generally speaking, for all aquatic species that have the potential to be impacted by construction or operation of Outfall 003, the conclusion is the new treated wastewater discharge point at Brackish Marsh will improve the area estuarine conditions in McDaniel Slough by creating a new freshwater input that will result in an increase in food sources for fish, and by providing the estuarine conditions critical for tidewater goby, salmonids, and a variety of other aquatic species. The Brackish Marsh area is controlled with tidal inlet/outlet structures that will provide for a muted tidal exchange after construction of Outfall 003 is complete. Low summer discharge to the Brackish Marsh will be similar to the natural discharge of nearby Jolly Giant Creek. If properly mitigated for construction impacts, the Proposed Project would result in less than significant impacts to fish and their habitat.

- Direct Effects on Habitat Quality for Aquatic Species. Suitable habitat for Federally-listed species within the Action Area includes the Brackish Marsh, bayward sides of the Klopp Lake levee where utility trenching is proposed, as well as bayward sides of the levees surrounding the Oxidation ponds that have been identified for augmentation. While no construction disturbance is planned for the bayward sides of levees, there is a potential for unintended impacts associated with spills, leaks, or construction-related sedimentation. Besides the Brackish Marsh where Outfall 003 will be constructed, other aquatic environments where project activities will occur consist of the oxidation ponds, treatment wetlands, and enhancement marshes, which do not provide suitable habitat for listed aquatic species.
  Construction of Outfall 003 includes work below the mean high tide line, where aquatic species may be present. Potential in-water impacts could alter normal feeding and usage activities for aquatic species. The effects would primarily be temporary and localized and cease after

construction of Outfall 003 is completed. To minimize potential impacts to salmonids, work will be scheduled between July and September, when salmonids are least likely to be present. In addition, to ensure that adverse impacts to aquatic species associated with construction do not occur, the following conservation measures will be implemented:

- Fish Relocation - Prior to construction, areas of the Brackish Marsh where construction will occur will be isolated and surveyed for aquatic species, which will be relocated to adjacent appropriate areas if found. Surveys and relocation will be completed by a qualified biologist. All translocation and surveys of Federally-listed species will be conducted under a scientific recovery permit.
- Isolated Work Area - Prior to construction and after fish relocation, the work area surrounding Outfall 003 will be isolated and dewatered to minimize potential sedimentation and turbidity-related impacts to aquatic species

- Direct Effects to Water Quality for Aquatic Species. Water quality is an important component of salmonid habitat. The condition and quality of the water that the fish encounter on their migration can determine such things as feeding and breeding success rates, disease levels, growth rates, and predation rates. Major elements of water quality critical to salmon consist of turbidity/sediment levels, chemical contamination, dissolved oxygen levels and temperature. Fine sediments can reduce prey detection, alter trophic levels, reduce oxygen, smother redds, and damage gills, as well cause other deleterious effects. The presence of construction equipment near/above/within streams and estuarine environments creates the potential for introducing new suspended sediment loads and toxic materials from ground disturbance, accidental spills, or mechanical failure. Water quality impacts could occur within the Brackish Marsh during construction of Outfall 003, and on bayward sides of levees where construction is proposed within the Action Area. To minimize potential adverse impacts to water quality, the following will be implemented:

  - Sedimentation and Turbidity Best Management Practices: Areas where sedimentation or turbidity impacts could occur will use best management practices (BMPS) to minimize potential impacts. This could include deployment of fiber rolls, silt fences, and post-construction stabilization/revegetation to ensure bare soil is not left exposed. All non-biodegradable temporary erosion control measures will be removed from wetlands and waters of the US/State immediately on cessation of construction.
  - Spill Prevention and Clean-up: To prevent potential spills or leaks associated with construction activities, construction crews will be trained on spill prevention, response, and good housekeeping. Additionally, spill clean-up kits will be readily available onsite during construction activities to ensure appropriate and timely response to any spills or leaks, should they occur.
  - Construction Equipment Maintenance: Refueling or maintenance of construction vehicles or equipment will only occur in upland environments. If equipment must be washed, washing will occur where wash water cannot flow into wetlands or waters of the US/State.

- Direct Effects to Federally Designated Critical Habitat for Aquatic Species. The Brackish Marsh and associated construction of Outfall 003 is the only location that will involve impacts below mean high tide and within designated Critical Habitat. Construction will cause direct, temporary impacts that may affect any listed fish species in the area. However, after construction, impacts to Critical Habitat will be minimal. After construction, Critical Habitat impacts will be associated with the input of a new freshwater source into the Brackish Marsh from Outfall 003. The Brackish Marsh was formerly an agricultural grazing field, and was constructed as part of the McDaniel Slough project. One of the project objectives of the McDaniel Slough project was to, "*Complete infrastructure for brackish pond and begin operation of brackish marsh*" (f 2008 McD Slough Biological Opinion). More specifically, the objective stated: "*The City will work with both the [US Fish and Wildlife] Service and Regional Water Quality Control Board Staff to design the brackish pond to meet State and Federal standards for use of fully treated waste water to enhance wildlife habitat in this pond. The design will include flexibility to provide optimal fresh water flow rates and tidal exchange volumes both daily and seasonally to mimic the local hydrologic regime in other Humboldt Bay tributaries. The brackish marsh inlet and outlet will be adjustable to mute the tidal cycle and to provide flexibility to adjust salinity to desired ranges. The pond will receive controlled freshwater inflow of fully treated wastewaters, being discharged by the City's wastewater treatment system and stormwater flowing from the South I Street area and South I Street pond*."

  As part of the McDaniel Slough Project, Brackish Marsh was excavated to appropriate elevations for mixing bay water with treated wastewater to create the brackish wetland habitat. Approximately 1.5 -9 cubic feet per second (CFS) of treated wastewater was planned to be gravity fed to Brackish Marsh. Flow volumes were planned to be managed to mimic natural seasonal fluctuations in other Humboldt Bay tributaries. The Brackish Marsh outlet is adjustable in order to mute the tidal cycle and to provide flexibility to adjust salinity to desired ranges. Desired salinity ranges of 5-10 parts per thousand (ppt) within Brackish Marsh will be suitable for tidewater gobies.

  The finding that tidewater goby habitat will be improved through construction and maintenance of Outfall 003 was also supported by analysis undertaken in 2008 by the US Fish and Wildlife Service in a formal biological opinion created in consultation with the USACE regarding the McDaniel Slough Wetland Enhancement Project. It was determined that some elements of the Restoration would involve a small incidental take of tidewater goby, but construction of the Brackish Marsh and the planned Outfall 003 would have a net beneficial impact on tidewater goby. This beneficial effect included approximately 6 ac (2.4 ha) of habitat with depth and diversity, and an expected range of salinity suitable for the tidewater goby. (USFWS Formal Consultation, June 2008).

  The Brackish Marsh and associated infrastructure work has been completed, however the freshwater input of fully treated wastewater has yet to be implemented. This component of the McDaniel Slough project is being undertaken by the currently proposed Wastewater Treatment Facility Upgrade Project. Once the Project has been completed, it will have a net beneficial impact to Critical Habitat for listed aquatic species. No mitigation to critical habitat is required.

2. Special Status Avian Species

Potential Impacts to listed avian species are limited to activities associated with short-term construction activities that may impact active nesting sites, including prolonged periods of human activity and noise (e.g. pile driving), or vegetation removal.

Yellow Billed Cuckoo. The Yellow-billed Cuckoo is the only Federally-listed bird species with suitable habitat within the Action Area. Potential impacts include vegetation removal and noise associated with construction. Should this species be present in the vicinity of noise-generating construction, it may temporarily leave the area until noise disturbance has ceased. However, noise impacts will be temporary and limited to relatively small areas within the broader AMWS. Therefore, any temporary displacement of this species during construction will not create an adverse impact because there will be sufficient suitable habitat in adjacent areas. Potential impacts to riparian areas will be limited to willow along the south edge of Hauser and areas adjacent to the oxidation pond upgrades. The Arcata Marsh and Wildlife Sanctuary includes numerous areas of willow habitat more remote from the proposed action area for Yellow billed Cuckoo as well as other avian species that utilize riparian/willow habitat. To ensure adverse impacts to not occur, the following avoidance and conservation measures will be implemented:

- Avian Nesting Surveys: To minimize potential adverse impacts to avian species associated with vegetation removal, vegetation removal will occur outside of the avian nesting season (generally March - August) to the extent practicable.
  If vegetation removal or disturbance cannot be confined to periods outside of the nesting season, a qualified biologist shall conduct pre-construction surveys, within the vicinity of the Proposed Project to check for nesting activity and to evaluate the site for presence of special-status bird species. The biologist shall conduct a minimum of one day pre-construction survey within the 7-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the breeding season, a qualified biologist shall conduct a supplemental avian pre-construction survey before project work is reinitiated.
- If active nests are detected within the construction footprint or within the construction buffer established by the Project biologist, the biologist shall flag a buffer around each nest. Construction activities shall avoid nest sites until the biologist determines that the young have fledged, or nesting activity has ceased. If nests are documented outside of the construction (disturbance) footprint, but within the construction buffer, nest buffers would be implemented as needed. Buffer sizes would take into account factors such as (1) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; (2) distance and amount of vegetation or other screening between the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds.
- If active nests are detected during the survey, the qualified biologist shall monitor all nests at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified biologist, disturb nesting activities (e.g., excessive noise), shall be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified biologist shall immediately implement adaptive measures to reduce disturbance. These measures may

include, but are not limited to, increasing buffer size, halting disruptive construction activities in the vicinity of the nest until fledging is confirmed, placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise-sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, and/or reorienting and/or relocating construction equipment to minimize noise at noise-sensitive receptors.

4. Special Status Plant Species

Potential impacts to listed plant species are limited to activities associated with construction activities outside of the interior corporation yard/treatment plant area in the larger Area of Potential Effect, including activities such as rerouting of underground pipelines and electrical conduit, construction of proposed wetland mitigation areas, and areas temporarily disturbed by construction activities (i.e. staging and stockpiling areas).

Western Lily. The Western Lily has little potential for occurrence within the project area. However, should it be present, impacts would be limited to direct removal associated with construction. To ensure adverse impacts to not occur, the following avoidance and conservation measures will be implemented:

- Vegetation Surveys: Areas where vegetation removal is planned to occur will be surveyed at the appropriate time of year for best detection for Western Lily prior to removal. Should any species be found within the construction vicinity, it will be flagged for avoidance.
- Compensatory Vegetation Mitigation: In the very low chance that a Western Lily be encountered and avoidance is not feasible, the species will be relocated and monitored for survival. Should the survival be unsuccessful, the City will work with USFWS to ensure appropriate compensatory mitigation.

Impact Summary and Associated Mitigations

In conclusion, the project has the potential to impact endangered species in the project area, most notably aquatic species in the vicinity of Outfall 003. The project will also involve short-term impacts related to construction activity (noise, dust, etc.). However, the prepared Biological Assessment finds that based on the project description, minimization and avoidance measures incorporated into the project design and with the proposed conservation measures, the project is not likely to adversely affect listed endangered, threatened, or sensitive species or their habitat. No significant indirect or cumulative impacts to engaged species are anticipated through Project activities, with the incorporation of the suggested mitigations, which have been incorporated into this Environmental Assessment.

The Proposed Project will have "No Effect" on the following species, which are not believed to occur in the project area:

- Marbled murrelet (Brachyramphus marmoratus)
- Northern Spotted Owl (Strix occidentalis caurina)
- Western Snowy Plover (Charadrius nivosus nivosus)
- Green Sea Turtle (Chelonia mydas)
- Fisher (Pekania pennant)

The Proposed Project "May Affect, Not Likely to Adversely Affect" the following species, which have the potential to be found in the project area:

- Yellow Billed Cuckoo (Coccyzus americanus)
- Coho salmon - southern Oregon / northern California ESU (Oncorhynchus kisutch)
- Steelhead - northern California DPS (Oncorhynchus mykiss irideus)
- Green Sturgeon (Acipenser medirostris)
- Tidewater Goby (Eucyclogobius newberryi)
- Chinook Salmon - California coastal ESU (Oncorhynchus tshawytscha)
- Eulachon (Thaleichthys pacificus)
- Western Lily (Lilium occidentale)

The following conservation (mitigation) measures will be adhered to in order to ensure impacts to endangered species are reduced to an acceptable level.

Mitigation Measure 1: Section 7 Consultation

Through the Section 7 process, continue ongoing consultation with the U.S Fish and Wildlife Service and NOAA Marine Fisheries Service regarding federally listed species. Adhere to minimization measures that are developed as part of this process to ensure that no adverse impacts occur.

Mitigation Measure 2: Conduct Nest Survey and Establish Buffers

To minimize potential adverse impacts to avian species associated with vegetation removal, vegetation removal will occur outside of the avian nesting season (generally March - August) to the extent practicable. If vegetation removal or disturbance cannot be confined to periods outside of the nesting season, a qualified biologist shall conduct pre-construction surveys, within the vicinity of the Proposed Project to check for nesting activity and to evaluate the site for presence of special-status bird species. The biologist shall conduct a minimum of one day pre-construction survey within the 7-day period prior

to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the breeding season, a qualified biologist shall conduct a supplemental avian pre-construction survey before project work is reinitiated.

If active nests are detected within the construction footprint or within the construction buffer established by the Project biologist, the biologist shall flag a buffer around each nest. Construction activities shall avoid nest sites until the biologist determines that the young have fledged, or nesting activity has ceased. If nests are documented outside of the construction (disturbance) footprint, but within the construction buffer, nest buffers would be implemented as needed. Buffer sizes would take into account factors such as (1) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; (2) distance and amount of vegetation or other screening between the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds.

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

Mitigation Measure 3: Sedimentation and Turbidity Best Management Practices

Areas where sedimentation or turbidity impacts could occur will use best management practices (BMPS) to minimize potential impacts. This could include implementation of fiber rolls, silt fences, and post-construction stabilization/revegetation to ensure bare soil is not left exposed. All non-biodegradable temporary erosion control measures will be removed from wetlands and waters of the US/State immediately on cessation of construction.

Mitigation Measure 4: Spill Prevention and Clean-up

To prevent potential spills or leaks associated with construction activities, construction crews will be trained on spill prevention, response, and good housekeeping. Additionally, spill clean-up kits will be readily available onsite during construction activities to ensure appropriate and timely response to any spills or leaks, should they occur.

Mitigation Measure 5: Construction Equipment Maintenance

Refueling or maintenance of construction vehicles or equipment will only occur in upland environments. If equipment must be washed, washing will occur where wash water cannot flow into wetlands or waters of the US/State.

Mitigation Measure 6: Fish Relocation

Prior to construction, areas of the Brackish Marsh where construction will occur will be isolated and surveyed for aquatic species, which will be relocated to adjacent appropriate areas if found. Surveys and relocation will be completed by a qualified biologist. All translocation and surveys of Federally-listed species will be conducted under a scientific recovery permit.

Mitigation Measure 7: Isolated Work Area

Prior to construction and after fish relocation, the work area surrounding Outfall 003 will be isolated and dewatered to minimize potential sedimentation and turbidity-related impacts to aquatic species.

Mitigation Measure 8: Vegetation Surveys

Areas where vegetation removal is planned to occur will be surveyed at the appropriate time of year for best detection for Western Lily prior to removal. Should any species be found within the construction vicinity, it will be flagged for avoidance.

Mitigation Measure 9: Compensatory Vegetation

In the very low chance that a Western Lily is encountered during construction activities and avoidance is not feasible, the species will be relocated and monitored for survival. Should the survival be unsuccessful, the City will work with USFWS to ensure appropriate compensatory mitigation.

Appendix C
Explosive and Flammable Hazards

Housing and Urban Development Department-assisted projects are required to establish safety standards which can be used as a basis for calculating acceptable separation distances for Department-assisted projects from specific, stationary, hazardous operations which store, handle, or process hazardous substances. Containers of common liquid industrial fuels (gasoline, fuel oil, kerosene) are exempted from review, since they generally would pose no danger in terms of thermal radiation or blast overpressure to a project (24 CFR Part 51, § 51.201 (1)).

The wastewater treatment facility does not include a significant number of explosive or flammable hazards and the site is not used for residential purposes, and as such does not create undue risk for non-authorized personnel. However, as part of typical operations of a City Corporation yard and wastewater treatment facility, there are a variety of petroleum products, compressed gases, paints, and chemicals stored onsite in the core Treatment Plant area. These materials are regulated under the adopted City Hazardous Materials Business Plan (Attachment 22).

In addition to adopted protocols, the treatment facility and corporation yard are inspected on a semi-annual basis by the County Certified Unified Program Agency. The Certified Unified Program Agency is charged by the State Secretary for Environmental Protection and Hazardous Materials Program of the Humboldt County Division of Environmental Health with the responsibility of conducting compliance inspections of facilities handling hazardous materials, generating or treating hazardous waste and/or operating underground storage tanks in Humboldt County. The Certified Unified Program Agency uses education and enforcement to minimize the risk of chemical exposure to human health and the environment, and forwards important facility information to local fire prevention agencies that enables them to take appropriate protective action in the event of an emergency at regulated facilities.

The site houses several propane tanks, including a large permanent horizontal tank is located near Treatment Wetland #3 and the Arcata Marsh Research Institute building. The large tank is managed in the facility's business plan and has associated safety protocol. Small tanks onsite are either strapped to their equipment (for example, the City's the forklift) or secured to the wall. A new steel diesel storage tank located under the proposed new 750KW generator will supply 3-4 days of emergency power onsite. The City operates under standard adopted safety control standards to ensure any potential hazards associated with flammable/explosive products is mitigated appropriately.

In summary, any explosive and flammable hazards onsite that may have posed a health and safety risk have been mitigated for through pre-existing adopted safety control standards. Onsite staff receive safety trainings and the site is not open to the public. There are no residential users within the Area of Potential Effect or within one quarter mile of the Treatment Plant. The proposed project will not significantly increase hazards onsite. The only new flammable equipment is the newly proposed diesel storage tank, which will be regulated under the same safety protocol as the rest of the equipment onsite, and therefore there will be no increase to the risk of explosive or flammable hazards as a result of the project.

Appendix D
Floodplain Management

Executive Order 11988 - Floodplain Management requires Federal activities to avoid impacts to floodplains and to avoid direct and indirect support of floodplain development to the extent practicable. The Federal Emergency Management Agency (FEMA) designates floodplains as geographic zones subject to varying levels of flood risk. Each zone reflects the severity or type of potential flooding in the area. The FEMA Map Service Center provides this information in the form of FEMA Flood Insurance Rate Maps (FIRMs) or Flood Hazard Boundary Map. HUD's regulations in 24 CFR Part 55 outline HUD's procedures for complying with EO 11988. Part 55 applies to all HUD actions that could be harmed or cause harm if located in a floodplain, including but not limited to proposed acquisition, construction, demolition, improvement, disposition, and financing actions under any HUD program. The purpose of Part 55 is not in most cases to prohibit actions in a floodplain, but to provide the method for HUD projects to comply with EO 11988 and avoid unnecessary impacts.

The Treatment Facility is adjacent to the Arcata Bay and the entire facility is located at low elevations. The Proposed Project's Area of Potential Effect is within the 1% (100-year) floodplain as indicated on Flood Insurance Rate Map Panel numbers 5301260026R and 06023C0855G, revised June 21, 2017. The wastewater treatment facility is not in a regulatory floodway and the Proposed Project will not impede flood flows. The treatment facility is designated AE (1% Annual Chance of Flooding) and current Base Flood Elevation (BFE) for a 100-year flood is 10.05 feet (NAVD 88) as set by the City's adopted Floodplain Ordinance. An 8-Step Process, analyzing impacts to floodplains and wetlands, was undertaken for the project and is included as Attachment 32.

Several elements of the site upgrades have been specifically incorporated based on ongoing coordination with FEMA staff to ensure the wastewater treatment facility continues to be able to withstand potential risks due to flooding or tsunami. Current plans call for any new structures and electrical equipment/connections to be located a minimum of 2.0 feet above the base flood elevations within the existing protective bayfront levee within the core Treatment Plant area and Corporation Yard. The protective levees surrounding the core treatment plant and corporation yard and oxidation pond/wetlands will be raised to a minimum of 14 feet (NAVD 88) within the FEMA areas identified for storm driven (erosive) waves surrounding the Area of Potential Effect (VE Zone), and a minimum of 12 feet (NAVD 88) in the AE zone containing critical AWTP infrastructure. The following project elements have been designed to protect the AWTF from flooding risk:

1. Raise the levee(s) around the oxidation ponds, treatment wetlands, and the treatment plant/City Corporation Yard to minimum FEMA base flood elevations.
2. Develop an adaptive management strategy and resiliency plan for anticipated environmental changes and natural disasters.
3. Construct new facilities at higher base elevations that account for increased severity of storms, flooding hazards and wave action.
4. Elevate all New/upgraded electrical connections a minimum of 2.0' above the FEMA flood elevations inside of the AWTF protective levee system.
5. Improve the internal stormwater routing collection, pumping and treatment system to accommodate the 1% Storm Event (100-year Storm Event)

Impacts to Floodplain

- The project is limited to rehabilitation of an existing wastewater treatment facility. The site's pre-existing levee system will be augmented to further protect users. The additional elevation will also help to protect the financial investment of the proposed

facility improvements. The treatment facility is currently partially protected by a newly repaired (2009 FEMA funded) rock armored levee (approx. 1.0 mile) constructed of native derived soils of elevation range 10.5' to 14' NAVD borrowed immediately from the bay side of the ringed facility. The levee separates the AE zone (Base Flood Elevation, 1% annual change of flooding) from the VE zone (Coastal High Hazard Area, 1% annual chance of flooding plus associated storm waves). The existing armored western facing dike adjacent to any VE zone will be raised to 14' min. NAVD on top of the dike at a 1.5 to 1 max slope with an armored engineered fill soil prism to protect the dike and inner Facility from erosive storm driven wave action (4500 linear feet) and also an interior non armored crown dike encircling the facility's core area (1775 linear feet). The remaining portions of dike (2200 linear feet) will be raised to 12' min. NAVD for remaining dike areas along southeast and east sides of the Facility on the dike to meet the zone AE (BFE 10' NAVD 88) requirements plus 2' Safety factor. See Figure 1 below for proposed levee augmentation.

- In addition to levee augmentation, the core Facility (6.5 acres) is equipped with a stormwater collection and pumping system. The system will be sized to accommodate the 100-year return event within the core facility and will be pumped into the to the City's facility for treatment prior to discharge with the plant effluent. All work that is performed inboard of the levees surrounding the entire WWTP drain to the wastewater system.
- Impacts to the floodplain will also be limited due to construction occurring within the previously developed site. The project will have no net increase in flood water elevations in the floodplain.
- The City of Arcata is a member of the National Flood Insurance Program and structures located in the flood zone must comply with the local flood ordinance. The City of Arcata's Flood Ordinance sets standards for the development and rehabilitation of structures in areas of special flood hazard, including Zones A and V. In general, the Ordinance prohibits encroachments, including fill, new construction, substantial improvements, and other development in areas of special flood hazard unless certification by a registered civil engineer is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- HUD requires projects located in the floodplain to maintain flood insurance for the life of the property. The City maintains REMIF insurance for all City-owned facilities regardless of designated flood zone.
- By elevating the buildings and minimizing impervious surfaces in and around the floodplain to the extent feasible, construction will have minimal effects on water resources. The City's project engineer and floodplain administrator were consulted in order to design the building and the site plan in such a way that natural flood and erosion control, water quality, and groundwater recharge are preserved.
- All improvements that are not considered "essential facilities" will still be designed to mitigate for the effects of flooding risk and shall be designed in coordination with FEMA and completed by the end of Phase 2 (2025). All proposed improvements to the existing stormwater treatment and pumping system will be sized for an anticipated 1% probability storm year storm event. In addition, proposed improvements also include the purchase and installation of an emergency 0.75 mW electric generator, which will be used in case of emergency at the site to ensure continued operations.
- Although the site's location includes a risks of coastally-influenced flooding, the site is pre-existing and its proximity to the Bay is necessary for its functioning. In addition, the project's maintenance activities include flood proofing and raising existing and new

structures above base flood elevation, to increase the facility's ability to withstand extreme weather events. The proposed improvements will be undertaken in coordination with FEMA requirements and the City's adopted Floodplain Ordinance. The project will have a net beneficial impact on the site's ability to withstand flood hazards.

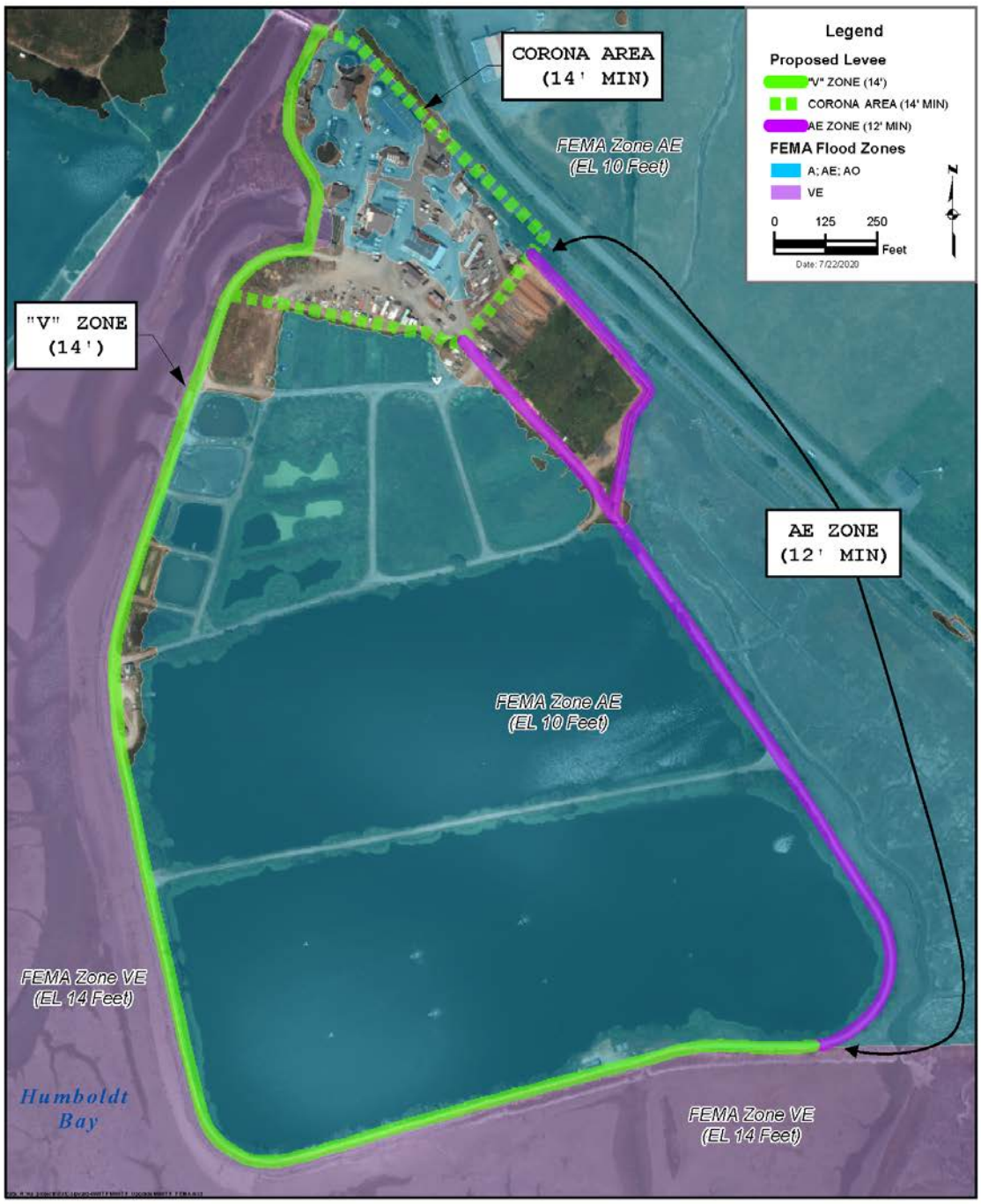
- There are no residents onsite. No housing units are proposed to be constructed or rehabilitated through this project. Employees are briefed on the location of the flood hazard area and evacuation plans and all onsite staff undertake periodic safety trainings in accordance to the site's adopted Risk Management Plan.
- All construction will be elevated consistent with FEMA's Lowest Floor Guide (http://www.fema.gov/pdf/nfip/manual200605/07lfg.pdf) and use flood resistant materials consistent with FEMA bulletins (https://www.fema.gov/media-library/assets/documents/2655?id=1580) and the requirements of the City's Local Adopted Floodplain Ordinance.

As part of the Proposed Project's required 8-Step process it was determined that there is no practicable alternative for locating the project out of the flood zone. This is due to: 1) the need to continue to utilize the existing treatment facility; 2) the need to rehabilitate the facility to meet NPDES permit requirements; 3) the need to construct an economically feasible project; 4) the need to utilize the site's existing permitting apparatus; and 5) the ability to mitigate and minimize impacts on human health, public property, and floodplain values through compliance with the City's adopted Floodplain Ordinance administered in coordination with the City's Floodplain Administrator.

The project has been designed to minimize impacts to the floodplain and minimize property and human risk from exposure to the flood zone. All project improvements shall be required to adhere to the requirements of the City's adopted Floodplain Ordinance, including anchoring and construction methods and practices to minimize flood damage, to the satisfaction of the City's designated Floodplain Administrator. As a result of the proposed Action, the facility will be stronger and more resilient to wave damage.

Arcata Wastewater Treatment Upgrade

Proposed AWWTP Project Dike Improvements



Appendix E
Historical Preservation

The City contacted the State Historic Preservation Officer (SHPO) on July 21, 2020, requesting formal SHPO consultation, and received a clearance letter dated July 28, 2020 (see Attachment 1).

The City requested formal Section 106 Consultation in letters dated July 9, 2020 (see Attachment 2) with the Tribes that have a current or ancestral interest in the Arcata area. Responses were received from the Tribal Historic Preservation Officers (THPOs) of the Wiyot Tribe, Bear River Band of the Rohnerville Rancheria, and Blue Lake Rancheria. The THPOs were sent the project description and Area of Potential Effect, as well as existing soils data. The THPOs were also provided a full copy of the Cultural Resources Assessment Report completed by DZC in November 2019. The findings of the report are discussed below.

The THPOs declined formal consultation on the project and recommended that the project be required to observe an inadvertent archaeological discovery protocol that includes notification to the Tribes should Native American archaeological deposits be found during construction. See attached e-mails from Erika Collins of the Bear River Band of Rohnerville Rancheria (07/16/20), Janet Eidsness of the Blue Lake Rancheria (07/15/20), and Ted Hernandez of the Wiyot Tribe (07/16/20) (see Attachment 2).

The report conducted by DZC Archaeology & Cultural Resource Consulting, LLC (DZC) details the results of a Phase I Cultural Resources Inventory of the Area of Potential Effect. The report involved both historical research and two field surveys, undertaken in October and November of 2019, as outlined below.

In advance of a field survey of the Area of Potential Effect, DZC completed historical research for the Area of Potential Effect and Environmental Study Limits at the Northwest Information Center of the California Historic Resources Information System. The review identified 16 previously conducted archaeological surveys of interest: 10 surveys within the Area of Potential Effect, and six outside the Area of Potential Effect but either partially or completely within the Environmental Study limits, which incorporates the land within a half mile radius of the area of potential effect. Five previously recorded resources were identified within the Environmental Study Limits and one within the Area of Potential Effect. The geoarchaeological research indicated a low potential for buried and surface prehistoric resources, and a moderate potential for buried and surficial historical resources within the Area of Potential Effect.

In accordance with PRC § 5097.91-5097-94, the Native American Heritage Commission maintains a catalog pertaining to places of special religious or social significance to Native Americans. In order to identify if places of religious or social significance exist within the Area of Potential Effects, DZC contacted the Commission on August 30, 2019 to request a review of their Sacred Lands Files. The Commission responded by email on September 19, 2019, stating that the Sacred Lands File search was negative and provided a list of individuals to be contacted regarding the project.

PRC § 21080.3.1, subd. (b), declares that California Native American Tribes traditionally and culturally affiliated with a geographic area may have expertise concerning their tribal cultural resources. As such, DZC contacted persons on the designated contact list maintained by the NAHC, providing each with a project description, location map, a request to respond to DZC with any relevant information, and a request to respond to the lead agency within 30 days, should the tribe wish to engage in formal government-to-government Consultation. Email or hard-copy notifications were sent to all parties on the NAHC list on October 10, 2019.

Janet Eidsness, THPO of Blue Lake Rancheria responded on October 11, 2019. THPO Eidsness acknowledged the proximity of P-12-000042 (CA-HUM-00042/Loud 42) within the Environmental Study Limits (0.5 buffer around area of potential effect) but concurred that the resource is outside of the project area and added that Blue Lake Rancheria had no knowledge of any additional sites in the Area of Potential Effect. At the time no response was received from (1) Bear River Band of the Rohnerville Rancheria: Barry Bernard, Chairperson; Celeste Ruiz, Executive Secretary; and Erika Cooper, THPO; (2) Cher-Ae-Heights Indian Community of the Trinidad Rancheria: Claudia Brundin and Garth Sundberg, Sr., Chairpersons; and (3) Wiyot Tribe: Ted Hernandez, Chairperson. However, all three Tribes responded to the official government-to-government consultation undertaken in July 2020.

The Cultural Resources Inventory filed surveys conducted by DZC analyzed approximately 123 acres of land which represent the Area of Potential Effects. This area covers the City of Arcata Wastewater Treatment Facility and City Corporation Yard. A field survey of the APE was undertaken on October 9th, 2019, and November 5th, 2019, by DimitraZalarvis-Chase, M.A., RPA a U.S. Secretary of the Interior qualified archaeologist, and staff archaeologist Kelly Hollreiser (B.A.). Of the 123 acres, 75 acres were intensively surveyed in transects of 15 meters or less. Approximately 48 acres within the Area of Potential Effects are unsurveyable ponds, wetlands, and marshes. Impediments to ground visibility included dense vegetation, imported gravels, and paved areas. The survey was negative for pre-contact resources. Two built environment features were identified within the APE including the AWTF and remnants of the Arcata Mad River Railroad/Union Wharf and Plank Walk Company.

One built environment complex, the wastewater facility, and mapped alignment of a California Historical Landmark (CHL) No.842 (The Arcata and Mad River Railroad/Union Wharf and Plank Walk Company)are present within the APE. The wastewater facility was determined ineligible for the National Register of Historic Places in 2006. Portions of this landmark within the Area of Potential Effect are limited to a historically mapped alignment; the remaining physical elements are located outside and immediately adjacent to the Area of Potential Effect.

The report recommended a Finding of No Impacts to historical, archaeological, or tribal cultural resources, as defined by CEQA, and a Finding of No Effects, as defined by NEPA. The report did note that regardless of no known significant affected resources, it is best practice to avoid cultural resources whenever possible.

Due to the potential to discover unknown cultural and historic archaeological resources during site preparation and construction, the following policy will be implemented by the City of Arcata to minimize potential impacts to cultural and historic resources. This condition was supported by the Tribal Historic Preservation Officers during formal consultation. This policy has already been instituted for all projects within the City, and does not need to be added as a project condition or mitigation:

If archaeological materials are encountered, all ground-disturbing work must be temporarily halted and/or shifted to another area. Work near the archaeological finds should not be resumed until a qualified archaeologist has evaluated the materials and offered recommendations for further action. Prehistoric materials which could be encountered include: obsidian, chert flakes, tools, darkened midden, ground stone artifacts, and deposits of shell, bone, and human remains. In the event that human remains are encountered during future ground-disturbing activities within the project area, State law requires that the County Coroner be contacted immediately. If the Coroner determines that the remains are likely those of a Native American, he or she must contact the California Native American

Heritage Commission. The Heritage Commission will consult with the most likely Native American descendants from the area to determine appropriate treatment of the remains.

Based on site analysis undertaken by qualified professionals and supported by both the State Historic Preservation Officer and the local Tribal Historic Preservation Officers during formal consultation, it has been determined the project would have no impact on historic or cultural resources.

Appendix H

Noise Abatement and Control

Current conditions in the Project Area included noise sources associated with operations of the existing treatment plant, traffic on South “G” and South “I” Streets, and traffic noise from Highway 101, located roughly one-quarter of a mile from the project site at its closest point. Pre-existing noise sources include accelerating and decelerating vehicles, and features of the treatment facility which create low levels of noise including mechanized pumps and motors. There are no human sensitive receptors within a quarter mile of the Area of Potential Effect (schools, housing); however, the project site includes the Arcata Marsh and Wildlife Sanctuary, which is a City-owned park used as a relaxing recreational area by a variety of human users and also provides habitat to wildlife, which may be sensitive to ongoing loud or repetitive noise.

There are no elements of the project that will have a significant, noticeable impact on ongoing operation noise at the treatment facility or environs in excess of the pre-existing general noise levels; however, construction of the proposed Project would temporarily increase noise in the immediate vicinity of the project site. The temporary noise increases would result from use of construction equipment for the project, as well as from increased traffic as construction workers commute to and from the site. Construction equipment use at the project site (e.g. pile driving, excavation) will be short-term and intermittent, and to the extent feasible, will be mitigated for by ensuring that construction equipment shall have mufflers and other sound attenuation divides in good working order as required by existing Arcata General Plan Policy 5-e. To prevent noise disturbance to the community, City of Arcata General Plan Noise Element Policy N-5d limits construction activity to the hours between 7 a.m. and 7 p.m. Monday through Friday, and between 9 a.m. and 7 p.m. on Saturdays. No heavy equipment related construction activity is allowed on Sundays or holidays.

HUD regulations at 24 CFR Part 51 Subpart B identifies exterior noise levels below 65 DNL to be normally acceptable. Background noise for a busy urban street is estimated at 90 decibels (City of Arcata 2008). The City of Arcata projected noise contours for the year 2020 included in the General Plan predicted a noise level of 55 decibels through parts of the existing treatment facility closest to the Highway (City of Arcata 2008). Thus existing noise in the Project Area likely ranges between approximately 65 and 90 decibels, depending on the time of day and types of vehicles utilizing the roadway. However, the site is pre-existing and does not include residential uses, either onsite or within a quarter mile of the project site. There are no sensitive noise receptors, including housing and schools, within a quarter mile of the Project.

The following noise reduction measures, as required by Policy N-5d and N-5e of the Arcata General Plan (Attachment 20) will minimize potential noise impacts to recreational users, onsite staff, and wildlife:

a) The operation of tools or equipment used in construction, drilling, repair, alteration, or demolition shall be limited to between the hours of 8 a.m. and 5 p.m. Monday through Friday, and between 9 a.m. and 5 p.m. on Saturdays.
b) No heavy equipment-related construction activities shall be allowed on Sundays or holidays.
c) Construction equipment shall have mufflers and other sound attenuation devices in good working order to reduce noise impacts.

Appendix G
Wetlands Protection

The Arcata Wastewater Treatment Facility (Treatment Facility) is deeply connected by design to surrounding wetlands areas, as the treatment system provides secondary treatment using natural processes including two oxidation ponds and six treatment wetlands. Under current conditions, enhancement of secondary treated wastewater is provided by three Enhancement Wetlands located in the Arcata Marsh Wildlife Sanctuary. Treated effluent is discharged into the Humboldt Bay via Butcher Slough (Outfall 001) or is circulated into Enhancement Wetlands (Outfall 002) in the Wildlife Sanctuary for further treatment and then ultimately discharged into Humboldt Bay (Outfall 001). Solids removed in the primary clarifier are treated in anaerobic digesters and solids drying beds.

Waters of the State vs. Waters of the United States

In general, federal, state and local agencies all have, in one form or another, policies and/or ordinances addressing the loss of wetland and 'wetted' lands. Most call for a "no net loss" of wetlands. When wetlands are to be lost and/or filled as a result of project implementation, the loss needs to be mitigated by creation of habitat of equal or greater value. Wetland impacts (Waters of the State [WOTS], Waters of the United States [WOTUS]) are subject to permit approval from both state and federal agencies, and the permit applications will be required to include project-specific mitigation proposals. Much of the Project area has been studied, as part of environmental review for the previously described projects and have been continuously studied/monitored. These past projects have received past federal and state agency permits/approvals, which have been used to inform the currently Proposed Project. As the site is located in an environmentally sensitive coastal habitat area and will affect wetlands and WOTS and WOTUS, multiple regulatory agencies have jurisdiction over elements of the Proposed Project's development.

The Treatment Facility contains various wetlands and riparian habitats, with portions located within or adjacent to the project area. The oxidation ponds and inward facing levees as well as the wastewater Treatment Wetlands are not WOTUS (40 CFR 230.3(s) or WOTS. They have been and will continue to be used for wastewater treatment. The Enhancement Marshes are classified as WOTS (Porter Cologne Water Quality Control Act, Section 13050-13051). Therefore, the City is required to meet certain performance standards for the Enhancement Marches that are part of the treatment process. The Brackish Pond and Outfall 003 are WOTS and WOTUS, as are portions of the bay side of the Treatment Plant levees. Proposed upgrades include oxidation pond and wetland treatment system improvements. Certain features at the AWTF have been determined by previous permits to be, or not be, WOTS or WOTUS, as defined in Table 1.

Table 1

Feature	**WOTS**	**WOTUS**
Oxidation Ponds	No	No
Treatment Wetlands	No	No
Enhancement Wetlands	Yes	No
Brackish Marsh	Yes	Yes

The project area contains both Waters of the State and Waters of the United States. Based on Clean Water Act Section 404, a Section 404 Permit is required for any fill or dredging within

jurisdictional wetlands or Waters of the United States. The United States Army Corps of Engineers (US Army Corps) has jurisdiction over wetlands which meet the three-parameter wetland criteria (hydrophytic vegetation, hydric soils, and wetland hydrology) defined in the US Army Corps Wetlands Delineation Manual and regional supplement. The US Army Corps does not regulate wetland buffers, development adjacent to wetlands, or coastal environmentally sensitive habitat areas. Additionally, such federally-permitted projects are subject to a 401-water quality certification from the Regional Water Quality Control Board to minimize impacts to Waters of the United States. Projects within California are subject to compliance to the State's Wetlands Program, consistent with the Porter-Cologne Water Quality Control Act, to minimize impacts to Waters of the State.

Because the project will affect both federal and state jurisdictional wetlands, a 401-certification and compliance with the State Wetlands Program from the California North Coast Regional Water Quality Control Board will be required. The Coastal Commission requires a minimum of one-parameter to be considered a wetland. The Proposed Project is within the Coastal Zone and requires a Coastal Development Permit, which includes development affecting Coastal Commission jurisdictional wetlands.

Delineation of Waters and Wetlands (Stillwater Sciences, August 2020)

A delineation of potential jurisdictional waters and wetlands were conducted by qualified personnel on October 2–3, 8, and 17, 2019 and March 12, 2020 in accordance with the Corps of Engineers Wetlands Guidance (Stillwater Sciences Final Delineation of Wetland Impacts, August 2020-Attachment 9). The delineation included features that could potentially meet the definition of a water protected under the Clean Water Act (and thus be subject to US Army Corps -jurisdiction), the Porter Cologne Act (State Water Quality Control Board, State-jurisdiction), Section 1602 of Streambed Alteration Agreement (California Department of Fish and Wildlife- jurisdiction) and the City of Arcata LCP/LUDG (LCP-jurisdiction). LCP-jurisdiction includes one-parameter wetlands within the coastal zone, and two-parameter wetlands within the City of Arcata. In addition, any wetland feature delineated within the Coastal Zone was reviewed for consistency against the LCP Coastal Wetland Map and the US Fish and Wildlife Service National Wetlands Inventory map.

A total of 28 data points were sampled in potential US Army Corps- and LCP-jurisdictional wetlands in the Survey area. If a data point met all three wetland parameters, it was considered an US Army Corps wetland; if a point only met one or two wetland parameters, it was considered a LCP wetland; if a point met no wetland parameters, it was considered upland. Stillwater staff delineated all potential wetlands in the Area of Potential Effect and found 3 acres of potentially US Army Corps jurisdictional waters within the project area and 2 acres of potentially US Army Corps jurisdictional wetlands adjacent to these waters. The potentially jurisdictional waters of the US are also considered to be Waters of the State. In addition, there are 10.87 acres of potential wetlands that are only subject to State- and LCP-jurisdiction. The following table details the different wetland types identified within the survey area, by acreage:

Appendix H

Soil Suitability/Slope; Erosion/Drainage/Storm Water Runoff

On April 24-26, and May 7-10, 2018, the City contracted LACO Associates, a local Civil Engineering Firm, to explore subsurface conditions within the Area of Potential Effect, focusing on the core plant/corporation yard area. In early 2020 Crawford and Associates undertook a supplemental geotechnical evaluation. Results are discussed in brief below; the full report is included as Attachment 10. This section is also informed by the soils data provided in the delineation of waters and wetlands in the Area of Potential Effect prepared by Stillwater Sciences in April 2020 (Attachment 9).

Soil Suitability and Slope

The project site is generally flat (<2% slope) and is currently developed with existing structures. Treatment plant upgrades will take place within the footprint of the existing corporation yard. Project upgrades outside of the main plant area are limited to electrical trenching and the installation of the Outfall 003 pipe. Proposed Project activities will not significantly affect soils that would be better suited for natural resource management (forestry, farming).

The Project is in the Mad River Lowland Subbasin of the Mad River Groundwater Basin. This basin includes the coastal floodplain from the Freshwater Fault north to the Mad River and is primarily composed of alluvium that is underlain by the Pleistocene Hookton Formation. This water-bearing formation consists of clay, sand, and gravel (CDWR 2004). Historically, the region consisted of bay tidelands that were eventually diked and used for various industrial and agricultural purposes. As such, soils at these locations are disturbed and contain dredge spoils and nonnative fill material. LACO's borings indicate the Site is blanketed by a layer of fill approximately 5 feet thick. The fill is underlain by marsh deposits approximately 40 to 60 feet thick. The marsh deposits are underlain by old terrace deposits. The fill consists of dense clayey sand with gravel. During boring activities, free groundwater was discovered in borings between two and eight feet.

Although the facility was developed on historic tidal flats consisting of 20-30 feet of bay mud deposits on northern section of Humboldt Bay, there are historic channels, creeks, and sloughs which traverse the area, potentially associated with granular soils that have a significantly higher permeability than the bay mud deposits which may affect flux between the oxidation ponds and bay. Soil units in the Survey area included Occidental, 0–2% slopes; Hydraquents-Wassents mucky silt loam, strongly saline, 0–3 % slopes, very frequently flooded; and Urban land-Anthraltic Xerorthents association, 0–2% slopes. The United States Department of Agriculture's Natural Resource's Conservation Service Soils Survey data mapped the Arcata Marsh and Wildlife Sanctuary as water and no mapped soil unit is described within its limits. The following soils data is taken from Natural Resource Conservation Service Soil Survey data, as referend in the Stillwater Science's 2020 report (Attachment 9).

- **Urban land soils (0 to 2% slopes).** The AWTF and levees adjacent to the Arcata Bay section of Humboldt Bay as well as the industrial areas along South G Street are included in this mapped soil unit. Urban land soils, named Anthraltic Xerorthents association, are comprised of 80% urban land, industrial and 20% anthralitic xerorthents, and similar soils. This association is found from 0 to 10 feet above mean sea level with a mean annual precipitation of 41–43 inches, a mean annual air temperature of 50–55ºF, and a frost-free period of 275–330 days. Anthraltic Xerorthents is located on backslopes of fluviomarine terraces with a parent material of coarse- loamy fluviomarine deposit or coarse-loamy dredge spoils. A typical profile consists of gravelly loamy fine sand within the upper 0–6 inches with sandy loam, gravelly sand, and sand forming the horizons below. It has a drainage class of moderately well drained.

- **Occidental soils (0 to 2% slopes)**. The Project's potential mitigation site near the McDaniel Slough and one staging area on the South I Street were located within this mapped soil unit. Occidental soils are found in areas with elevations that range from 0 to 30 feet above mean sea level and with a mean annual precipitation of 35–80 inches, a mean annual air temperature of 50–55º F, and a frost-free period of 275–330 days (NRCS 2019a).The Occidental series is primarily located along the back slope of salt marshes. A typical profile consists of peat in the upper 0–3 inches (Oi horizon) with silty clay loam forming all other horizons below. It has a drainage class of very poorly drained with a depth to water table and redoximorphic features ranging from 0–4 inches. It frequently ponds and is occasionally flooded with a slightly saline to strong saline profile. Occidental series is listed as a hydric soil in the region with an aquic soil regime. The water table from August through November is typically ≥35 inches however ranges from 0–35 inches depth in December–July.
- **Hydraquents-Wassents soils (0–3 % slopes)**. The Arcata Bay section of Humboldt Bay is mapped as this soil unit type. These soils include mucky silt loam, are strongly saline, and are very frequently flooded.Minor components of this map unit include the Hydraquents, high tidal (5%) and marine waters (5%). This soil type is comprised of 50% Hydraquents, low tidal and similar soils, 40% Wassents, and 10% minor components. It is found from 0 to 10 feet above mean sea level with a mean annual precipitation of 35–80 inches, a mean annual air temperature of 50–55ºF, and a frost-free period of 275–365 days. Hydraquents, low tidal is located on tidal flats with a parent material of mucky, silty, and clayey estuarine deposits and a slope of 0–3%. A typical profile consists entirely (0–59 inches) of mucky silty clay loam. It has a drainage class of very poorly drained, a depth to water table of 0 inches, is very frequently flooded, and strongly saline. Hydraquents, low tidal is listed as a hydric soil in the region. The Wassents series shares Hydraquents properties and qualities except for its typical profile has mucky silt loam in the upper 6 inches, has a slope of 0–1%, and a subaqueous drainage class. Wassents is also listed as a hydric soil in the region.

The potential for liquefaction-related settlement and lateral spreading exists at the project site as a result of expansive soils and the area's high probability of future seismic activity. Expansive soils, generally consisting of cohesive, fine-grained clay soils, represent a significant structural hazard to buildings founded on them, especially where seasonal fluctuations in soil moisture occur at the foundation-bearing depth. Surface soils encountered during field explorations consist of coarse and fine grained soils, with a low expansion potential. However, marsh deposits below the fill pass expansive soil characteristics.

In addition to the necessary soil and groundwater conditions, the ground acceleration must be high enough, and the duration of the shaking must be sufficient, for liquefaction to occur. Liquefaction is more likely to occur in sandy or silty non-plastic soils but may in rare cases occur in gravels and sensitive clays. Earthquake-related liquefaction could result in sand boils and minor differential settlement on the site. The project will be designed to follow pertinent building code to reduce the potential significance of earthquake related liquefaction to an acceptable level.

All new structures built at the site will adhere to current Uniform Building Code, which includes design provisions to ensure danger of settlement is reduced to a less-than-significant level. All rehabilitation/maintenance activities onsite will similarly be subject to the rehabilitation requirement of the 2020 Uniform Building Code. Adherence to the set design requirements will

ensure all site modifications will not result in liquefaction, lateral spreading, or collapse, and will reduce the effects of unstable soils on the project.

The proposed project will not create risks to life and property because although new structures are proposed, they will be designed and built to withstand the effects of shrinking soils through adherence to the standards of the 2020 Uniform Building Code. Adherence to the set design requirements will ensure all site modifications will not result in lateral spreading from expansive soils, and will reduce the effects of unstable soils upon the project. New structures will be supported on 36-inch drilled piers to address liquefaction and seismic design requirements. Driven piles were also considered in the earlier LACO report, but the drilled piers were selected based on constructability and lower environmental impact.

Drainage/Water Runoff

As noted above, the project site is generally flat (<2% slope) and the majority of the site is graveled or paved on level ground. The project proposes minimal changes to impervious surfaces and will be required to comply with post-construction requirements of the Municipal Separate Storm Sewer System (MS4) and General Construction Permit per the Northcoast Regional Water Quality Control Board (NCRWQCB). The potential impacts to drainage patterns of the Project Area are limited to utilities improvements and the construction of a small number of new structures within the footprint of the existing treatment facility related to treatment improvements, including a new electrical structure, pump stations, and new oxidation ditch, which would not result in a significant realignment of the existing drainage pattern of the site (see Table 1 below for detailed site improvements and associated areas of disturbance). Furthermore, surface water located within the envelope of the Wastewater Treatment Plant ultimately drains to the Wastewater Treatment System.

Grading and drainage improvements will occur in compliance with Title VIII Chapter 1 (Building Codes) and Title VII Chapter 5 (Stormwater Management) of the Arcata Municipal Code. As part of the building permit process, the applicant will be required to provide a plan that addresses and meets the standards of the City's waste discharge, grading, erosion control, water quality and drainage ordinances. Additionally, compliance with State and federal stormwater regulations (e.g. National Pollution Discharge Elimination System) is required during construction activity and long-term operation of the project.

All work that is performed inboard of the levees surrounding the entire treatment plant (core work area and corporation yard) drains to the wastewater system. Construction activities, including cut, fill, removal of vegetation, and operation of heavy machinery would disturb soil and, therefore, have the potential to cause erosion. These activities would be performed in using BMPs prescribed in the Arcata Municipal Code, NCRWQCB regulations and the California Building Code, and a Stormwater Pollution Prevention Plan would be required to be prepared and implemented during construction. BMPs may include: silt fences, straw wattles, soil stabilization controls, site watering for controlling dust, and sediment detention basins. Work will occur predominantly during the dry season, from May 15 through October15 to avoid substantial erosion or topsoil loss associated with rainfall events. No ground disturbing work will occur during qualifying rain events. Associated permits administered by the California State Water Resources Control Board (Water Board) related to regulation of drainage/water runoff are discussed below.

1. Discharges from construction sites that disturb one acre or more of total land area are subject to the Water Board's National Pollutant Discharge Elimination System (NPDES)

permit for Discharges of Stormwater Runoff Associated with Construction Activity (Order No. 2009-009-DWQ). The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer prior to the beginning of construction. The SWPPP must include BMPs to reduce pollutants and any more stringent controls necessary to meet water quality standards. Dischargers must also comply with water quality objectives as defined in the North Coast Region Basin Plan. If Basin Plan objectives are exceeded, corrective measures are required.

2. In accordance with the Water Board's Construction General Permit requirements, post-construction peak runoff volume will not exceed pre-construction peak runoff volume and will be required to comply with the post-construction requirements of the MS4 permit. The Project would be designed to meet Water Board stormwater requirements and to address any changes in the area of impervious surface. The Project would not be expected to cause on- or off-site flooding given that post-construction runoff would be detained on site and limited to pre-construction runoff rates, and that proper installation and long-term maintenance of the storm water controls would be conditionally required.

Due to the flat topography, the lack of significant cut or fill slopes and the requirements of the City and State with regard to stormwater management and erosion control, soil erosion and loss of topsoil will not occur. In addition, based on the above considerations, the Project would not significantly impact drainage conditions based on project scope, existing site conditions, and post-construction requirements of the MS4 permit and Construction General Permit. The project would not result in erosion, siltation, or flooding on- or off-site; significantly increase runoff; or create runoff water that would exceed capacity of drainage systems.

Table 1

ARCATA WASTEWATER TREATMENT FACILITY IMPROVEMENTS LIST OF IMPROVEMENTS/STRUCTURES (Carollo Engineers, 2020)

Facility	Plan Dimensions (feet)	Foundation Depth (feet)	Pile Supported
Phase 1			
Headworks – Grit removal and flow split	35 ft. x 45 ft.	El 3.8	yes
Primary clarifier – foundation rehabilitation	26 ft. diameter	El -5.2	yes
New outfall pipe and outfall	1000 ft.	varies	no
New electrical building / generator	43 ft. x 96 ft.	El 6.0 (at conduit trench)	yes
New UV in existing CCB structure	30 ft. x 70 ft.	Existing structure	existing

Hauser pump station – wetland outlet structures	Three – 6 ft. by 12 ft.	0 to 10 ft. below grade	yes
Outfall 002 flow split structures	Two – 10 ft. by 10 ft.	5 ft. below grade	yes
Pond transfer structure	10 ft. by 12 ft.	10 ft. below grade	yes
Electrical duct bank	4,000 LF	Varies 2 ft. to 5 ft. below grade	no
Phase 2			
Oxidation ditch	50 ft. x 200 ft.	TBD (Assume El 3.0)	yes
Secondary Clarifier	75 ft. diameter	TBD (Assume El -10)	yes
Thickener (Slab on grad)	25 ft. x 50 ft.	TBD	yes
Chemical storage facility	25 ft. x 50 ft.	TBD (Assume El 6.0)	yes
RAS pump station	40 ft. x 26 ft.	TBD (Assume El -6.0)	yes
WAS pump station	18 ft. x 18 ft.	TBD (Assume El -6.0)	yes

Table 2: Preliminary USACE-jurisdictional waters of the U.S., including wetlands, waters of the State, and LCP-jurisdictional wetlands in the Survey area

Description	Acreage
Waters	
Arcata Bay (Humboldt Bay) (W-1) [1, 2]	0.3
Brackish Pond (W-2) [1]	0.1
Western Pond (W-3) [1]	1.8
North Pond (W-4) [3]	0.7
Roadside Ditch (W-5) [1]	<0.1 (0.04)
Tributary to Butcher Slough (W-6)	<0.1 (0.01)
Arcata WWTP enhancement marshes (SW-01 and SW-02)[3, 4]	0.6
AWTF oxidation ponds and treatment marshes (SW-03 through SW-11)	3.0
***Wetlands*[1]**	
Seasonally saturated palustrine persistent emergent wetlands (SS-01 through SS-05)	0.7
Seasonally flooded palustrine persistent emergent wetlands (SF-01)	0.4
Semipermanently flooded palustrine persistent emergent wetlands (SP-01)	<0.1 (0.06)
Seasonally saturated/flooded palustrine broadleaved deciduous scrub-shrub wetlands (BL-01 and BL-04)	0.6
Estuarine regularly flooded persistent emergent wetlands (EP-01 and EP-02)	0.3
Additional LCP-jurisdictional wetlands	
One-parameter wetlands within the City of Arcata Coastal Zone (OP-01)	1.5
One-parameter riparian within the City of Arcata Coastal Zone (R-01 through R-14)	0.8
Two-parameter wetlands within the City of Arcata Coastal Zone (TP-01 through TP-13)	5.0

[1] Subject to Section 404 of the CWA thus under USACE-jurisdiction as well as State- and LCP-jurisdiction.
[2] Subject to Section 10 of the Rivers and Harbors Act and USACE-jurisdictional
[3] Subject to State- and LCP-jurisdiction
[4] The constructed freshwater WWTP enhancement ponds in the Survey area were not considered USACE-jurisdictional waters and are described in Section 3.2.1.2.

The Proposed Project contains four elements that may result in permanent wetland impacts per Stillwater's impacts assessment: two elements that may impact WOTUS and two elements that may impact WOTS. Total anticipated area of permanent impact is estimated at approximately 0.07 acres. Additional wetland areas within the Area of Potential Effect may be temporarily impacted by construction activities but will be re-vegetated upon project completion, as discussed in greater detail below.

- *Wetlands anticipated to be permanently impacted.*
  Two wetlands categorized as WOTUS may be permanently impacted through project activities. The first element is the installation of a new effluent outfall pipe into the pre-existing Brackish Marsh, which will result in approximately .04 acres of permanent impacts to WOTUS and WOTS. The second element is electrical upgrades near Treatment Marsh #4, which will result in approximately .0001 acres of permanent impacts to WOTUS and WOTS. Actual disturbance will not be calculable until project activities are underway, however, permanently impacted wetlands will be replaced on a minimum 1:1 basis.
  Two additional wetland areas categorized as WOTS may be permanently impacted through project activities. The first area is associated with oxidation pond aeration improvements that require installation of motor actuators in discrete locations

surrounding the oxidation ponds; this will result in approximately .0004 acres of permanent impacts to WOTS. The second potential permanent impact is related to improvements to the Hauser Marsh outlet, which requires vegetation maintenance and recontouring. This will result in approximately .035 acres of permanent impacts to WOTS. Actual disturbance will not be calculable until project activities are underway, however, permanently impacted wetlands will be replaced on a minimum 1:1 basis.

- *Wetlands anticipated to be temporarily impacted.*
  Calculated temporary impacted areas total approximately 0.44 acres. This area totals potential impacts identified by Stillwater staff (.1 acres of US Army Corps-jurisdiction wetlands, 0.05 acres of additional WOTS, and 0.11 acres LCP-jurisdiction wetlands) in addition to approximately 0.18 acres of temporary disturbance in the vicinity of the outlet of Hauser Marsh. All temporarily disturbed areas will be revegetated prior to completion of work, as currently required per City Best Management Practices.

All permanent and temporary wetland impacts and potential mitigation thereof resulting from Project activities will be fully reviewed through the formal US Army Corps and North Coast Regional Water Quality Control Board Clean Water Act Section 404 and 401 permitting processes, in addition to review and approval by the California Coastal Commission through their Coastal Development Permit process.

In addition to these existing regulatory programs, this project will be conditioned to create a Wetlands Mitigation and Monitoring Plan to address potential impacts to wetlands, ensuring no net loss of wetlands through a minimum 1:1 replacement of permanently impacted wetlands onsite at one or both of the locations identified In Figure 1 (Potential Wetland Mitigation Locations).

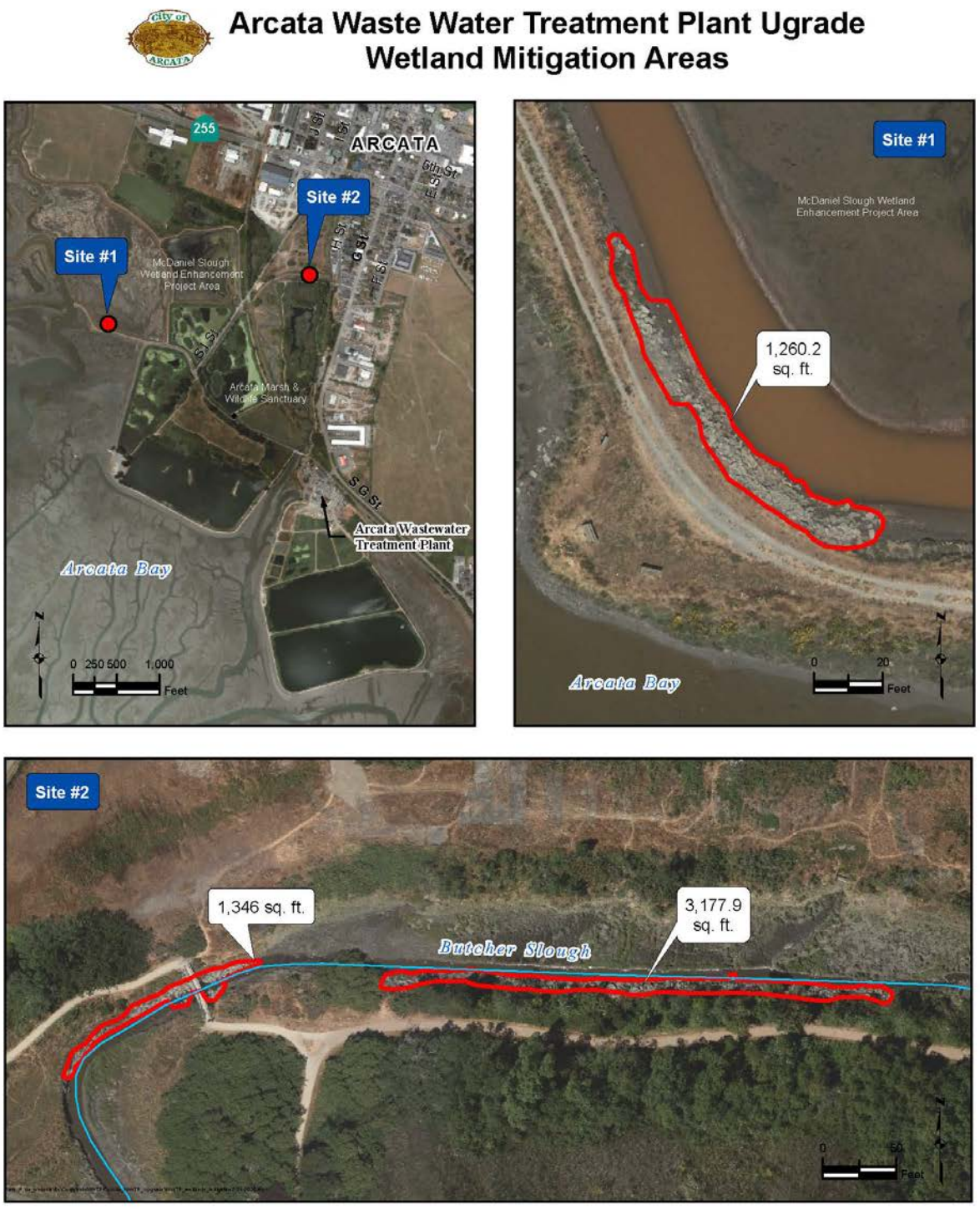
The Plan will require avoidance and minimization of impacts to wetlands during construction, restoration to pre-Project conditions at the conclusion of construction, and compensation of wetlands such that no net loss occurs. Implementation of the Plan, in addition to existing regulatory processes and permits will ensure no net loss and no significant impact to wetlands result from implementation of the Proposed Project.

Compensatory Mitigation for Wetlands Impacts

As specifically determined during preparation of construction bid documents, the City shall identify specific wetlands to be directly impacted by construction activities and compensate for these permanent wetland impacts through restoration, rehabilitation, and/or creation of wetland at a ratio of no less than 1:1. A Wetlands Mitigation and Monitoring Plan shall be prepared prior to project construction in coordination with the North Coast Regional Water Quality Control Board, US Army Corps of Engineers, and California Coastal Commission. Compensation for wetlands shall occur so there is no net loss of wetland habitat at ratios to be determined in consultation with the permitting authorities. Wetland mitigation monitoring will be conducted for a minimum of five years to ensure successful establishment. Specific monitoring and remediation procedures will be developed in coordination with permitting authorities to ensure that the plan meets regulatory agency requirements.

The Wetlands Mitigation and Monitoring Plan shall be acceptable to the permitting authorities and include the following elements: proposed mitigation ratios; description and size of the restoration or compensatory area; site preparation and design; success criteria; monitoring schedule; and remedial measures. The Plan shall be implemented by the City.

Figure 1: Potential Wetland Mitigation Locations



Appendix I
Clean Air

The proposed project includes improvements to the AWTF that will involve new construction (new electrical building, new headworks, etc.) to augment the existing public wastewater treatment facility. The scale of the new improvements is small in comparison to the scale of the existing facility.

The project site is located within the North Coast Air Basin and within the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD). The North Coast Air Basin is currently listed as being in "attainment" or is "unclassified" for all Federal health protective standards for air pollution (ambient air quality standards). According to the U.S. EPA, Humboldt County is not listed under "Currently Designated Nonattainment Areas for All Criteria Pollutants" (see Attachment 36; USEPA, 2020). However, under State ambient air quality standards, Humboldt County has been designated "nonattainment" for particulate matter less than ten microns in size (PM_{10}) (see Attachment 36; NCUAQMD, 2020).

As with any new development project, the proposed project has the potential to generate pollutant concentrations during both construction activities and long-term operation. Both construction and operational emissions for the proposed project were estimated using the California Emissions Estimator Model (CalEEMod), which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects (see Attachment 34; CAPCOA, 2017). The model can be used for a variety of situations where an air quality analysis is necessary or desirable, such as NEPA documents.

In determining whether a project has significant air quality impacts on the environment, planners typically apply their local air district's thresholds of significance to projects in the environmental review process. However, the NCUAQMD District has not formally adopted significance thresholds for land use or infrastructure projects. Since the NCUAQMD has not adopted significance thresholds, the stationary source thresholds in District Rule 110 (New Source Review and Prevention of Significant Deterioration) are used for the purposes of this analysis to determine the potential impacts from construction and operation of the proposed project (see Attachment 33, pgs. 7-8; NCUAQMD, 2015).

Since the project is proposed in an area that is "attainment" or "unclassified" for all Federal health protective standards for air pollution (ambient air quality standards), the project is not subject to General Conformity Determination. Although, if the project were located in a nonattainment area, the estimated emissions from construction and operation of the project (see Attachment 34; CAPCOA, 2017) would be well below the USEPA De Minimis Thresholds (see Attachment 37; USEPA, 2020). For example, maximum daily PM_{10} emissions from construction of the project would be 0.23 tons per year and the De Minimis Threshold for PM_{10} in a serious non-attainment area is 70 tons per year.

Construction

Construction activities associated with the proposed project will result in emissions of ROG, NOx, CO, SOx, PM_{10}, and $PM_{2.5}$. It is estimated that the project will occur in two phases from 2021 to 2025 and would be fully operational in 2025. The results of the emissions modeling (see Attachment 34; CAPCOA, 2017) show that the construction emissions from the project would be well below the NCUAQMD thresholds, on both a daily and annual basis (see Attachment 33, pgs. 7-8, NCUAQMD, 2015). For example, maximum daily PM_{10} emissions

from construction of the project is estimated to be 1.3 pounds per day and the NCUAQMD threshold for PM_{10} is 80 pounds per day.

During the proposed construction activity, there is the potential for dust to be generated that could impact nearby sensitive receptors (e.g., recreationists at AMWS and Humboldt Bay Trail). NCUAQMD Regulation 1 prohibits nuisance dust generation, such as that generated by construction activity. The City's standard condition for controlling dust emissions during construction is included in Arcata General Plan Policy AQ-2f (see Attachment 14) and will be implemented by the City during construction of the project. The following control measures from General Plan Policy AQ-2f shall be followed to reduce dust generation during demolition, excavation, or earthmoving construction activities:

a. Water all active construction areas twice per day and use erosion control measures to prevent water runoff containing silt and debris from entering the storm drain system;
b. Cover trucks hauling soil, sand, and other loose material;
c. Pave, water, or apply non-toxic soil stabilizers on unpaved access roads and parking areas;
d. Sweep paved access roads and parking areas daily; and
e. Sweep streets daily if visible material is carried onto adjacent public streets.

Therefore, in compliance with General Plan Policy AQ-2f, the project would not result in adverse air quality impacts.

Operation

Operational activities at the site post-construction will not result in greater air pollution concentrations than the existing baseline condition, as the AWTF will function relatively similarly to the way it does now, with the exception of the proposed UV disinfection.

UV disinfection requires significantly more energy than the current chlorine treatment; however, any effects to air quality that may be associated with increased energy use (i.e. emissions that may be associated with electricity production) would be offset through the City's enrollment in the Redwood Coast Energy Authority (RCEA) Community Choice Energy REPower+ service, which would provide 100% renewable energy to the AWTF. In addition, the City proposes to install onsite solar panels that will offset approximately 60 kW of energy. See the section entitled "Energy Consumption" for further information.

The results of the emissions modeling (see Attachment 34; CAPCOA, 2017) show that the operational emissions from the project would be well below the NCUAQMD thresholds, on both a daily and annual basis (see Attachment 37, pgs. 7-8, NCUAQMD, 2015). For example, annual PM_{10} emissions from operation of both phases of the project is estimated to be 0.09 tons per year and the NCUAQMD threshold for PM_{10} is 15 tons per year.

Therefore, operation of the project would not result in adverse air quality impacts.

In summary, the estimated emissions from project construction and operation would be below NCUAQMD stationary source thresholds and USEPA De Minimis Thresholds. However, to reduce fugitive dust generation during construction activity, the project will be required to comply with the air quality control measures in Policy AQ-2f of the City's General Plan. These control measures are existing regulatory requirements and do not need to be included as mitigation for

the project. Therefore, the construction and operation of the project would not result in adverse air quality impacts.