CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
1385 8th STREET SUITE 130
ARCATA, CA 95521
VOICE (707) 826-8950
FAX (707) 826-8960

Th12a

CDP 1-20-0711 (CITY OF ARCATA)

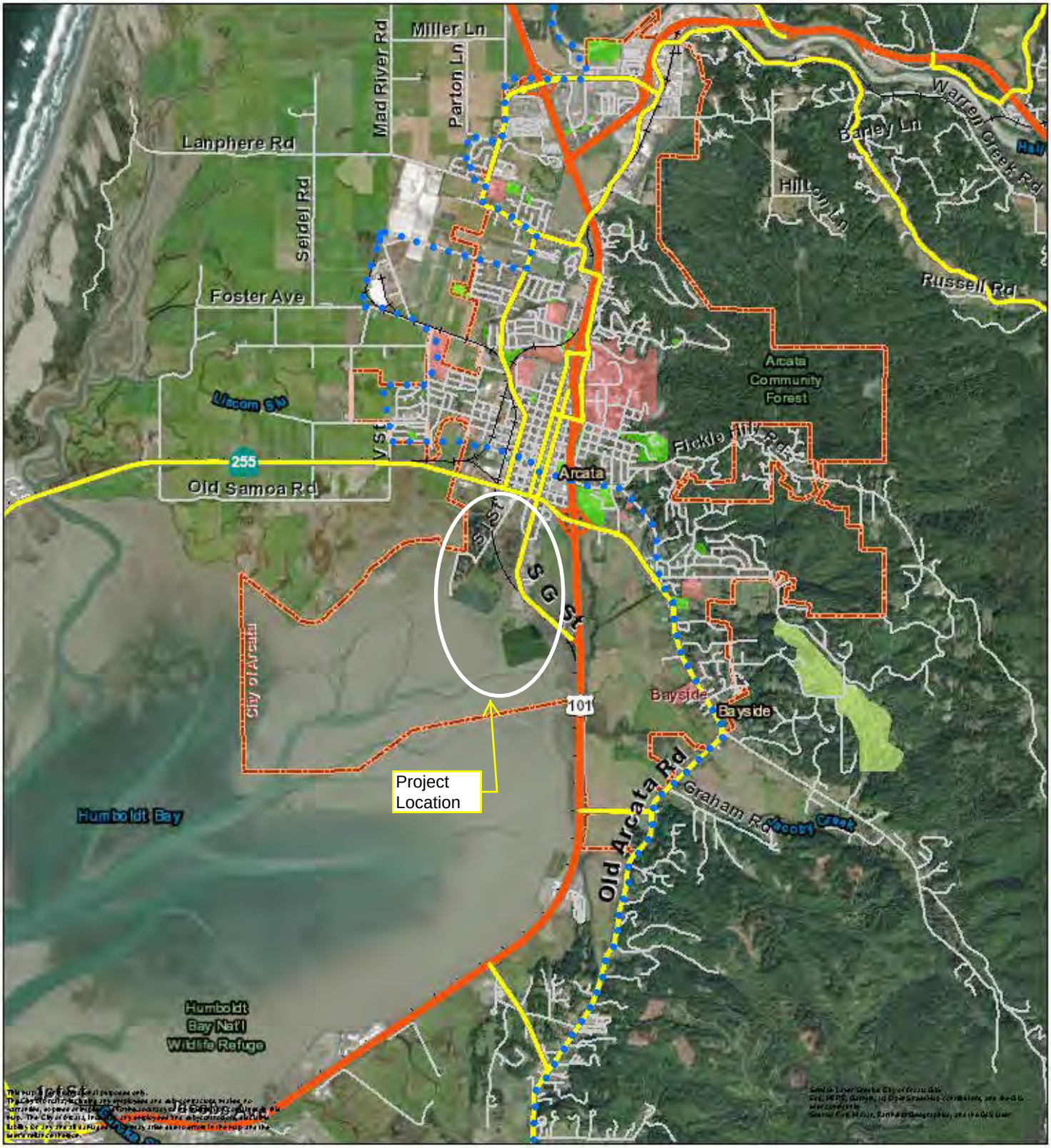
SEPTEMBER 8, 2022

EXHIBITS

Table of Contents

EXHIBIT NO. 1

CDP APPLICATION NO.
1-20-0711
(City of Arcata)
Regional and Vicinity Maps



CITY OF ARCATA

Parcel Finder Web Application

ArcGIS WebMap

RF 173,138 1 Inch = 6,096 feet

0 2,300 4,600 6,900 ft

Date Created: 3/24/2022 Created By:

Cities

Cities

Coastal Zone Boundary

Main Roads

Freeway

Major Roads

Freeway Ramps

Railroad

Road

Parks

Golf Course

School

Arcata City Limits

EXHIBIT NO. 2

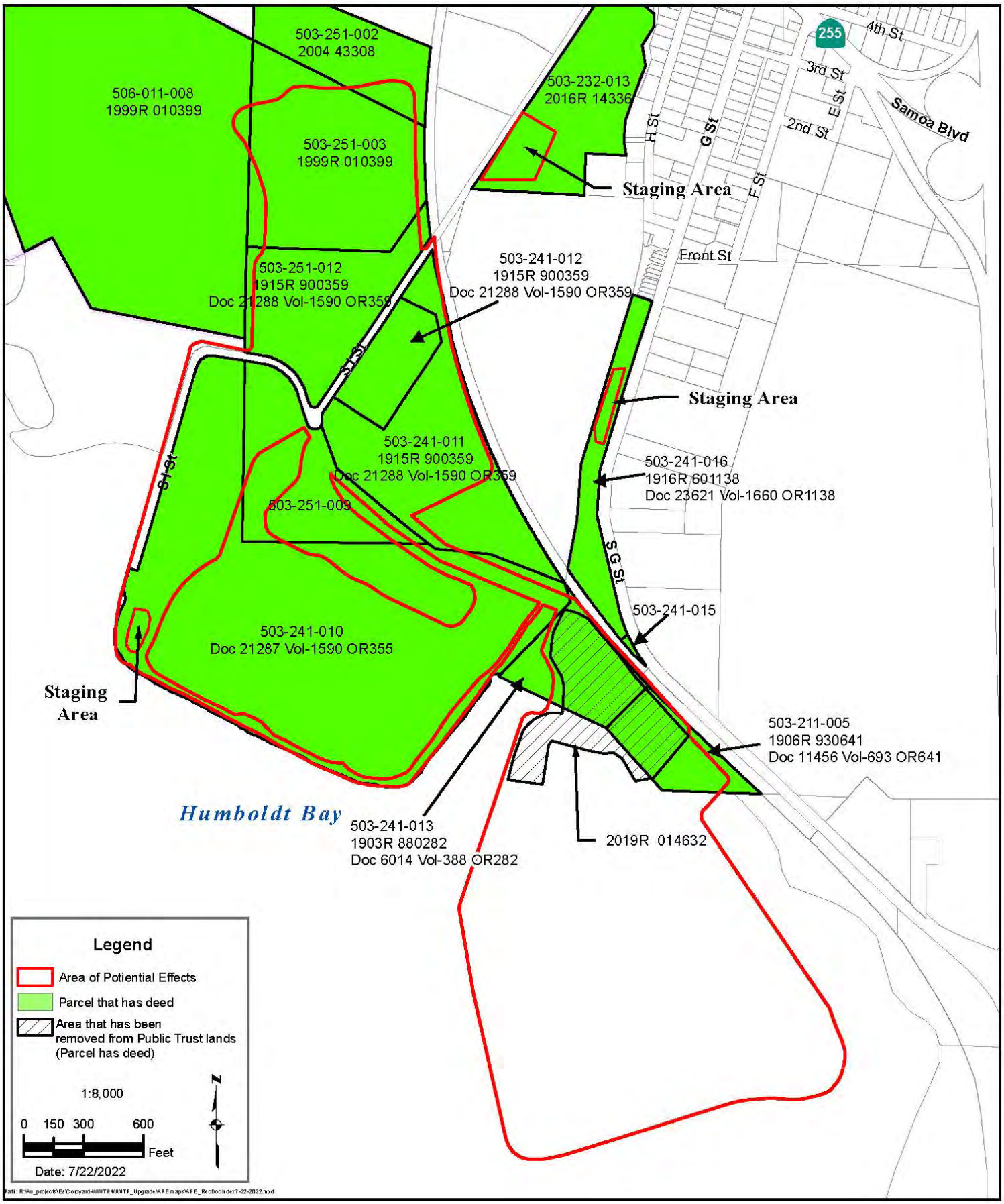
CDP APPLICATION NO. 1-20-0711

(City of Arcata)

Location and Affected Parcels Maps

Arcata Wastewater Treatment Facility Upgrade

Recorded Documents Index



LEGEND

Existing Ponds
- AMWS Enhancement Wetlands
- Oxidation Ponds
- Treatment Marsh
- Brackish Marsh
- Wastewater Treatment Facility

AWTF Facilities
1. Main Office
2. Influent Storm Pump
3. Influent Screw Pumps
4. Bar Screens

AWTF Facilities (Continued)
5. Grit Chamber
6. Primary Clarifiers
7. Primary Anaerobic Digester
8. Secondary Settling Digester
9. Sludge Drying Beds
10. Generator Building
11. Boiler Room
12. Chlorine Storage Building
13. Chlorine Contact Basin

N

0 300 600 Feet

EXHIBIT NO. 3

CDP APPLICATION NO. 1-20-0711

(City of Arcata)

Project Site Overview

EXISTING AWTF SITE LAYOUT

FIGURE 4.1

CITY OF ARCATA
WASTEWATER TREATMENT FACILITY IMPROVEMENTS PROJECT

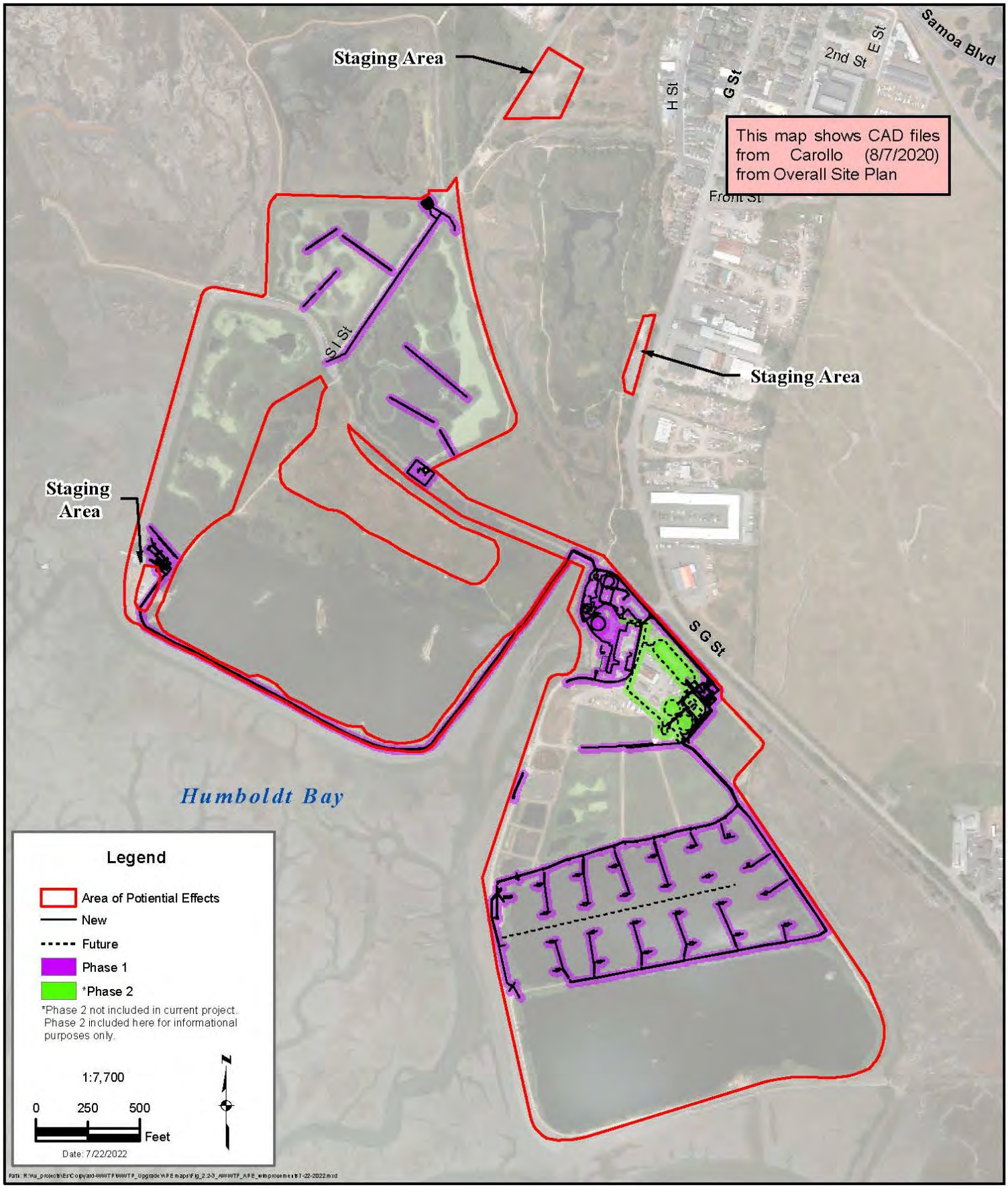
carollo

0516ff14-9913.ai

Arcata Wastewater Treatment Facility Upgrade

Area of Potential Effects

2019 Aerial Map & AWTP Improvements



Attachment 1

Updated Project Description Section 3.5

Revised July 2022

A. The following Updated Project Description (UPD) uses Section 3.5 (specific to Phase 1 activities) from the City's Mitigated Negative Declaration (MND) as well as the 90% Plan Set (prepared by Carollo) as its basis and adds additional items the City plans to complete with internal staff and therefore will not be included as part of the bid document for Phase 1. Other additions to the UPD include items not previously listed as well as those which require further clarification, based on comments in the CDP Response letter, dated January 20, 2021. The UPD has been reorganized as follows:

This UPD (Attachment 1) has also been supplemented with the following additional attachments:

- Attachment 2 - Carollo 90% Electrical and Instrumentation Plan Sheets 01E02 – 01E20 dated November 2020. *(Note: this was provided to Coastal Commission Staff on June 7, 2021)* The overall site plan is on sheet 01E01 and 01N01. Lighting plans can be found on sheets 10E08-9, 11E03, 14E06-7, 16E05, 17E02-3, 26E02, 27E03-4.
- Attachment 3 - Crawford Geologic Report, July 2021
- Attachment 4 - Carollo Flow Schematic and Memo, dated February 22, 2021, *Note: this was provided to Coastal Commission Staff on June 7, 2021)*
- Attachment 5 - Carollo memo for construction phasing for Phases 1 (Carollo, 2021) *(Note: this was provided to Coastal Commission Staff on June 7, 2021)*
- Attachment 6: Permitting History as provided by CCC staff January 22, 2021

EXHIBIT NO. 4
CDP APPLICATION NO. 1-20-0711
(City of Arcata)
Revised Project Description Excerpts

3.5.1 Phase 1 Enhanced Natural System with Parallel Treatment

The Proposed Project is intended to improve the overall functioning of the City's existing Arcata Wastewater Treatment Facility (AWTF) system, which includes both mechanical and natural treatment systems. Upgrades are proposed to be undertaken in two separate Phases, with water quality improvements resulting from Phase 1 dictating next steps and final designs of Phase 2. At this time, the City is only requesting a coastal development permit for Phase 1 activities.

A variety of improvement alternatives were evaluated to address effluent violations over the past several years. The chosen alternative resulted from extensive discussions with community and consultation with the Regional Board and was the only alternative that met the 2019 NPDES permit objectives year-round while maintaining the constructed wetlands system.

The treatment system is currently comprised of natural land-based systems (oxidation ponds, treatment wetlands, enhancement wetlands), all of which have different treatment capacities during dry- and wet-weather flows. The capacities of the vegetated land-based systems have decreased over time as dense vegetation has filled in portions of the treatment units. The project is intended to return the original hydraulic capacity to the land-based systems and "boost" the treatment system to consistently meet NDPES permit requirements. Oxidation Pond 1 will be used for treatment and storage of peak wet weather flows. The new UV disinfection system will be able to treat instantaneous wet weather flows up to 9.8 mgd. The Proposed Project increases the hydraulic pumping capacity of the Enhancement Wetlands so that all flows below the peak wet weather flow (5.9 mgd) can receive enhanced treatment. This design also allows for adaptive management of secondary treated flow around the Enhancement Wetlands directly to the Brackish Marsh, which will protect beneficial uses, including enhanced treatment of the Enhancement Wetlands. Figure 3.5-1 provides the revised flow schematic of the Proposed Project. Please note that although the project will increase flows through the Enhancement Wetlands, it will not result in an increased treatment capacity of the overall system (i.e., design flows remain the same).

Many of the proposed improvements will occur within the existing AWTF footprint, consisting of typical repair and replacement, maintenance or small additions to existing structures, and new small structures. This includes rehabilitation of the headworks and primary clarifier, new grit removal, upgraded digester, new UV disinfection system, digester/solids improvements, Pump station 1 and pond pump station pump replacement, new generator, electrical controls, SCADA, and utility additions. These improvements are located in already built/paved environments and neither construction nor operation of these improvements will result in adverse physical changes to the environment. Nevertheless, they are part of the Proposed Project analyzed here and a full list of repair and activities are discussed in additional detail in Section 3.5.5.

Changes to Oxidation Ponds configuration, rerouting of underground pipelines and electrical duct bank installation, construction of Outfall 003, improvements to the treatment wetlands and enhancement wetlands, proposed wetland mitigation areas for any areas disturbed by construction activities, staging and stockpiling areas and removal of an existing pedestrian bridge deck over Butcher Slough have the potential to result in adverse physical changes to the environment. These were the primary focus of the Proposed Project analyzed in the MND and all found to be less than significant with the proposed mitigation.

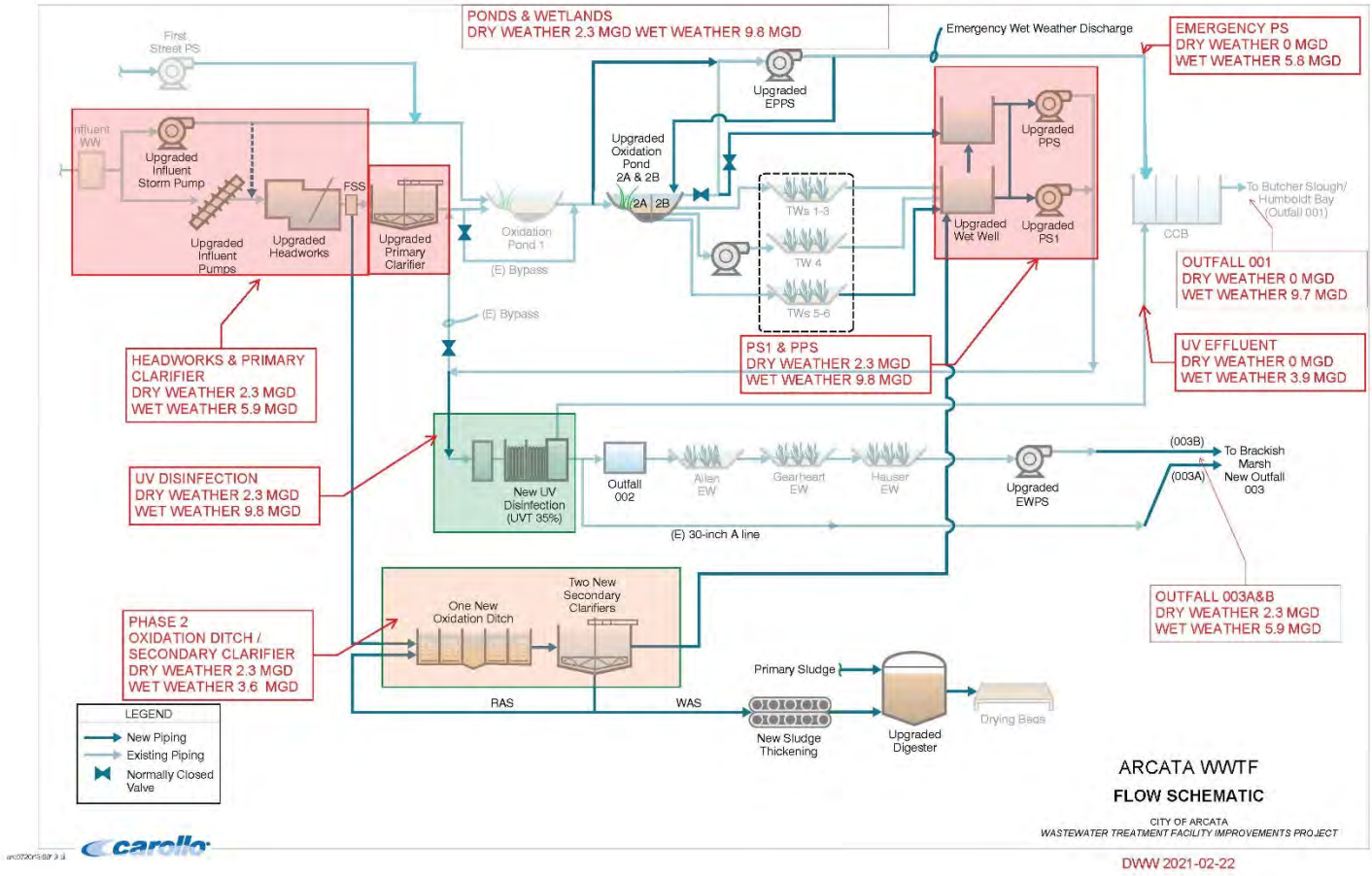


Figure 3.5-1: Flow schematic for the preferred alternative. (From Attachment 5 Carollo Engineers, 2021).

The Proposed Project will be completed in two separate phases. The Figures provided include both Phase 1 and Phase 2. Please note this CDP application is intended to permit only Phase 1 but shares relevant detail of both Phases with the level of detail for Phase 2 that staff and consultants have at this time. The location of these elements is depicted on MND Figures 3.5-2 through 3.5-6 (11x17-inch format). Figure 3.5-2 shows the Overall Site Plan. Figure 3.5-3 is an overview of the AWTF. Figure3.5-4 shows a detail of the Phase 1 and improvements to the central portion of the wastewater treatment facility, Figure 3.5-5 includes the portion of the project within the Arcata Marsh and Wildlife Sanctuary (AMWS). Figure 3.5-6 is a detail of improvements for Outfall 003.

Phase 1 construction is proposed to begin in 2022 and to be completed in 2025. Phase 1 will focus on rehabilitation of the current natural system and reconfiguring the flow to a single path. Currently treated wastewater is chlorinated, routed through the enhancement marshes then sent back to the treatment plant for re-chlorination and de-chlorination and discharged to Outfall 001. The proposed alterations as negotiated with the Regional Board provides a single path for treatment through ponds, treatment wetlands, to UV disinfection, then to the enhancement marshes for discharge at Outfall 003. Rehabilitation will also be done to the natural treatment system facilities (i.e., oxidation ponds and the treatment and enhancement wetlands) and to aging infrastructure within the footprint of central treatment plant. These improvements generally involve replacing and installing new equipment to improve the overall functioning of the existing treatment system (i.e., pumps, aerators, electrical equipment, instrumentation/controls and monitoring equipment).

To provide clarity on the scope of proposed treatment system improvements for Phase 1, proposed activities have been divided into A) construction outlined in the 90% design plans (Carollo Engineers, 2021) and B) City-

sponsored improvements outside of Carollo's scope. Improvements have been further differentiated into mechanical vs. natural treatment to clarify general location and environmental sensitivity of improvements. Generally speaking, mechanical system improvements within the footprint of the treatment-plant and corporation yard will be undertaken on highly disturbed land with less potential for impacts to sensitive coastal habitat and are located in areas that are not accessible to the general public for recreation/coastal access.

1. Treatment Facility Improvements Outlined in 90% Design Plans

Improvements to Mechanical Systems and Corporation Yard

1. Rehabilitation of the headworks and primary clarifier, new grit removal, pump replacement, new valves, electrical controls, SCADA, and utility additions.
2. Addition of an electrical service drop from PG&E.
3. Construction of a new main electrical building and control room with diesel-powered emergency generator rated at 0.75 MW
4. Modification to existing generator building including new electrical equipment and removal of an existing natural gas powered 150 KW generator.
5. Installation of a 9.8 mgd ultra-violet (UV) disinfection system into one half of the existingchlorine contact basin (CCB), 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.
6. Construction of a New UV Electrical Building. The UV building will be a small building adjacent to Chlorine Contact Basin and will be used to house control panels. This may instead be a three-sided covered shelter, which will be finalized as part of the Carollo 100% Design plans.
7. Replacement of two existing pumps to the AWTP stormwater treatment and pumping system, sized for an anticipated 1% probability storm event. The existing storm drain Pump Station, located adjacent to the CCBs, will have the two existing pumps replaced to provide the required stormwater pumping capacity to Oxidation Pond #1.
8. Replacement of stormwater pumps (Carollo's 90% Plan Sheet 25M01).
9. Water System Modifications. The replacement of the incoming 4" service pipe and installation of a backflow preventer system that is located just outside the of the perimeter fence, west of the entrance gate to the Corp yard (Sheet 02C02)
10. Demolition of the Mill Shed (Demolition of Mill Shed is currently depicted in the Carollo 90% plan set, however the City is in process of developing an alternative that will allow for this structure to remain in place. However, we would like this item to remain as approved for Phase 1).

Improvements to Natural Systems (Oxidation ponds, Enhancement Wetlands, Treatment Wetlands, Outfalls, Miscellaneous Infrastructure in Marsh and Wildlife Sanctuary) or that take place in proximity to Natural Systems

1. Installation of 24 new electrical connections to allow up to 24 new 12.5 Hp mixer aerators in Oxidation Pond #2. This will improve treatment within Oxidation Pond #2.

2. Demolition and removal of an old wooden pedestrian bridge deck structure over Butcher Slough. Pipes will be sandblasted, recoated, and the existing conduit replaced. Chain link fencing will be added at each of the bridge footing locations to keep people off pipes.
3. 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. Additional details are included in the electrical plans (see Attachment 2).
4. Excavation and contouring of an approximate 500 square feet basin at the outlet of the Hauser Enhancement Wetland for improved water quality and maintenance.
5. Replacement/upgrading of vertical pumping stations at Pump station 1 and pond pump station within the plant and at Hauser Enhancement Wetland Pump Station with variable speed pumping systems.
6. Placement of approximately 1500 LF 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. These will be similar to what was recently constructed at Oxidation Pond #2 and previously in Hauser Enhancement Wetland.
7. Construction of discharge pipe to Outfall 003, connecting near the northeast corner of Hauser Enhancement Wetland, and running along I Street to brackish marsh at Outfall 003.
8. Construction of Outfall 003 and related rock slope protection in the southeast corner of Brackish Marsh.
9. Removal of Pump Station 2. Phase 1 will include removal of Pump Station #2 (Marsh 5/6 effluent Pump Station). Marsh 5 and 6 will gravity flow to Pump Station #1 for effluent pumping. Details are depicted on Carollo's 90% Plan Sheets 15D01, 02C05, and 02C08.
10. The Installation of oxidation pond outlet structure as shown on Carollo's 90% Plan Sheets 14C01 and 14C11, including new weir gates and automated sensor and controls. A pond level monitoring station includes a level transducer in Oxidation Pond #2 to monitor pond levels, as shown on Carollo's 90% Plan Sheet 14C04.
11. A replacement dock will be constructed in Oxidation Pond #2 shown on Carollo's 90% Plan Sheets 14C03 at the same location as the existing dock.
12. Pump Station wet well #2 will be abandoned in place (Sheet 15D01 General Note #2).
13. Repairs to Treatment Wetland 3 manifold piping will be occur at the influent end of Treatment Wetland 3 (Sheet 02C05).
14. Installation of New Transfer Structures Between Enhancement Wetlands. Three outlet structures will be added to the south end of Hauser Marsh to supply water to upgraded Pump Station (Depicted in Carollo's 90% Plan Sheet 18C06) At this location, the City will also add an above-ground sampling station with protective fencing or a fiberglass enclosure. One transfer station will be added between Gearheart and Hauser marshes to increase flow options (Sheet 02C15) and two at the front end of Allen Marsh to provide flow options (Sheet 02C16).
15. Phase 1 electrical work is found in Carollo's 90% Electrical and Instrumentation Plan Sheets (203 pages), dated November 2020. New electrical power distribution duct banks include work both inside the treatment plant/corp yard envelope and new electrical around the oxidation ponds. The overall site plan is on Sheet 01E01 (p 6) and 01N01.

See Electrical Plans Set Figures 01E02 – 01E20 for details (Attachment 2).

2. City-Sponsored Treatment Facility Improvements (Not Outlined in 90% Design Plans)

The following are additional items not shown on Carollo's 90% drawings but have been shown on new Figure X-1. These are primarily City-sponsored projects, not part of the bid package being prepared by Carollo.

Improvements to Mechanical Systems and Corporation Yard

1. The corporation yard, auto shop and maintenance shop will remain in place, with only a new electrical service from the new electrical building.

Improvements to Natural Systems (Oxidation ponds, Enhancement Wetlands, Treatment Wetlands, Outfalls, Miscellaneous Infrastructure in Marsh and Wildlife Sanctuary)

2. The Entrance sign and block wall near Outfall 003 will be removed/relocated north of its present location.
3. Installation of a new pump at Treatment Wetland 4. The City will install a new pump at the same location to replace the aging pump after electrical has been upgraded.
4. The maintenance shop will remain in place.

Please note: The improvements to the bathroom at the end of I Street is part of the previously-applied-for Boat Launch project and is not a part of the AWTF upgrades project.

3.5.2 Relationship of Phases 1 and 2

Note that Phase 2 is no longer a part of this revised project description/application, but the below details describe the interdependence.

The 2017 project Facility Plan identified four options for the Upgrade Project and City Council directed staff to move forward with the option that preserved and optimized the efficiency of the natural system (Phase 1) and added parallel mechanical secondary treatment (oxidation ditch) (Phase 2).

The first proposed project design considered was all mechanical; abandoning the land-based wetlands treatment, which was the least expensive alternative. The second alternative, which has been the design pursued, was to utilize the land-based pond/wetland treatment process. However, to continue with this preference, changes, as proposed, were needed to reduce future repair and maintenance activity, which had been deferred.

During pre-design, the project team identified that a significant amount of Biological Oxygen Demand/Total Suspended Solids (BOD/TSS) treatment occurs in the chlorine contact basin. Further investigation showed that meeting effluent limits after replacing chemical disinfection with UV would be inconsistent with water quality requirements. The City-sponsored Performance Expected and Operational Requirements Study (Middlebrooks, 2017) showed that aeration in oxidation ponds could theoretically make up for loss of chemical BOD/TSS treatment. However, there was not enough data to confirm that aeration improvements in oxidation ponds could consistently (seasonally) remove ammonia to low effluent limits. During pre-design, Pond 1 aerator replacement and a Pond 2 baffle wall installation were identified as project components that could "boost" or optimize the treatment capacity of the oxidation ponds. These components were identified as projects the City could complete in advance of the required upgrades. The City subsequently negotiated an agreement with the Regional Board to complete these as

compliance projects. Pre-design identified four options for the Upgrade Project and City Council directed staff to move forward with the option that preserved and improved the efficiency of the natural system and added parallel mechanical secondary treatment (oxidation ditch).

The reasoning for dividing the project into two phases is due to public and council comments that efforts should be made to improve and optimize performance of the natural system to meet the NPDES permit limits (rather than shifting to an entirely 'traditional' wastewater treatment plant). Ammonia removal is the new limiting criteria set forth by the Regional Water Quality Control Board which the natural system may not meet all the time.

Phase 1 will include replacing old equipment, converting to UV disinfection, discharging to a new outfall 003 using a one pass flow through the rehabilitated and optimized treatment system, and improvements to the natural system to make up for the BOD/TSS treatment shortfall after removing chemical disinfection and to better meet ammonia limits. Based on current technology, the proposed Phase 1 improvements will maximize the treatment capacity that the land-based system can achieve. With more stringent requirements as specified in the 2019 NPDES permit, it is anticipated Phase 2 Mechanical will be needed.

What was shown in Phase 2 concept plans was the maximum treatment needed and may be reduced in size/ treatment capacity informed by the monitoring and adaptive management, as a result of Phase 1 improvements. Phase 2 is not totally independent of Phase 1, as piping and electrical included in Phase 1 will accommodate Phase 2 components. The main component of Phase 2 would be the addition of an oxidation ditch to better meet ammonia and future NPDES limits that the natural system may not be able to meet. Rehabilitation of the sludge handling process may also be needed to handle the additional sludge the oxidation ditch will produce. The water quality improvements from Phase 1 will be monitored and will dictate the size of the oxidation ditch for Phase 2. This could take two operational seasons for data/results to be gathered. The addition of the oxidation ditch will also allow for parts of the natural system to be taken off-line at times for better maintenance and longevity of the natural system.

3.5.3 Additional Requested Clarifications on Project Description

The following items (B through K) include additional details to the already compiled list of project upgrades, in response to items specifically mentioned in the CDP Response letter and/or have been added to the updated list in response to Comment 1A. Items B through K follow the comments, as listed in the CDP Response letter items 1 B through 1K.

B. Details on Ground Disturbance

Cast-In-Drilled Hole (CIDH) piles were recommended for deep foundation for new, larger and heavier structures. These will be drilled to various depths as outlined below. See Crawford Geotechnical report (Crawford, 2021) for details, which will be used to inform final pile depth. (See Attachment 3). All pipes and electrical duct banks (containing conduit) will be installed by trenching. Trenching at the AWTF will be approximately 7' depths or less. Electrical conduit within the outer dike of Klopp Lake will be between 2 and 6 feet deep (bottom of trench near 6-foot NAVD 88).

CIDH Piles with a safety factor of 2 based on the allowable stress structural design:

- Headworks: Twenty-seven, 3 ft. diameter, 9 feet center to center (C-C) approximately 90 ft length.
- New Primary Clarifier No. 2 foundation: Eight, 3 ft. diameter, 9 feet C-C approximately 90 ft length.
- New electrical building: Thirty-four, 3 ft. diameter, 9 feet C-C, approximately 90 ft length.

All new conduit and boxes, etc. will be sealed from effects of inundation per standard electrical practice for wastewater treatment facilities based on FEMA standards. The City will meet or exceed all current FEMA

flood elevation standards for the proposed construction in flood zone AE which the entire WWTP is located within. The City's current adopted and FEMA-approved flood plain Ordinance # 1479 requires a minimum construction elevation of 1' above the base flood elevation (BFE) in the updated AE zone which all of the plant improvements will occur within.

For all new construction the City will follow the American Society of Engineers (ASCE) Flood Resistant Design and Guidance Standards ASCE 24 and more specifically meeting or exceeding the standards in ASCE 24-14 in accordance with the international Building code standards. The WWTP is considered a flood design class 3 facility and as such the ASCE standards for all the new or replaced equipment and new construction will be a minimum of 2.0' above the BFE (10.05' NGVD 88). Additionally, all new/replaced electrical systems will be sealed and elevated a minimum of 2.0' above the BFE and designed in accordance with FEMA Document P-348, Edition 2, *Principles and Practices for the Design and Construction of Flood Resistant Building Utility Systems*.

The City has discussed this project with the Department of Water Resources staff specifically Michael Ward, CFM, Engineer with Flood and Watershed Division and he has shared the appropriate documents discussed above to use in the design as well as discussed the Pertinent design codes and approvals which the City will be responsible for permitting through the construction phases of the WWTP.

C. Construction Plans

Phase 1 electrical work is found in Carollo's 90% Electrical and Instrumentation Plan Sheets (203 pages), dated November 2020. The overall site plan is on Sheets 01E01 (p 6) and 01N01 (p 132). See Electrical Plan Sheets 01E02 – 01E20 for details. (Attachment 2). These had not been previously submitted with original application materials.

D. Construction Phasing

See Carollo memo (Attachment 5) for construction phasing for Phase 1 (Carollo, 2021). This information has been included as part of this UPD.

E. Chlorine Disinfection

Currently, 14 cylinders of Chlorine and 7 Cylinders of Sulfur Dioxide are stored onsite. Upon completion of upgrades, these will all be replaced with a maximum of 4 cylinders of Chlorine and 2 cylinders of Sulfur Dioxide. These cylinders will replace the existing cylinders and be located in the same location, inside the existing structure. The cylinders will be approximately 4'x7' each. There will be minor replacement/upgrade of the chlorine feed and monitoring equipment, all within the existing structure.

F. Exterior Lighting

This has been included in Carollo's 90% electrical plan set (Attachment 2), Sheets 10E08, 10E09, 11E03, 14E06,14E07, 16E05, 17E02, 17E03, 26E02, 27E03, and 27E04. The project will utilize the City standard for lighting per Land Use Code §9.30.070, which includes:

- All lighting fixtures shall comply with the International Dark Sky Association's (IDA) requirements for reducing waste of ambient light ("dark sky compliant"). This includes, but is not limited to, requirements for acceptable fixture types and maximum color temperature.
- All lighting fixtures shall be the minimum lumens required for safety and security.

- All lighting fixtures shall be shielded and directed downward to minimize light shining on adjacent properties or natural areas. Shielded shall mean that the light rays are directed onto the site, and the light source (e.g., bulb, tube, etc.) is not visible beyond the property boundary of the site of the light source.
- No permanently installed lighting shall blink, flash, or be of unusually high intensity or brightness.
- Stand-alone light fixtures shall be limited to a maximum of 20 feet vertical.
- No lighting shall produce an illumination level greater than one-foot candle beyond the property boundary of the site of the light source.

G. Additional Recommended Upgrade Work to the Land-Based Treatment System

The 2019 Pre-Design Report Technical Memorandum 4 (and the 2017 Facility Plan) discuss a number of anticipated improvements to the land-based treatment system (the oxidation ponds, treatment wetlands, and enhancement wetlands) that are not included in the MND project description, including: installation of aerators in Oxidation Pond #1, and installation of a baffle wall in Oxidation Pond #2. These were completed as separate city-sponsored Compliance Projects per Regional Board. One of the City's stated goals for the proposed AWTF improvement project is to maximize and optimize use of the land-based treatment systems, which provides coastal resource benefits. This supports approval of the proposed upgrades in this area that is vulnerable to sea level rise and other coastal hazards. These improvements have been designed with an additional life span of 30 years, during which time the City will have already assessed and designed an appropriate 'next step'. No additional anticipated pond/wetland improvements are proposed as part of this permit application. As noted in the justification of this upgrade project, maintenance of the land-based treatment system had been deferred over the last forty years; the proposed upgrades, with the ongoing maintenance and repair will allow the upgrade to the land-based treatment system to last throughout the lifetime of the mechanical upgrades to the project. Construction of Treatment Wetland 7 is not part of the currently proposed project.

H. Description of Proposed Treatment System Capacities and Processes

See Carollo Project Memo "Arcata WWTF Flow Schematic" dated February 22, 2021, and corresponding color-coded flow schematic from Carollo (Attachment 4). The current headworks is designed for 5.0 mgd. The current plant capacities/design flows are:

- 2.3 mgd dry average dry weather
- 5.9 mgd peak wet weather design
- 16.5 mgd peak hour wet weather flow

The flow schematic (Figure 3.5-1) and the narrative below outlines the flow capacities for each portion of the plant:

- Headworks and preliminary treatment: inlet screw pumps and storm pump provide up to 5.9 mgd capacity.
- Primary clarifier No 2: rated up to 5.9 mgd.
- Oxidation Pond #1: can see flows from the plant of up to 5.9 mgd, plus wet weather flows directly from First Street PS for a total of over 10 mgd. Pond #1 will be used to store peak flows over 10 mgd.
- Pond #2 and treatment wetlands: Designed to treat up to 2.3 mgd dry weather and 5.9 mgd wet weather flows.
- Pump Station 1 (PS1) and Pond Pump Station (PPS): Capacity to pump dry weather flows of 2.3 and wet weather flows up to 9.8 mgd to UV disinfection.

- UV disinfection: Capacity to treat flows of 2.3 and wet weather flows up to 9.8 mgd. The UV effluent normally goes to outfall 003, up to 5.9 mgd. The remainder of the UV disinfected flow, up to 3.9 mgd can be diverted to Outfall 001, through the chlorine contact basin (CCB).
- Emergency Pond PS: Capacity to pump 5.8 mgd from Pond #1 and #2 to CCB. [See 100% Plan Sheet 00G20 flow schematic]
- CCB and Outfall 001: Used in wet weather and backup disinfection system, 9.7 mgd discharge capacity.
- Enhancement Wetlands (EW) and EW PS: Capacity for up to 5.9 mgd. A-Line can provide overflow capacity for EW during peak flows.
- Outfall 003: Discharge capacity of up to 5.9 mgd from the EW PS.

The various dry and wet weather flows path scenarios are described/depicted in Attachment 4.
Table H-1 depicts flow volumes that exceeded the maximum capacity of the headworks, the maximum capacity of the treatment wetlands, and the permitted peak wet weather flow during the period from January 2016 through February 2021.

Table H-1. Flow Volumes that Exceeded the Maximum Capacity, January 2016 – February 2021	**Count**
Volume exceeded planned headworks capacity/peak wet weather flow (5.9 mgd)	18
Volume exceeded Treatment Wetlands capacity (2.3 mgd)	419
Volume exceeded 9.8 (9.9 mgd)	1

I. Levee Augmentation

Not a part of this revised project description. The City is actively pursuing funding for levee augmentation, which will be implemented within the next 10-15 years. It will be further analyzed as future stand-alone project with a separate CDP application. The City is receptive to levee augmentation being conditioned as a requirement of issuance of the Phase 1 CDP.

K. Current Compliance Schedule

The following is the current time extensions that have been received from the Regional Board to date and the current compliance schedule. Table K-1 shows to Phase 1 compliance schedule. Table K-2 shows Phase 2 compliance schedule.

Table K-1. Discharge Prohibition III.I Compliance Schedule				
Task	**Description**	**Original Compliance Date**	**Previously Requested Compliance Dates**	**Most Recent Compliance Date, per Request**
1	The Permittee shall submit documentation that the California Environmental Quality Act (CEQA) process for Phase 1 of the Upgrade Project is complete.	12/31/2019	2/7/2020 6/1/2020 7/31/2020 10/30/2020	1/22/2021 Task completed 12/18/2020

Table K-1. Discharge Prohibition III.I Compliance Schedule				
Task	**Description**	**Original Compliance Date**	**Previously Requested Compliance Dates**	**Most Recent Compliance Date, per Request**
2	The Permittee shall submit, to the Regional Water Board Executive Officer, documentation of complete final design specification and funding sources for Phase 1 of the Upgrade Project as described in the Facility Plan.	3/31/2020	12/31/2020 3/21/2021 8/31/2021 (design) & 12/1/2021 6/30/2022 (funding)	12/1/2021 design – Task completed & 12/30/2022 (funding)
3	The Permittee shall secure and submit documentation for any permits required to move forward with the Phase 1 of the Upgrade Project.	3/31/2020	12/31/2020 12/1/2021	9/1/2022
4	The Permittee shall begin construction of Phase 1 of the Upgrade Project.	6/1/2020	3/12/2021 12/1/2021	9/1/2022
5	The Permittee shall submit a progress report on the status of construction of each task for Phase 1 of the Upgrade Project.	6/1/2021	4/1/2023	4/1/2024
6	The Permittee shall complete construction of Phase 1 of the Upgrade Project.	3/31/2022	4/30/2024	9/1/2025
7	The Permittee shall attain operational level for Phase 1 of the Upgrade Project, begin discharge through Discharge Point 003 to the Brackish Marsh, and achieve compliance with Regional Board waste discharge requirements for UV disinfection including discharge prohibition III.I.	6/30/2022	4/30/2024	12/1/2025

Table K-2. Interim Effluent Limitations Compliance Schedule				
Task	**Description**	**Original Compliance Date**	**Previously Requested Compliance Dates**	**Most Recent Compliance Date, per Request**
1	The Permittee shall submit documentation that the California Environmental Quality Act (CEQA) process for Phase 2 of the Upgrade Project is complete.	3/31/2021	--	Task completed 12/18/2020
2	The Permittee shall submit, to the Regional Water Board Executive Officer, documentation of complete final design specification and funding sources for Phase 2 of the Upgrade Project as described in the Facility Plan.	9/30/2021	6/1/2023 12/1/2023 (design) & 12/1/2021 6/30/2022 (funding)	1/1/2027

Table K-2. Interim Effluent Limitations Compliance Schedule				
Task	**Description**	**Original Compliance Date**	**Previously Requested Compliance Dates**	**Most Recent Compliance Date, per Request**
3	The Permittee shall secure and submit documentation for any permits required to move forward with the Phase 2 of the Upgrade Project.	9/30/2021	3/31/2023 9/30/2024	6/30/2027
4	The Permittee shall begin construction of Phase 2 of the Upgrade Project.	1/2/2022	5/1/2024 9/30/2024	9/30/2027
5	The Permittee shall submit a progress report on the status of construction of each task for Phase 2 of the Upgrade Project.	1/2/2023	5/15/2025 10/31/2021	8/31/2028
6	The Permittee shall complete construction of Phase 2 of the Upgrade Project.	3/21/2024	6/1/2026 12/31/2026	8/31/2029
7	The Permittee shall attain operational level for Phase 2 of the project, begin discharge through oxidation ditch, and achieve compliance with all Regional Water Board waste discharge requirements including Discharge Prohibitions and Final Effluent Limitations.	6/30/2024	6/1/2026 3/31/2027	11/30/2029

See *City of Arcata Pre-design Report: City of Arcata Wastewater Treatment Facilities Improvements* (Carollo, 2019) for additional information on project improvements.

3.5.4 Past City Projects

Projects have occurred since the last CDP approval (maintenance grading in 2018; permit no. 1-18-0882-W), done with the understanding that they would be defined as "routine maintenance and repair" and therefore would be exempt from requirement of a coastal development permit. Staff has undertaken a review of previous permitting per Coastal Commission staff's request (Comment 10-Permitting History-from January 20, 2021 letter), and compared it with the table of previous Coastal Development Permits provided by Cristin Kenyon on January 22, 2021. City staff is not aware of additional permit records beyond what was provided. The preliminary permitting history provided by Cristin Kenyon in January 2021 is attached (Attachment 6).

Many of the past repair and maintenance projects are located within the existing AWTF footprint, consisting of typical repair/replacement; maintenance; small additions to existing structures. These improvements are in predominantly already built/paved environments and neither construction nor operation of these improvements resulted in adverse physical changes to the environment. Treatment Wetlands and Oxidation Ponds have been determined by the US Army Corps of Engineers and North Coast Regional Water Quality Control Board to neither be Waters of the US or Waters of the State, and projects that have occurred in those waterbodies did not result in adverse physical changes to the environment. The following projects are included as Past City Projects:

1. Aerators in Oxidation Pond #1 and Baffle wall installation of Oxidation Pond #2. These two separate City projects were approved by the State Water Resources Control Board as compliance projects to offset fines for violations, described in Order No. 21-2020-0014.

i. The baffle wall has been installed in Oxidation Pond 2# to prevent short circuiting and increase hydraulic detention time. The vinyl sheet piling was used to replace old/failed baffle curtain. This project was completed February 10, 2021.
ii. Eight new, improved aerators are currently being installed in Oxidation Pond #1 to replace failed/failing existing aerators.

(As part of the proposed Phase 1 project, electrical upgrades are being installed to accept newer style aerators around oxidation pond 2).

2. Control panels and transformers were relocated inside boat storage building. The City developed plan sets for these two projects through its Engineering Department, and plans can be provided upon request.
3. Installation of electrical conduit for Blue Frog aerators in the treatment wetlands. Electrical will be included as part of Phase 1 construction, as described in previous sections of this project description and depicted on project electrical plans. New conduit and electrical connections will be installed at the influent end of treatment marshes to give ability to move Blue Frogs to different locations. (Background: As part of ongoing maintenance, City purchased and installed two "Blue Frog" mixers to break down settled sludge. The mixers were installed in the influent end of Treatment Wetland 3, then moved to the middle section and are now installed in the influent end of Treatment Wetland 1. This technology was developed for livestock waste lagoons and has shown to be effective at breaking down sludge in the City's Treatment Wetlands).
4. Maintenance of vegetation in the Enhancement Wetlands. Maintenance vegetation removal is performed on an as-needed basis on both Enhancement and Treatment Wetlands by removing strips of old vegetation to promote new vegetation growth in open strips. As standard city protocol, vegetation maintenance is completed outside of the avian nesting season to the extent practicable, and if unfeasible, prior to vegetation removal, the area is surveyed by a qualified biologist to ensure maintenance activities does not impact nesting birds according to state and federal regulations.
5. Regrading and revegetation of Treatment Wetlands 1-6. Treatment Wetland 4 was recently rehabilitated by removing old vegetation and reshaping internal berms to increase flow pattern. Vegetation regrowth and some replanting were completed, and Treatment Wetland 4 is currently functioning.
6. Construction of Treatment Wetlands 5 & 6. Using similar methodology as regrading and revegetation of Treatment Wetlands 1-4 (above). Treatment Wetlands 5 and 6 were constructed within the former Oxidation Pond 3 footprint. Construction began in 2010, and the Treatment Wetlands were fully operational in 2013.

3.5.4 Ongoing Routine Maintenance and Repair

It is anticipated that the City will need to continue to perform routine maintenance and make repairs, such as those listed in 3.5.3, in order to meet State Water board Waste Discharge Permit requirements. Typical items, which the City proposes to be covered under this permit approval, are similar to those that have been made in the recent past. Proposed improvements will consist of typical repair and replacement and maintenance or small additions to existing structures or new small structures; they will not result in an increase in capacity or intensification of use. Work will occur within the existing AWTF footprint, in already built/paved environments, and neither construction nor operation of these improvements will result in adverse physical changes to the environment, consisting of typical repair and replacement and maintenance or small additions to existing structures or new small structures. Repair and maintenance projects may include:

1. Maintenance of the new UV disinfection system
2. Adjustments to flows, aeration, and retention/discharge of wastewater
3. Monitoring of wastewater constituents, including the placement of small monitoring equipment, as required by the State Water Board.
4. Vegetation Management. While vegetation serves an important component of wastewater treatment in Arcata's process, it also benefits from the nutrients and grows at rates higher than natural rates. As a result, this growth hampers its water treatment capabilities. To keep natural treatment abilities at their highest, regular maintenance of aquatic and riparian species occurs on a regular basis. Maintenance of aquatic vegetation removal is performed on an as-needed basis on Treatment/ Enhancement Ponds and Wetlands by removing old vegetation to promote new vegetation growth. In addition, some riparian species also benefit from close proximity to the ponds and enhancement and treatment wetlands. This vegetation is allowed to grow and provide temporary habitat but, as maintenance is required, some may periodically be disturbed or need to be removed. This vegetation will be allowed, where appropriate, to reestablish itself. Vegetation maintenance is completed outside of the avian nesting season to the extent practicable, and if maintenance has to occur during the nesting season, then, prior to vegetation removal, the area is surveyed by a qualified biologist to ensure maintenance activities do not impact nesting birds according to state and federal regulations.

FIGURE: X-1

Arcata Wastewater Treatment Facility Upgrade CDP
Additional Project Elements

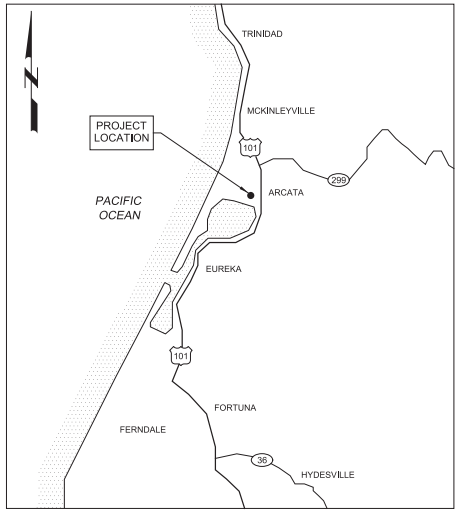
Path: R:\Av_projects\Esi\Corpyard-WWTP\WWTP_Upgrade\WWTP_coastalPermit_7-22-2022.mxd

Revised 7/22/2022

CITY OF ARCATA

ARCATA WASTEWATER TREATMENT FACILITIES IMPROVEMENTS PROJECT PHASE I

OCTOBER 2020



VICINITY MAP

90% SUBMITTAL
NOT FOR CONSTRUCTION

LOCATION MAP

carollo®

IN ASSOCIATION WITH GHD

JOB NO.
9913C.10
DRAWING NO.
00G01
SHEET NO.
1 OF XX

EXHIBIT NO. 5
CDP APPLICATION NO.
1-20-0711
(City of Arcata)
Excerpts from
Development Plans

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

FIGURE 3.5.2
OVERALL SITE PLAN
CITY OF ARCATA

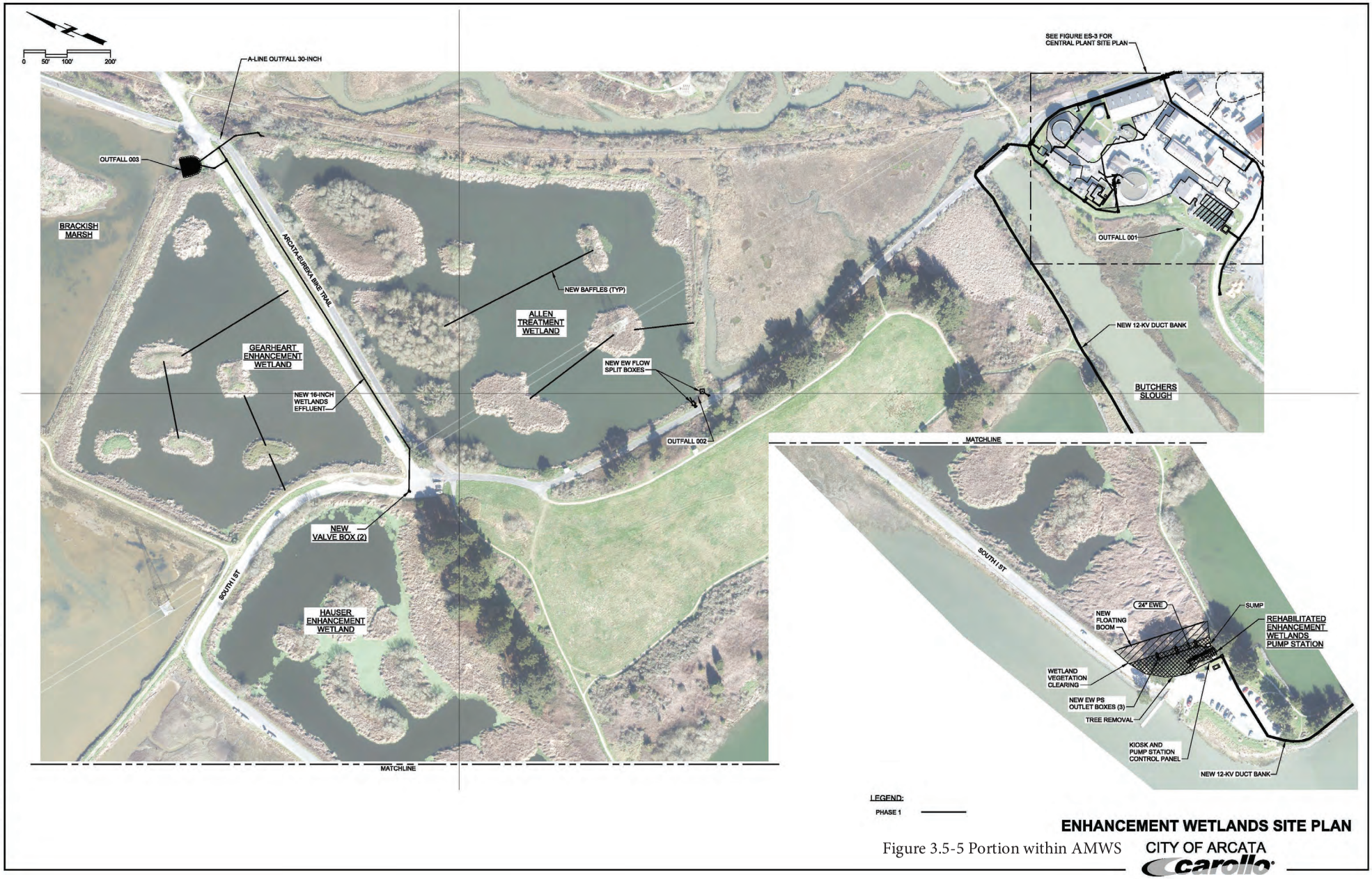
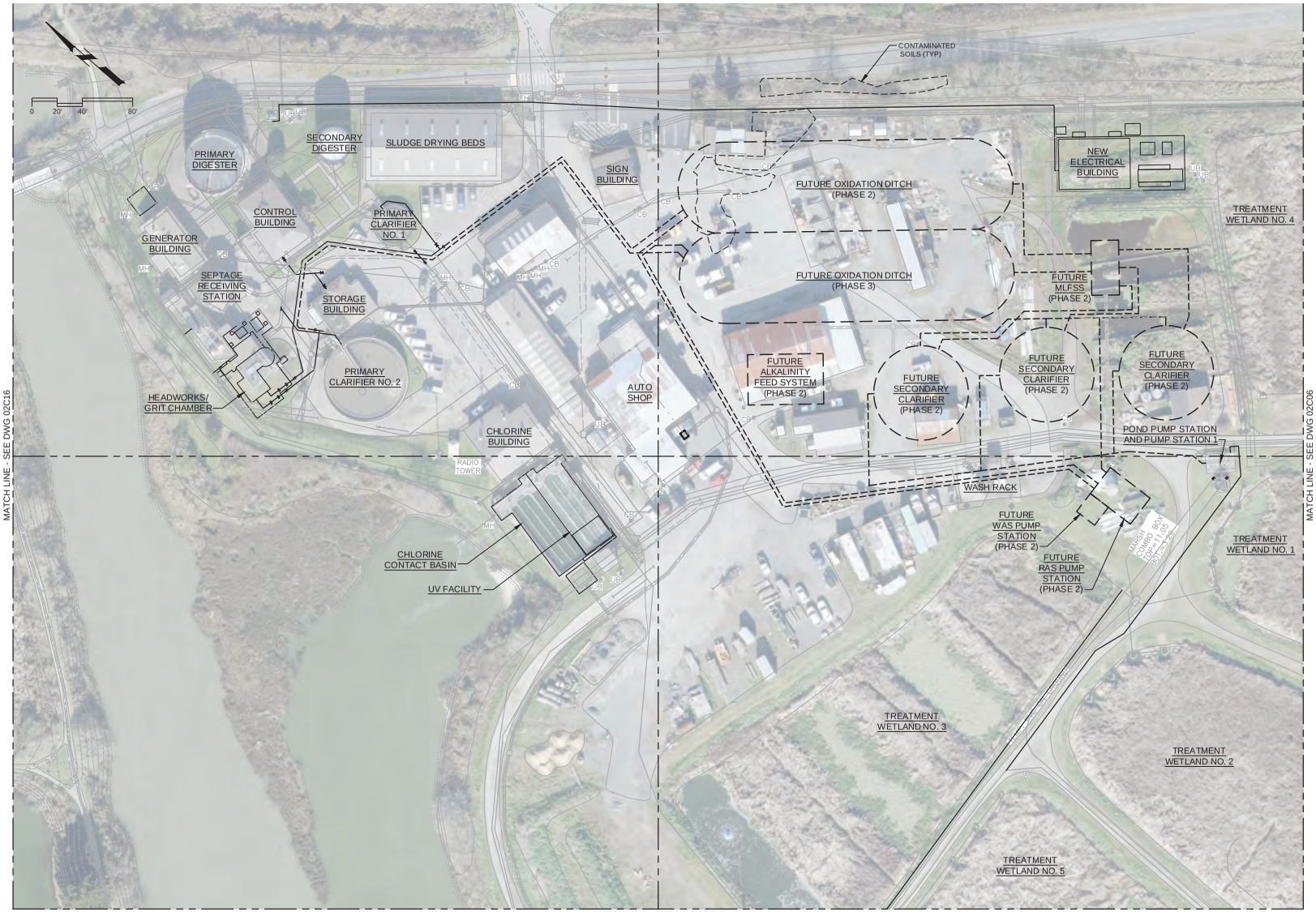
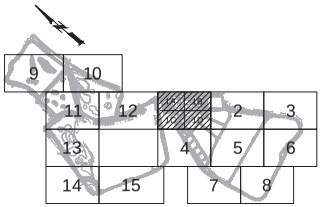


Figure 3.5-5 Portion within AMWS



GENERAL NOTES:

1. SEE YARD PIPING GENERAL NOTES ON DRAWING 00C01.
2. SEE DRAWINGS 02C02 THROUGH 02C05 FOR ENLARGED PLANS.



KEY PLAN

90% SUBMITTAL
NOT FOR CONSTRUCTION

REV	DATE	BY	DESCRIPTION

DESIGNED RRH
DRAWN AL
CHECKED
DATE OCTOBER 2020

IN ASSOCIATION WITH carollo GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

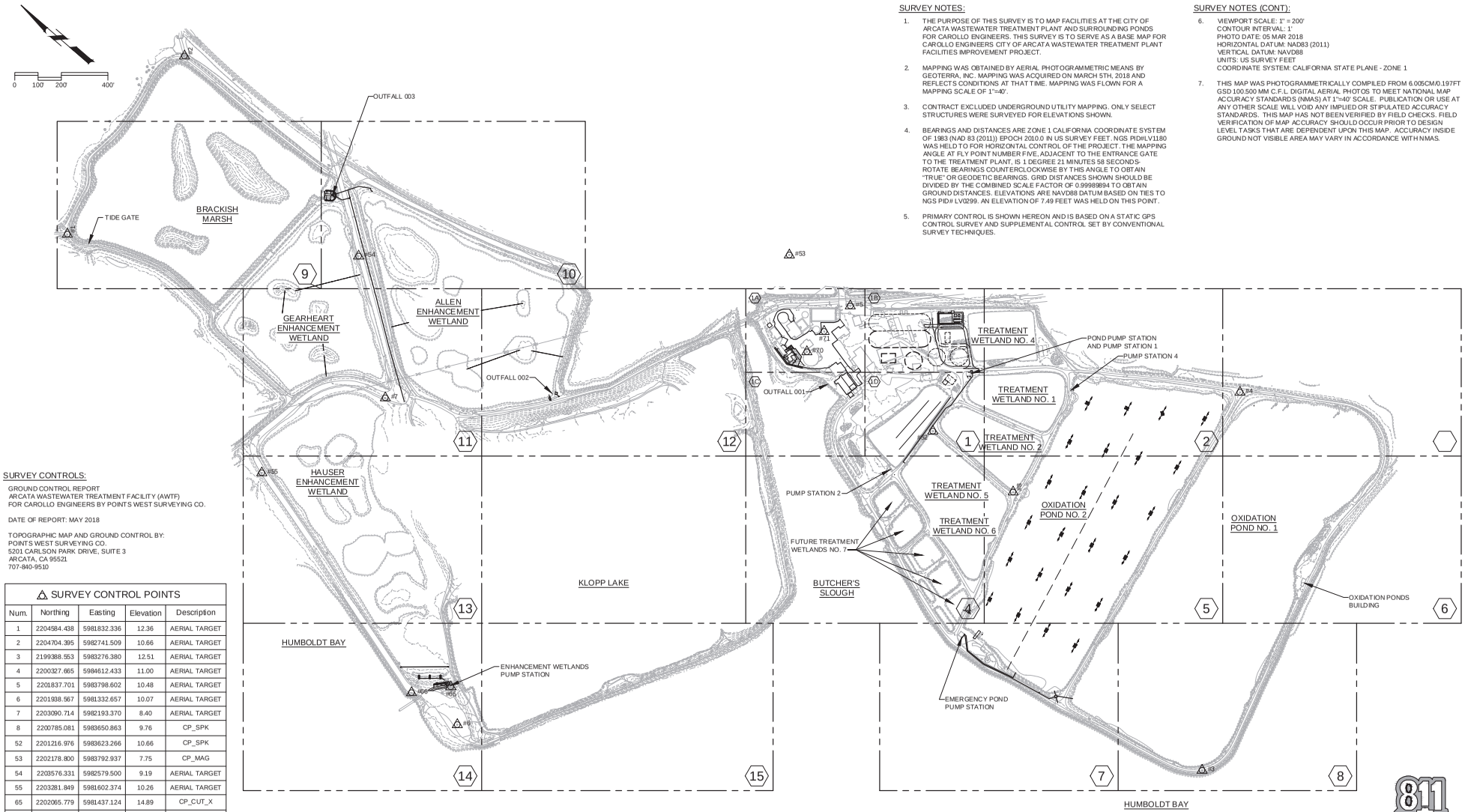
CIVIL

YARD PIPING
AREA 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 02C01
SHEET NO. OF XXX

FILE NAME: 9913C1002C01.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Albico



SURVEY NOTES:

1. THE PURPOSE OF THIS SURVEY IS TO MAP FACILITIES AT THE CITY OF ARCATA WASTEWATER TREATMENT PLANT AND SURROUNDING PONDS FOR CAROLLO ENGINEERS. THIS SURVEY IS TO SERVE AS A BASE MAP FOR CAROLLO ENGINEERS CITY OF ARCATA WASTEWATER TREATMENT PLANT FACILITIES IMPROVEMENT PROJECT.
2. MAPPING WAS OBTAINED BY AERIAL PHOTOGRAMMETRIC MEANS BY GEOTERRA, INC. MAPPING WAS ACQUIRED ON MARCH 5TH, 2018 AND REFLECTS CONDITIONS AT THAT TIME. MAPPING WAS FLOWN FOR A MAPPING SCALE OF 1"=40'.
3. CONTRACT EXCLUDED UNDERGROUND UTILITY MAPPING. ONLY SELECT STRUCTURES WERE SURVEYED FOR ELEVATIONS SHOWN.
4. BEARINGS AND DISTANCES ARE ZONE 1 CALIFORNIA COORDINATE SYSTEM OF 1983 (NAD 83 (2011)) EPOCH 2010.0 IN US SURVEY FEET. NGS PID#LV1180 WAS HELD TO FOR HORIZONTAL CONTROL OF THE PROJECT. THE MAPPING ANGLE AT FLY POINT NUMBER FIVE, ADJACENT TO THE ENTRANCE GATE TO THE TREATMENT PLANT, IS 1 DEGREE 21 MINUTES 58 SECONDS. ROTATE BEARINGS COUNTERCLOCKWISE BY THIS ANGLE TO OBTAIN "TRUE" OR GEODETIC BEARINGS. GRID DISTANCES SHOWN SHOULD BE DIVIDED BY THE COMBINED SCALE FACTOR OF 0.99989894 TO OBTAIN GROUND DISTANCES. ELEVATIONS ARE NAVD88 DATUM BASED ON TIES TO NGS PID# LV0299. AN ELEVATION OF 7.49 FEET WAS HELD ON THIS POINT.
5. PRIMARY CONTROL IS SHOWN HEREON AND IS BASED ON A STATIC GPS CONTROL SURVEY AND SUPPLEMENTAL CONTROL SET BY CONVENTIONAL SURVEY TECHNIQUES.

SURVEY NOTES (CONT):

6. VIEWPORT SCALE: 1" = 200'
   CONTOUR INTERVAL: 1'
   PHOTO DATE: 05 MAR 2018
   HORIZONTAL DATUM: NAD83 (2011)
   VERTICAL DATUM: NAVD88
   UNITS: US SURVEY FEET
   COORDINATE SYSTEM: CALIFORNIA STATE PLANE - ZONE 1
7. THIS MAP WAS PHOTOGRAMMETRICALLY COMPILED FROM 6.005CM/0.197FT GSD 100,500 MM C.F.L. DIGITAL AERIAL PHOTOS TO MEET NATIONAL MAP ACCURACY STANDARDS (NMAS) AT 1"=40' SCALE. PUBLICATION OR USE AT ANY OTHER SCALE WILL VOID ANY IMPLIED OR STIPULATED ACCURACY STANDARDS. THIS MAP HAS NOT BEEN VERIFIED BY FIELD CHECKS. FIELD VERIFICATION OF MAP ACCURACY SHOULD OCCUR PRIOR TO DESIGN LEVEL TASKS THAT ARE DEPENDENT UPON THIS MAP. ACCURACY INSIDE GROUND NOT VISIBLE AREA MAY VARY IN ACCORDANCE WITH NMAS.

SURVEY CONTROLS:

GROUND CONTROL REPORT
ARCATA WASTEWATER TREATMENT FACILITY (AWTF)
FOR CAROLLO ENGINEERS BY POINTS WEST SURVEYING CO.

DATE OF REPORT: MAY 2018

TOPOGRAPHIC MAP AND GROUND CONTROL BY:
POINTS WEST SURVEYING CO.
5201 CARLSON PARK DRIVE, SUITE 3
ARCATA, CA 95521
707-840-9510

△ SURVEY CONTROL POINTS

Num.	Northing	Easting	Elevation	Description
1	2204584.438	5981832.336	12.36	AERIAL TARGET
2	2204704.395	5982741.509	10.66	AERIAL TARGET
3	2199388.553	5983276.380	12.51	AERIAL TARGET
4	2200327.665	5984612.433	11.00	AERIAL TARGET
5	2201837.701	5983798.602	10.48	AERIAL TARGET
6	2201938.567	5981332.657	10.07	AERIAL TARGET
7	2203090.714	5982193.370	8.40	AERIAL TARGET
8	2200785.081	5983650.863	9.76	CP_SPK
52	2201216.976	5983623.266	10.66	CP_SPK
53	2202178.800	5983792.937	7.75	CP_MAG
54	2203576.331	5982579.500	9.19	AERIAL TARGET
55	2203281.849	5981602.374	10.26	AERIAL TARGET
65	2202065.779	5981437.124	14.89	CP_CUT_X
66	2202177.296	5981307.642	10.86	CP_MAG
70	2201849.597	5983527.230	17.62	CP_CUT_X
71	2201850.527	5983642.048	9.77	CP_MAG

811

r d

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RHH
DRAWN AL
CHECKED
DATE OCTOBER 2020

IN ASSOCIATION WITH

CITY OF ARCATA
AWTF IMPROVEMENTS PROJECT PHASE 1
CIVIL
OVERALL CIVIL SITE PLAN

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 01C01
SHEET NO. OF XXX

Plot Date: 9/30/2020 12:04:23 PM
FILE NAME: 9913C1001C01.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Albico

MATCH LINE - SEE DWG XXXXXX

ALLEN ENHANCEMENT WETLAND

SALT MARSH

DEMO PIPE BRIDGE WALKWAY, SEE DRAWINGS 01D17 AND 01D18

SSMH RIM=11.84 UNABLE TO SHOOT BOTTOM

DISTRIBUTION BOX RIM=11.82

DISTRIBUTION BOX RIM=11.07

SSMH RIM=12.26 INV=7.67

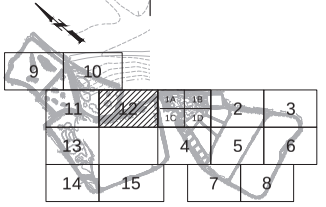
GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.

KEY NOTES:

1. SEE DISTRIBUTION BOX DEMOLITION DRAWING 18D01 DETAIL A.

1 PHOTO
SCALE: NO SCALE
FILE: 9913C1001D13A



KEY PLAN

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED LDH
DRAWN LDH
CHECKED SXM
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER STEVEN X. MCKENNY No. C47580 STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

City of ARCATA

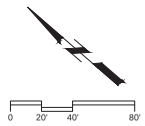
CITY OF ARCATA
AWTF IMPROVEMENTS PROJECT PHASE 1
DEMOLITION
SITE DEMOLITION AREA 12

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON

JOB NO. 9913C.10
DRAWING NO. 01D14
SHEET NO. OF XXX

FILE NAME: 9913C1001D14.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Allaico

MATCH LINE - SEE DWG XXXXXX

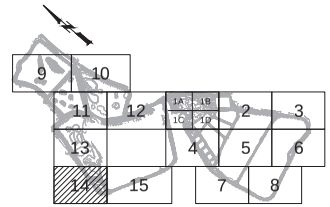


GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.

KEY NOTES:

1. SEE ENHANCEMENT WETLAND PUMP STATION DEMOLITION DRAWINGS 18D02 THROUGH 18D06.
2. SEE EWPS INTAKE STRUCTURE DEMOLITION DRAWING 18D07.
3. CLEAR AND GRUB EX TREES AND VEGETATION EXCAVATE BOTTOM OF WETLAND. SEE ENLARGED GRADING PLAN DRAWING 01C07 FOR LIMITS OF VEGETATION REMOVAL AND EXCAVATION.



KEY PLAN

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED LDH
DRAWN LDH
CHECKED SXM
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER SYLVIA X. MCKINNEY No. C47580 STATE OF CALIFORNIA

IN ASSOCIATION WITH carollo GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

DEMOLITION

SITE DEMOLITION AREA 14

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON

JOB NO. 9913C.10
DRAWING NO. 01D16
SHEET NO. OF XXX

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PROJECT NO. 9913C1S_P1
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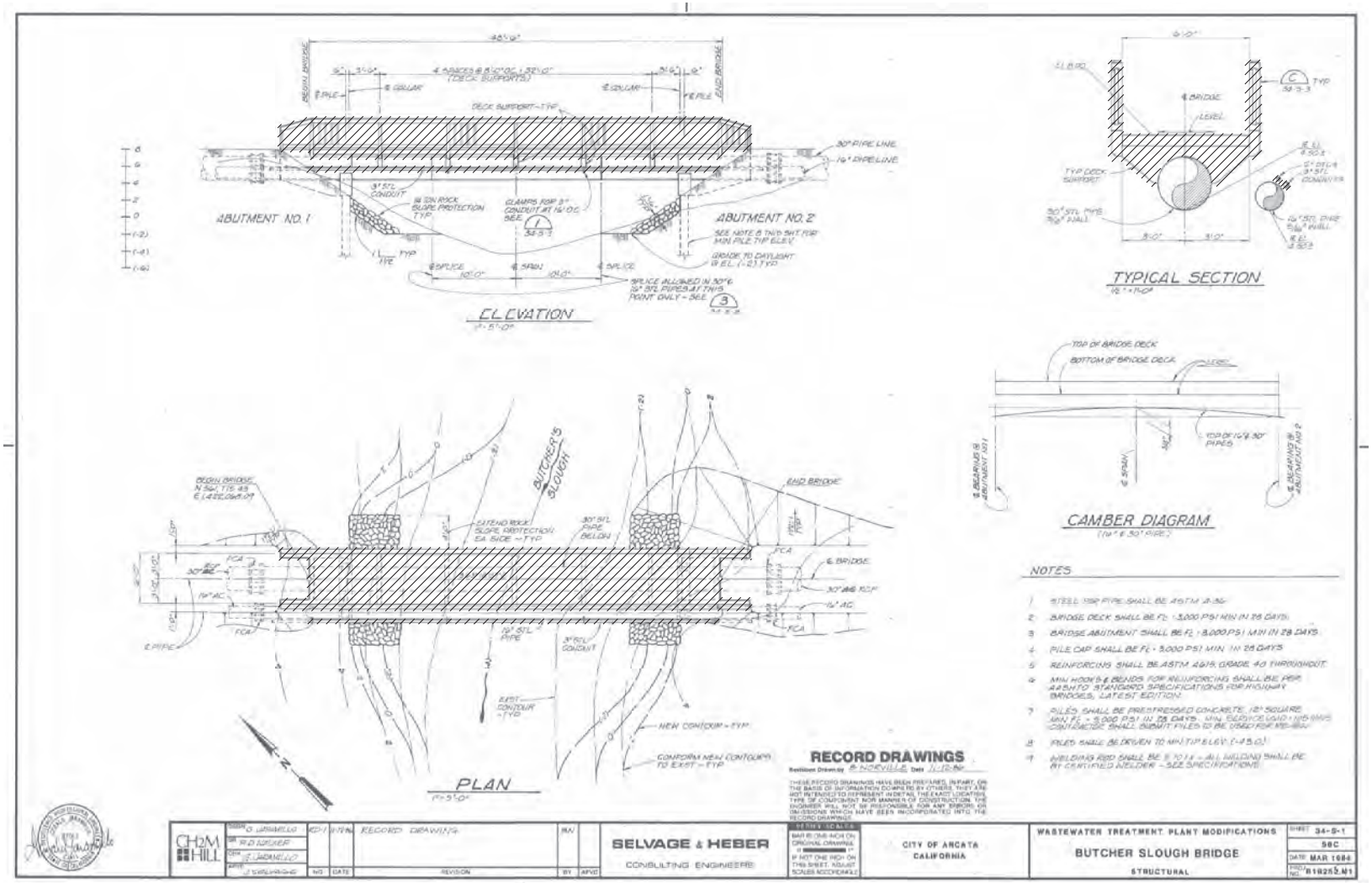


GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 40% OF ORIGINAL SIZE.
3. ELEVATIONS SHOWN ON THIS DRAWING ARE 3.35 FEET LOWER THAN THE NAVD88 DATUM, WHICH IS THE DATUM FOR THIS PROJECT.
4. DEMOLISH WOOD AND CONCRETE STRUCTURE MOUNTED ON TOP OF 30" STEEL PIPE.
5. DEMOLISH CONDUITS AND CONDUIT SUPPORTS MOUNTED TO 16" STEEL PIPE.
6. DO NOT DAMAGE PIPES OR ABUTMENTS. ANY DAMAGE SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER.
7. PIPE SHALL BE BLASTED AND RECOATED PER SECTION 09960 PRIOR TO MOUNTING NEW CONDUITS.

CH2M HILL | RECORD DRAWING | SELVAGE & HEBER CONSULTING ENGINEERS | CITY OF ARCATA CALIFORNIA | WASTEWATER TREATMENT PLANT MODIFICATIONS | BUTCHER SLOUGH BRIDGE | STRUCTURAL | SHEET 34-S-1 | 98C | DATE MAR 1984 | JOB NO. R19255.M1

90% SUBMITTAL
NOT FOR CONSTRUCTION

DESIGNED RRH | DRAWN AL | CHECKED | DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER — ROBERT R. HUNT — No. 73037 — CIVIL — STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

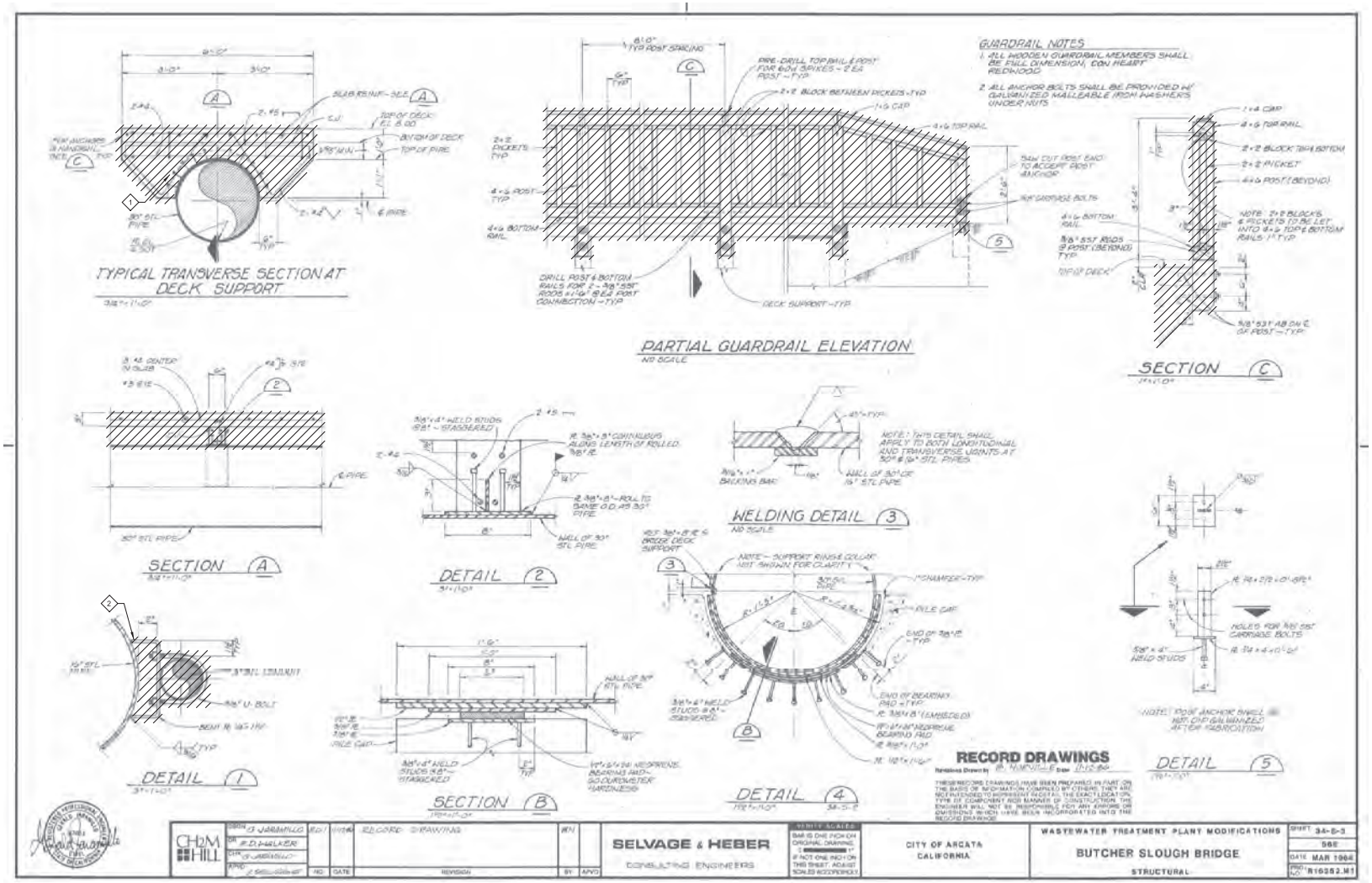
DEMOLITION

BUTCHER SLOUGH BRIDGE - I

VERIFY SCALES — BAR IS ONE INCH ON ORIGINAL DRAWING — IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10 | DRAWING NO. 01D17 | SHEET NO. OF XXX

REV	DATE	BY	DESCRIPTION



GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWINGS 01D01 AND 01D16.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 40% OF ORIGINAL SIZE.
3. ELEVATIONS SHOWN ON THIS DRAWING ARE 3.35 FEET LOWER THAN THE NAVD88 DATUM, WHICH IS THE DATUM FOR THIS PROJECT.

KEY NOTES:

1. CUT OFF STUDS WELDED TO 30" PIPE.
2. CUT OFF PIPE SUPPORTS WELDED TO 16" PIPE.

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RRH
DRAWN AL
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER — ROBERT R. HUNTER — No. 73037 — CIVIL — STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

DEMOLITION

BUTCHER SLOUGH BRIDGE - II

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 01D18
SHEET NO. OF XXX

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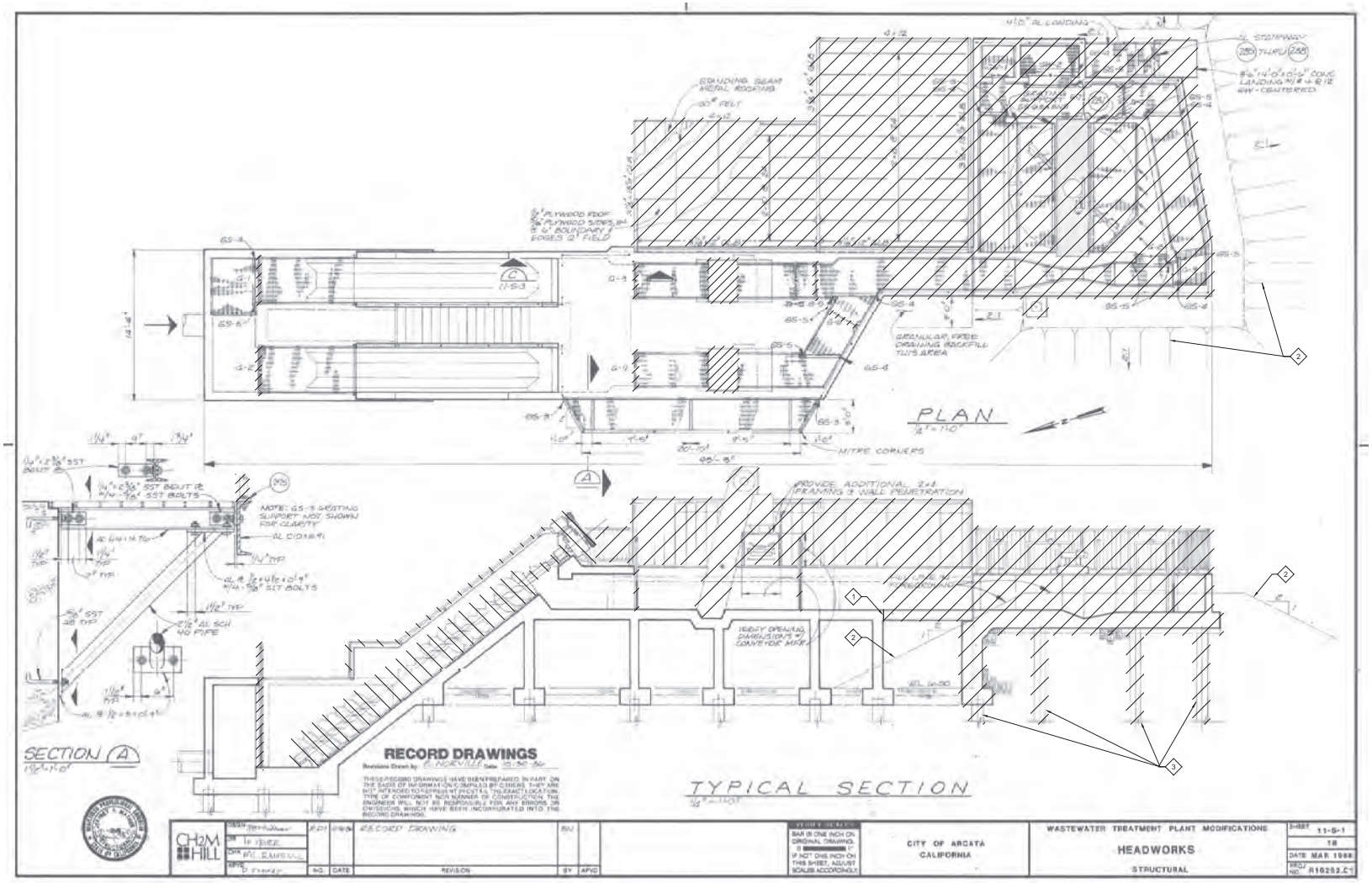
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Albico



GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 00D01.
2. THIS DRAWING HAS BEEN REDUCED TO APPROXIMATELY 40% OF ORIGINAL SIZE.
3. ELEVATIONS SHOWN ON THIS DRAWING ARE 3.35 FEET LOWER THAN THE NAVD88 DATUM, WHICH IS THE DATUM FOR THIS PROJECT.
4. DEMOLISH ALL MECHANICAL EQUIPMENT, GATES, HANDRAILS AND CANOPIES.
5. REMOVE EXISTING SCREW PUMPS, BAR SCREENS, AND CONVEYOR, INCLUDING ANCHORAGE, MOTORS, AND APPURTENANCES.
6. REMOVE EXISTING SCREW PUMP PEDESTAL CONCRETE AND PEDESTAL REINFORCEMENT. DO NOT DAMAGE EXISTING SLAB REINFORCEMENT.
7. REMOVE EXISTING HANDRAIL AND ANY ATTACHMENTS.
8. DO NOT REMOVE EXISTING GRATING ON LOWER WETWELL.
9. AFTER DEMOLITION, ALL REMAINING CONCRETE SHALL BE INSPECTED FOR CORROSION. CONCRETE SHALL BE REPAIRED PER SECTION 03926 AND DETAIL S204/TYP.

KEY NOTES:

1. SAW CUT SLAB AT INDICATED LOCATION AND PRESERVE SUPPORT AND FOOTING.
2. FILL TO BE REMOVED AND SITE TO BE REGRADED.
3. CUT PILES A MINIMUM OF 3 FEET BELOW NEW FINISHED GRADE.

RECORD DRAWINGS

THESE RECORD DRAWINGS HAVE BEEN PREPARED, IN PART, ON THE BASIS OF INFORMATION COMPILED BY CH2MHILL. THEY ARE NOT INTENDED TO REPRESENT PRECISELY THE EXACT LOCATION, TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THE RECORD DRAWINGS.

CH2M HILL

NO.	DATE	REVISION	BY	APVD
1	6/99	RECORD DRAWING	BN	

CITY OF ARCATA
CALIFORNIA

WASTEWATER TREATMENT PLANT MODIFICATIONS
HEADWORKS
STRUCTURAL

SHEET 11-S-1
18
DATE MAR 1998
PROJ NO. R19283.C1

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RRH
DRAWN AL
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER ROBERT R. HUNT No. 73037 CIVIL STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

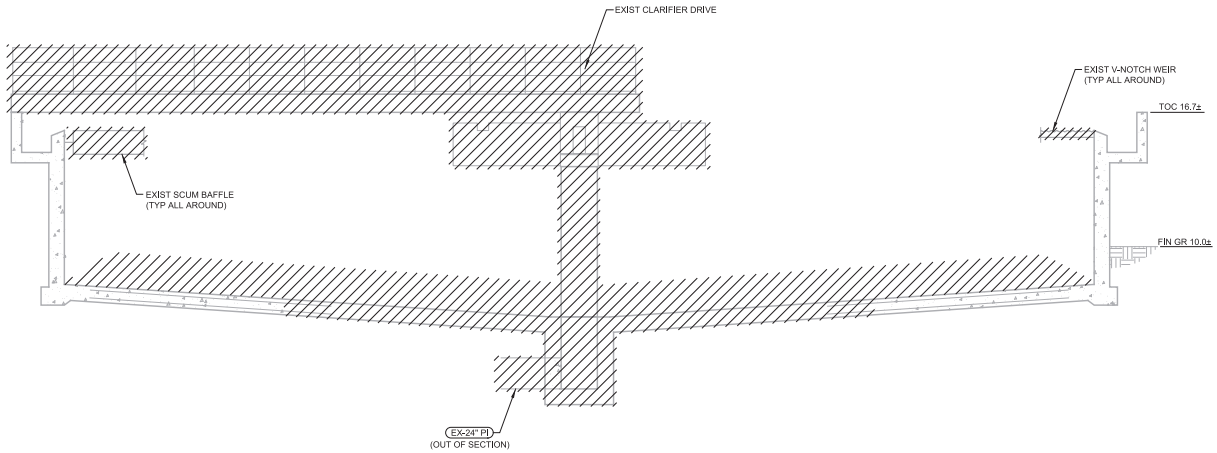
CITY OF ARCATA

CITY OF ARCATA
AWTF IMPROVEMENTS PROJECT PHASE 1
DEMOLITION
HEADWORKS - I

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 10D01
SHEET NO. OF XXX

FILE NAME: 9913C10101D001.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Albico



B 11D01 SECTION
SCALE: 1/4" = 1'-0"
FILE: 9913C1011D300

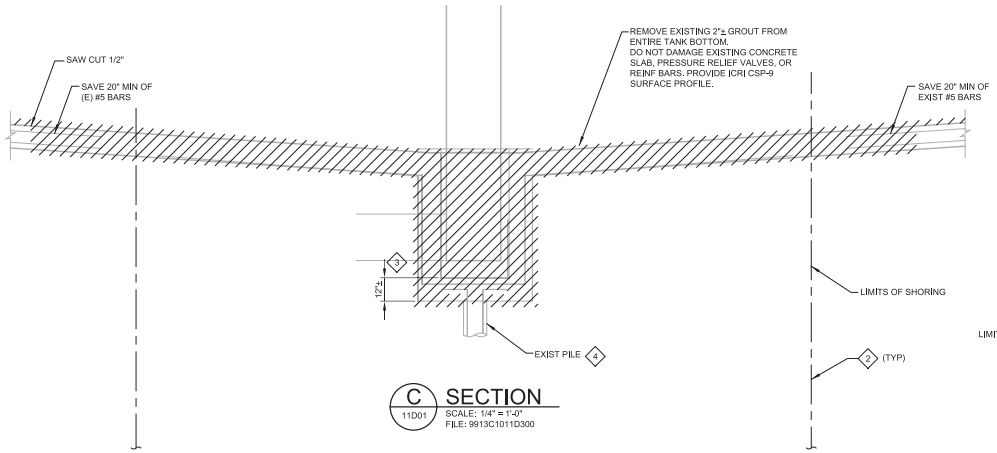
2 11D01 PHOTO
SCALE: NO SCALE
FILE: 9913C1011D02A

GENERAL NOTES:

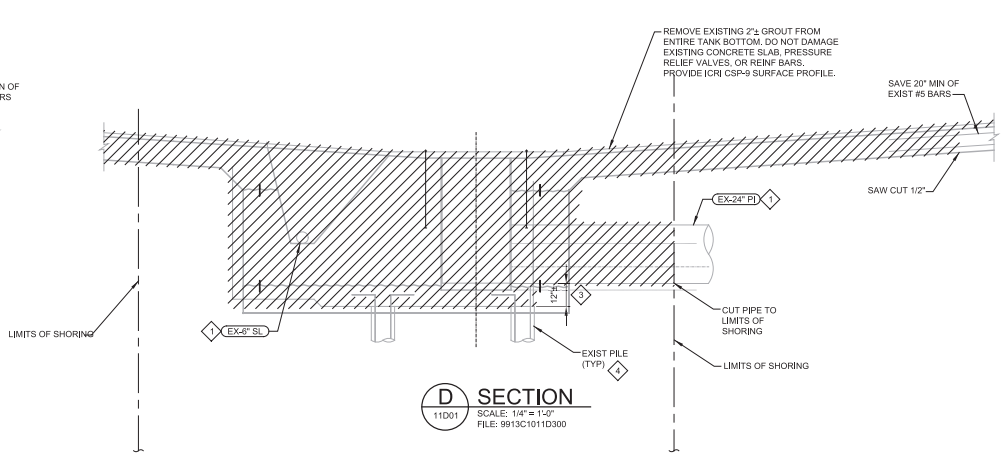
1. SEE GENERAL NOTES ON DRAWING 00D01.
2. DEMOLISH ALL MECHANICAL EQUIPMENT, WALKWAYS, AND HANDRAILS.
3. REVIEW AND COORDINATE DEMOLITION WITH STRUCTURAL, MECHANICAL, ELECTRICAL AND INSTRUMENTATION DRAWINGS PRIOR TO DEMOLITION.
4. PILE LOCATIONS UNKNOWN.

◇# KEY NOTES:

1. CUT PIPING TO LIMITS OF SHORING. PIPE MAY BE ENCASED IN CONCRETE, CLSM, OR OTHER NON-NATIVE MATERIAL.
2. INSTALL 40' MINIMUM DEEP IMPERMEABLE SHORING PER SECTION 02260.
3. DIMENSIONS SHOWN IN SECTIONS C AND ARE PROVIDED FOR ESTIMATING PURPOSES. ACTUAL DIMENSIONS ARE NOT KNOWN.
4. PILE LOCATIONS ARE SHOWN AS EXAMPLE. ACTUAL LOCATIONS ARE NOT KNOWN.
5. DEMOLISH SCUM PUMP AND ASSOCIATED PIPING, APPURTENANCES, AND CONCRETE PAD.



C 11D01 SECTION
SCALE: 1/4" = 1'-0"
FILE: 9913C1011D300



D 11D01 SECTION
SCALE: 1/4" = 1'-0"
FILE: 9913C1011D300

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DRAWN DPF
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER ROBERT R. HUNT No. 73037 CIVIL STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

CITY OF ARCATA

CITY OF ARCATA
AWTF IMPROVEMENTS PROJECT PHASE 1
DEMOLITION
PRIMARY CLARIFIER NO. 2
SECTIONS AND PHOTO

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 11D02
SHEET NO. OF XXX

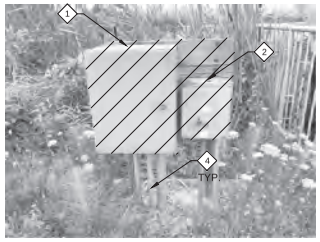
FILE NAME: 9913C1011D02.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Abico

GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.

◇0 KEY NOTES:

1. DISCONNECT AND REMOVE POWER JUNCTION BOX.
2. DISCONNECT AND REMOVE CONTROL PULL BOX.
3. DISCONNECT AND REMOVE MOTOR ACTUATOR.
4. PROTECT IN PLACE EXISTING CONDUITS.



1 / 01D04 DEMOLITION PHOTO
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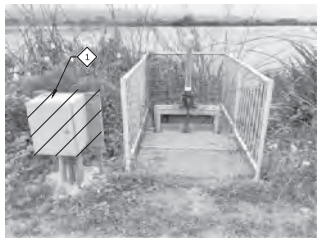
FILE: 9913C1014D09A



2 / 01D04 DEMOLITION PHOTO
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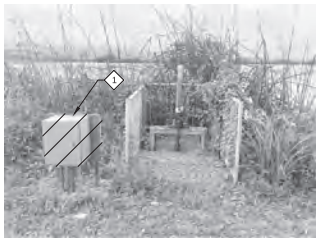
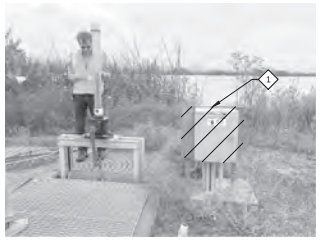
FILE: 9913C1014D09B



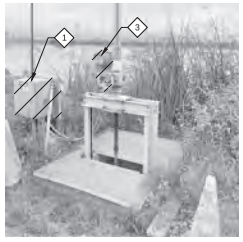
3 / 01D07 DEMOLITION PHOTO
SCALE: NO SCALE
FILE: 9913C1014D09C

4 / 01D07 DEMOLITION PHOTO
SCALE: NO SCALE
FILE: 9913C1014D09D



5 / 01D07 DEMOLITION PHOTO
SCALE: NO SCALE
FILE: 9913C1014D09E

6 / 01D07 DEMOLITION PHOTO
SCALE: NO SCALE
FILE: 9913C1014D09F



7 / 01D07 DEMOLITION PHOTO
SCALE: NO SCALE
FILE: 9913C1014D09G

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED AC
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CHECKED MM
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER — WARD T. MARSH — No. E20033 — ELECTRICAL — STATE OF CALIFORNIA

IN ASSOCIATION WITH carollo / GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

DEMOLITION

OXIDATION POND 2
OUTLETS DEMOLITION

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 14D02
SHEET NO. OF XXX

Plot Date: 9/17/2020 5:04:27 PM
FILE NAME: 9913C1014D02.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Luke.Hakonen

GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.
2. SEE DEMOLITION NOTES ON DRAWING 14D03.

1 / 14D03 PHOTO - NORTH WALL
SCALE: NO SCALE
FILE: 9913C1014D04A

2 / 14D03 PHOTO - WEST WALL
SCALE: NO SCALE
FILE: 9913C1014D04B

3 / 14D03 PHOTO - SOUTH WALL
SCALE: NO SCALE
FILE: 9913C1014D04C

4 / 14D03 PHOTO - EAST WALL
SCALE: NO SCALE
FILE: 9913C1014D04D

5 / 01D08 PHOTO - EPPS DOCKING STATION POWER OUTLET
SCALE: NO SCALE
FILE: 9913C1014D04E

REV	DATE	BY	DESCRIPTION

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DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER STEVEN X. MCKAMEY No. C47580 STATE OF CALIFORNIA

IN ASSOCIATION WITH carollo GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

DEMOLITION

EMERGENCY POND PUMP STATION
EXTERIOR DEMOLITION PHOTOS

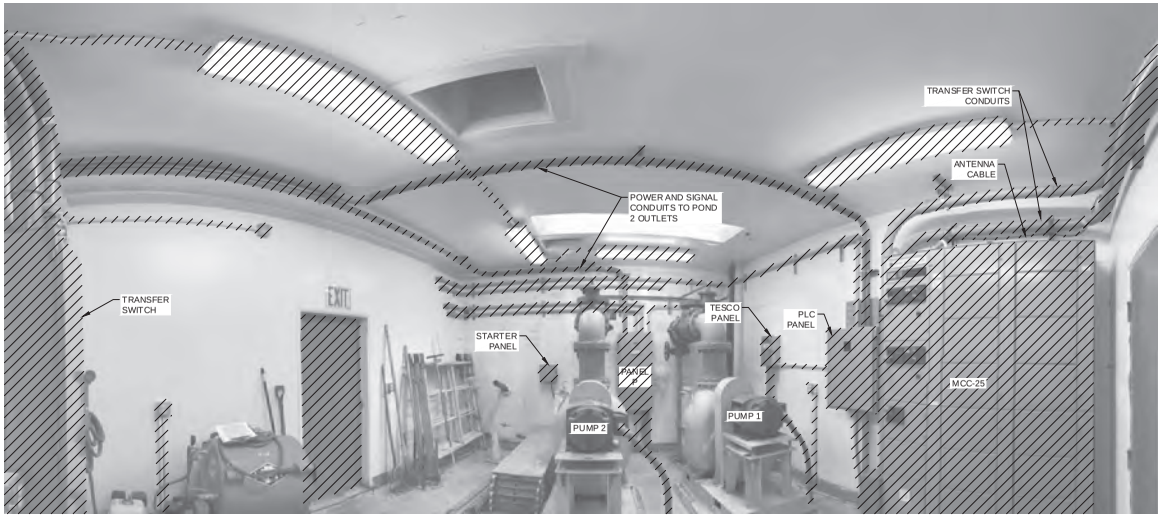
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON

JOB NO. 9913C.10
DRAWING NO. 14D04
SHEET NO. OF XXX

FILE NAME: 9913C1014D04.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Luke.Hakonen

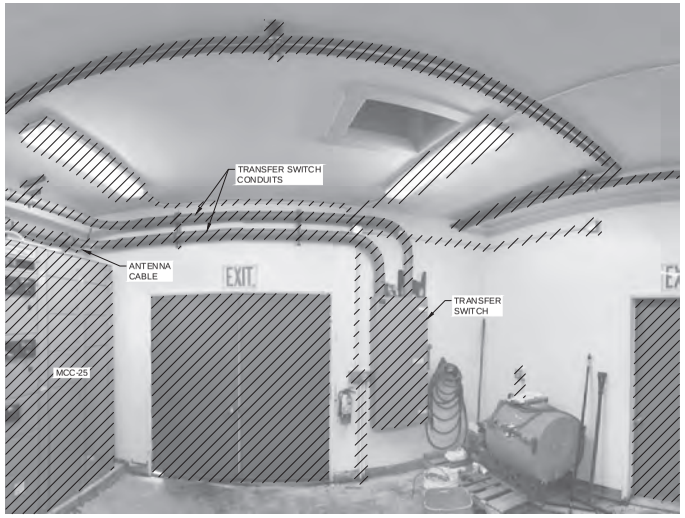
GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 00D01.
2. SEE DEMOLITION NOTES ON DRAWING 14D03.



1 / 14D03 PHOTO - EAST, SOUTH, AND WEST WALLS

SCALE: NO SCALE
FILE: 9913C1014D05A



2 / 14D03 PHOTO - NORTH WALL

SCALE: NO SCALE
FILE: 9913C1014D05B

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

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DRAWN LDH
CHECKED SXM
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER STEVEN X. MCKINNEY No. C47580 STATE OF CALIFORNIA

IN ASSOCIATION WITH carollo GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

DEMOLITION

EMERGENCY POND PUMP STATION INTERIOR DEMOLITION PHOTOS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON

JOB NO. 9913C.10
DRAWING NO. 14D05
SHEET NO. OF XXX

FILE NAME: 9913C1014D05.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Luke.Hakonen

1 PPS/ PS1
01D02
SCALE: NTS
FILE: 9913C1014D08C.JPG

2 PPS/PS1 ENCLOSURE #1
-
SCALE: NTS
FILE: 9913C1014D08A.JPG

3 PPS/PS1 ENCLOSURE #2
-
SCALE: NTS
FILE: 9913C1014D08B.JPG

GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.
2. THIS DRAWING ONLY SHOWS INFORMATION REGARDING ELECTRICAL DEMOLITION.

REV	DATE	BY	DESCRIPTION

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DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER
MEHDI MARDI
No.E20033
ELECTRICAL
STATE OF CALIFORNIA

carollo®
IN ASSOCIATION WITH GHD

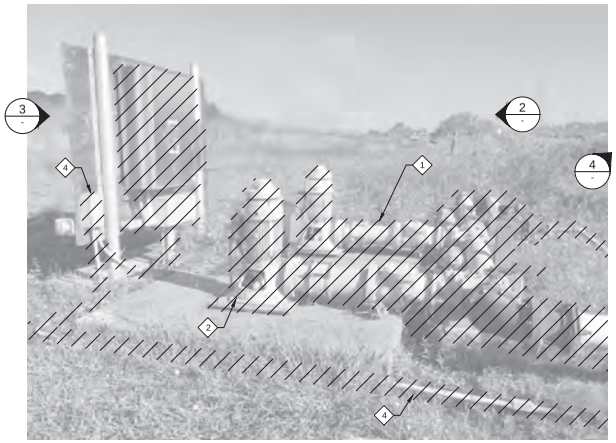
City of ARCATA

CITY OF ARCATA
AWTF IMPROVEMENTS PROJECT PHASE 1
DEMOLITION
POND PUMP STATION / PUMP STATION 1
DEMOLITION PHOTOS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 14D10
SHEET NO. OF XXX

LAST SAVED BY: Tomoki.Masui PROJECT NO.9913C1S_P1 FILE NAME: 9913C1014D10.dwg



1 PHOTO
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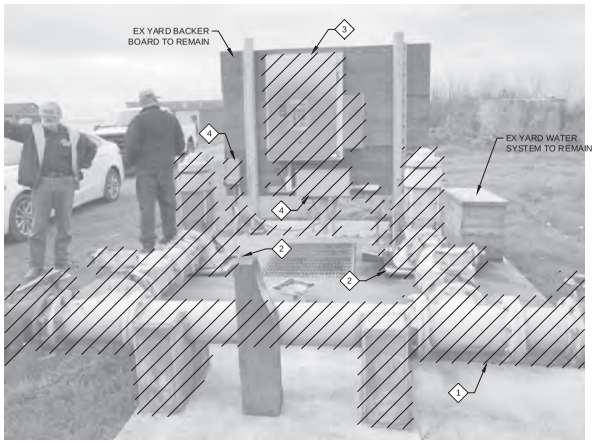
FILE: 9913C1015D03D



2 PHOTO
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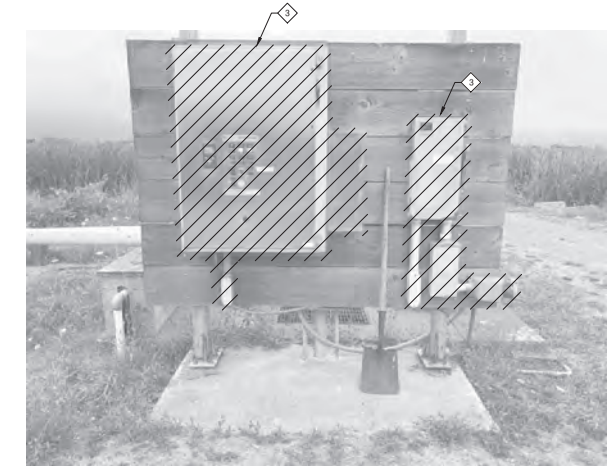
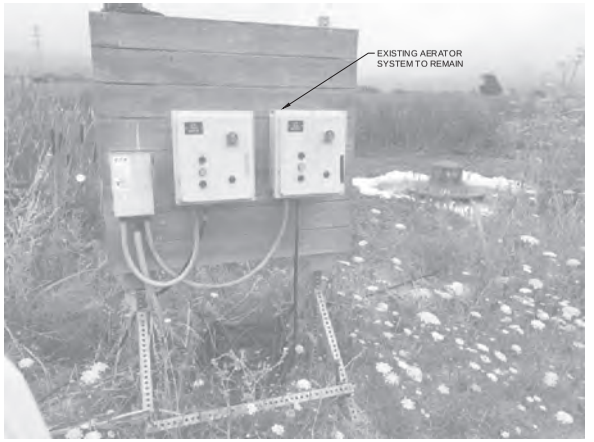
FILE: 9913C1015D03A



3 PHOTO
- SCALE: NO SCALE
FILE: 9913C1015D03B



4 PHOTO
- SCALE: NO SCALE
FILE: 9913C1015D03C

GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.
2. ELECTRICAL EQUIPMENT ASSOCIATED WITH TREATMENT WETLAND 3 AERATION EQUIPMENT SHALL REMAIN. COORDINATE EXTENT OF ELECTRICAL DEMOLITION THIS AREA WITH OWNER.

KEY NOTES:

1. DEMOLISH EXISTING PUMPS AND ASSOCIATED SUCTION PIPING AND HARDWARE, AND ABOVE GROUND PIPING, VALVES, FITTINGS, SUPPORTS. GRIND EXPOSED HARDWARE FLUSH.
2. INSTALL 1/4" STL PLATES AND ANCHOR OVER TOP OPENINGS IN WET WELL.
3. DEMOLISH ELECTRICAL PANELS. REMOVE ELECTRICAL CABLES AND CAP ALL CONDUITS.
4. EQUIPMENT MAY BE ASSOCIATED WITH TREATMENT WETLAND AERATORS. SEE NOTE 2.

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DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER STEVEN A. MCKINNEY No. C47580 STATE OF CALIFORNIA

IN ASSOCIATION WITH carollo GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

DEMOLITION

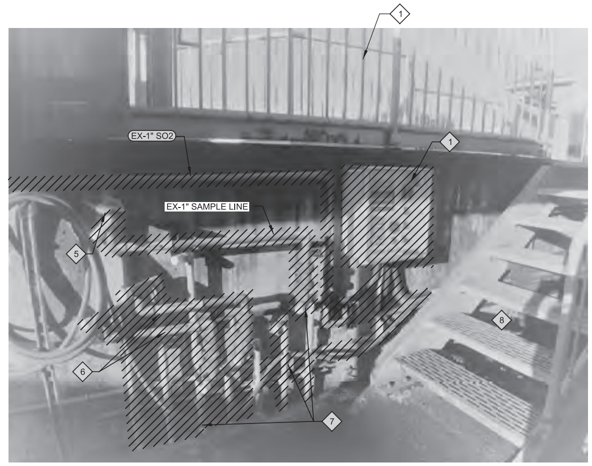
PUMP STATION 2
DEMOLITION PHOTOS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON

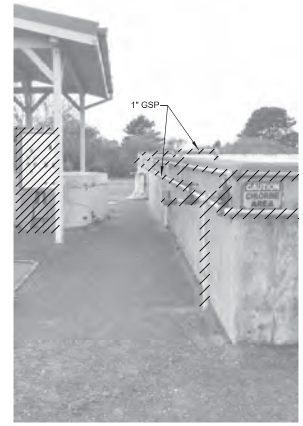
JOB NO. 9913C.10
DRAWING NO. 15D01
SHEET NO. OF XXX

FILE NAME: 9913C1015D01.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Luke.Hakonen

1 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D04A



2 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D04B



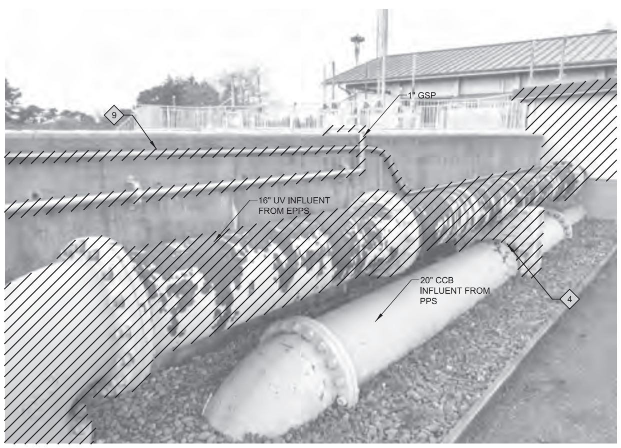
3 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D04C

GENERAL NOTES:

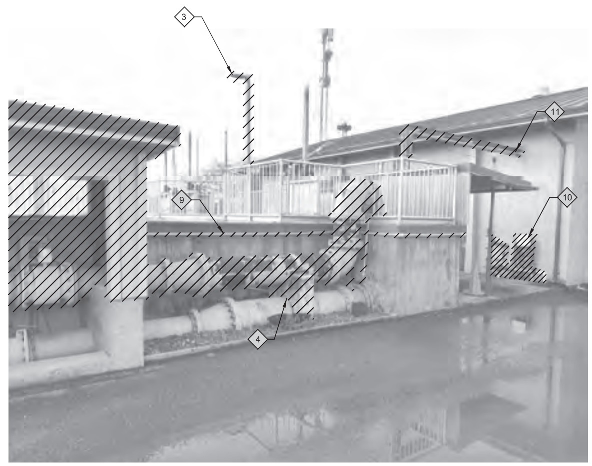
1. REFER TO SHEET 16D01 FOR ALL GENERAL NOTES.

KEY NOTES:

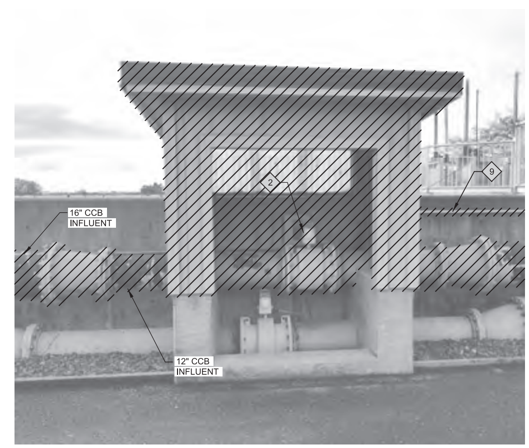
1. CONTRACTOR SHALL DEMOLISH WATER CHAMP AND WATER CHAMP CONTROL BOX AND IT'S APPURTENANCES INCLUDING BUT NOT LIMITED TO ELECTRICAL WIRING AND PIPING FOR CHLORINE CONTACT BASIN. CONTRACTOR SHALL PROVIDE OWNER RIGHT OF FIRST REFUSAL.
2. CONTRACTOR SHALL DEMOLISH THE FLOW METER. PROVIDE OWNER RIGHT OF FIRST REFUSAL.
3. CONTRACTOR SHALL DEMOLISH THE CCB LIGHT POLE. PROVIDE OWNER RIGHT OF FIRST REFUSAL.
4. CONTRACTOR SHALL PROTECT THE PIPE WHEN SUPPORT IS BEING DEMOLISHED. SHOULD THE PIPE BECOME DAMAGED, REPLACE IN KIND AT NO COST TO OWNER.
5. SEAL EXISTING WALL PENETRATION WITH NON-SHRINK CAULK.
6. DEMOLITION OF THE EXISTING 1" WASTEWATER SAMPLE LINES FOR THE CCB WEST SHALL BE DONE IN PHASES. PROTECT IN PLACE THESE SAMPLE LINES DURING CONSTRUCTION OF UV FACILITY AND REPLACE DURING CONSTRUCTION WORK OF THE CCB WEST.
7. DEMOLISH TO 2" ABOVE GRADE AND CAP 1" WASTEWATER SAMPLE LINES. SAMPLE LINES INSIDE THE CCB EAST IS NOT SHOWN HERE BUT SHALL BE DEMOLISHED.
8. NOT ALL DEMOLITION WORK IS SHOWN. SEE DRAWING 16D01 FOR DEMOLITION OF THE EXISTING GRATING AND STAIRS.
9. DEMOLISH ELECTRICAL CABLES, CONDUITS AND ASSOCIATED EQUIPMENT.
10. DEMOLISH 2" DOUBLE CHECK REDUCED PRESSURE BACKFLOW PREVENTER WITH GATE VALVE EACH SIDE. DEMOLISH THE PIPE TO 4" BELOW GRADE, AND UP TO THE CHLORINE BUILDING.
11. DEMOLISH THE PIPES UP TO THE CHLORINE BUILDING.



4 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D04D



5 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D04E



6 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D04F

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DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER DOUGLAS W. WING No. 38950 CIVIL STATE OF CALIFORNIA

carollo®
IN ASSOCIATION WITH GHD

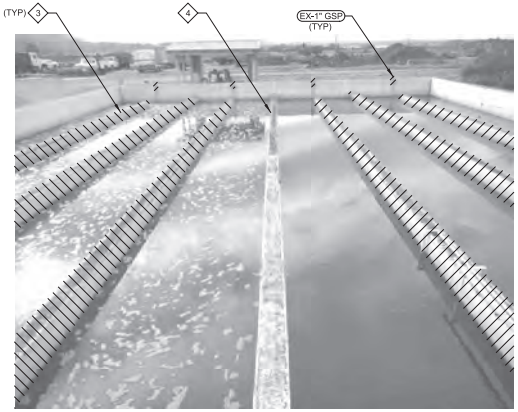
City of ARCATA

CITY OF ARCATA
AWTF IMPROVEMENTS PROJECT PHASE 1
DEMOLITION
CHLORINE CONTACT BASIN AND UV DISINFECTION PHOTOS - I

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

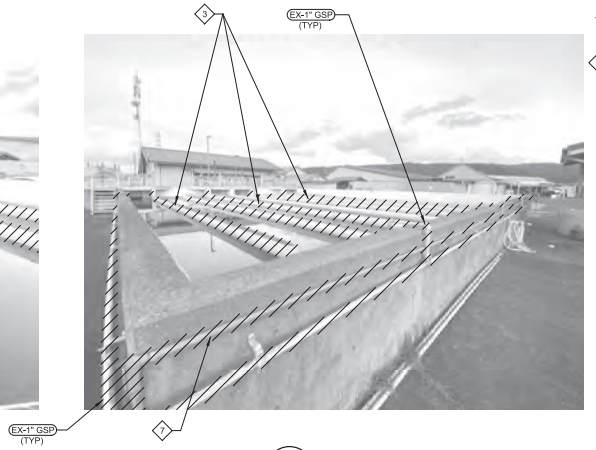
JOB NO. 9913C.10
DRAWING NO. 16D04
SHEET NO. OF XXX

LAST SAVED BY: Alaico PROJECT NO. 9913C1S_P1 FILE NAME: 9913C1016D04.dwg



7 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1017D05A

8 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1017D05B



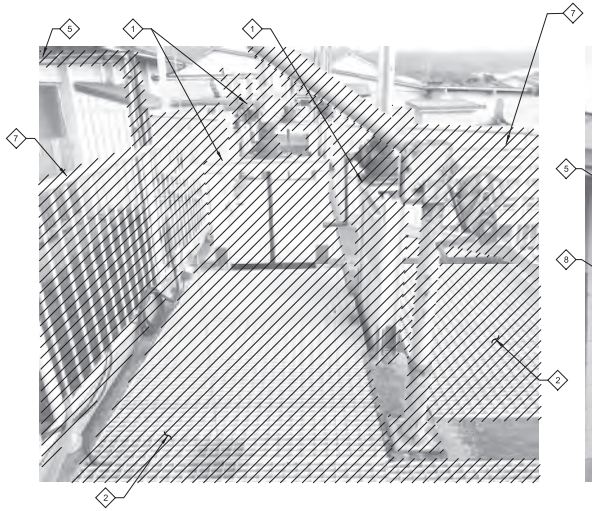
9 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1017D05C

GENERAL NOTES:

1. REFER TO SHEET 16D01 FOR ALL GENERAL NOTES.

KEY NOTES:

1. CONTRACTOR SHALL DEMOLISH ALL SLIDE GATES IN THE CHLORINE CONTACT BASIN.
2. CONTRACTOR SHALL COORDINATE WITH OWNER TO VERIFY IF THE GRATING IS TO BE REUSED. CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT THE GRATING, RAILING AND OTHER APPURTENANCES FROM ANY DAMAGES OR LOSS DURING CONSTRUCTION.
3. DEMOLISH 8" CMU BAFFLE WALL.
4. DEMOLITION OF THE CHLORINE CONTACT BASIN WILL BE COMPLETED IN PHASES. CHLORINE CONTACT BASIN WEST SHALL REMAIN IN SERVICE DURING DEMOLITION OF CHLORINE CONTACT BASIN EAST AND CONSTRUCTION OF UV SYSTEM. CONTRACTOR SHALL PROTECT THE CENTER WALL FROM ANY DAMAGES DURING CONSTRUCTION.
5. DEMOLISH UP TO THE CHLORINE BUILDING AND CAP THE SO2 PIPE. SEE DRAWING 16M02 FOR CONNECTION TO NEW CL2 PIPE.
6. DEMOLISH GRATING, HANDRAILS, AND STAIRS. COORDINATE WITH OWNER IN ADVANCE AND PROVIDE SAFE WORKING SPACE FOR REGULAR OPERATION AND MAINTENANCE DURING THE WORK.
7. DEMOLISH ELECTRICAL CABLES, CONDUITS AND ASSOCIATED EQUIPMENT.
8. DEMOLISH W2 LINE UP TO THE COUPLING.



10 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1017D05D

11 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1017D05E

12 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1017D05F

13 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1017D05G

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED MN
DRAWN AL
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER DOUGLAS W. RITTER No. 38950 CIVIL STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

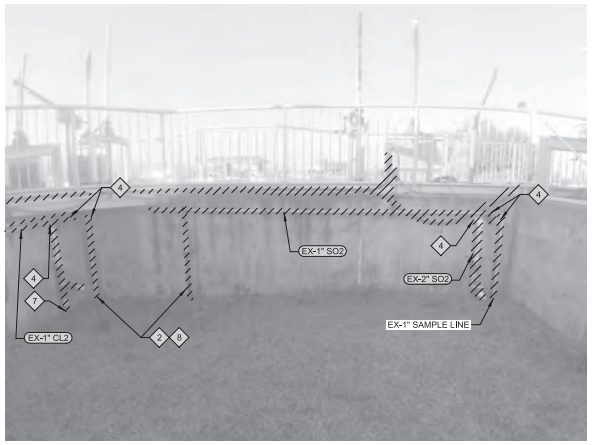
CITY OF ARCATA

CITY OF ARCATA
AWTF IMPROVEMENTS PROJECT PHASE 1
DEMOLITION
CHLORINE CONTACT BASIN AND UV DISINFECTION PHOTOS - II

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 16D05
SHEET NO. OF XXX

FILE NAME: 9913C1016D05.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Albico



14 PHOTO
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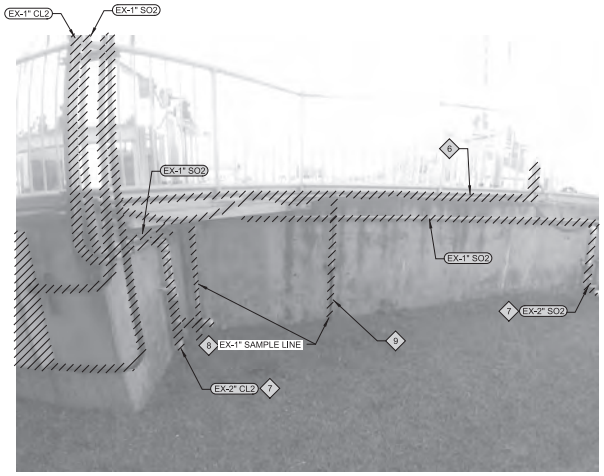
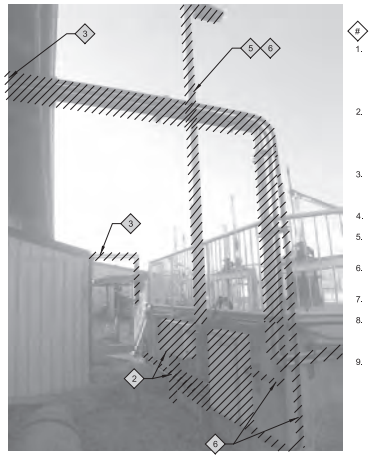
FILE: 9913C1016D06A



15 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D06B



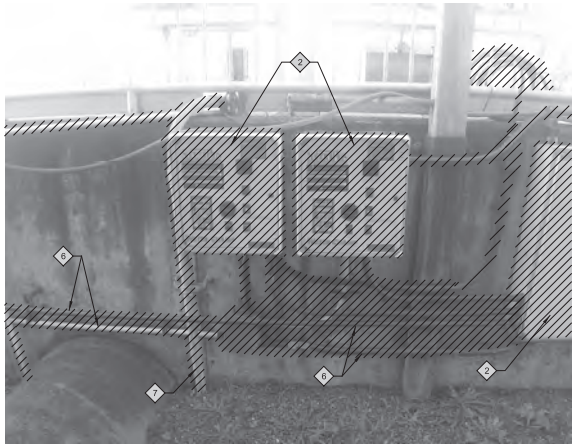
16 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D06C

GENERAL NOTES:

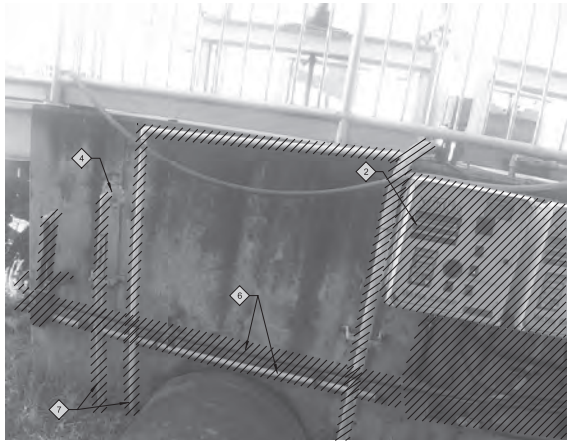
1. REFER TO SHEET 16D01 FOR ALL GENERAL NOTES.

KEY NOTES:

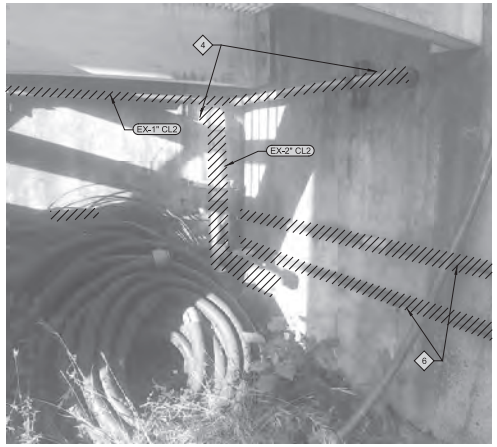
1. THE 2-INCH CL2 AND SO2 LINES ABOVE GROUND AND INSIDE CCB/UV TO BE DEMOLISHED. ALL UNDERGROUND CL2, SO2, AND SAMPLE PIPING SHALL BE CAPPED WHERE THEY GO UNDERGROUND. THE UNDERGROUND PIPING SHALL BE LEFT IN PLACE AND MARKED AS ABANDONED.
2. CONTRACTOR SHALL DEMOLISH WATER CHAMP AND WATER HAMP CONTROL BOX AND ITS APPURTENANCES INCLUDING BUT NOT LIMITED TO ELECTRICAL WIRING AND PIPING FOR CHLORINE CONTACT BASIN. CONTRACTOR SHALL PROVIDE OWNER RIGHT OF FIRST APPROVAL.
3. PROTECT THE EXISTING OVERHEAD BRIDGE. DEMOLISH THE PIPES UP TO THE CHLORINE BUILDING. SEE DRAWING 16M02 FOR CONNECTION TO NEW CLV LINE.
4. SEAL EXISTING WALL PENETRATION WITH NON-SHRINK CAULK.
5. CONTRACTOR SHALL DEMOLISH CCB LIGHT POLE. PROVIDE OWNER RIGHT OF FIRST REFUSAL.
6. DEMOLISH ELECTRICAL CABLES, CONDUITS AND ASSOCIATED EQUIPMENT.
7. DEMOLISH TO 2" ABOVE GROUND AND CAP THE PIPE.
8. DEMOLISH TO 2" ABOVE GROUND AND PROTECT THE PIPE DURING CONSTRUCTION. SEE DRAWING 17M01 FOR CONNECTION TO NEW SAMPLE LINE.
9. COORDINATE WITH OWNER PRIOR TO START DEMOLITION WORK.



17 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D06D



18 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D06E



19 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D06F

20 PHOTO
16D01 SCALE: NO SCALE
FILE: 9913C1016D06G

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED MN
DRAWN AL
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER DOUGLAS W. REYNOLDS No. 38950 CIVIL STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

DEMOLITION

CHLORINE CONTACT BASIN AND UV DISINFECTION PHOTOS - III

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 16D06
SHEET NO. OF XXX

FILE NAME: 9913C1016D06.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Abaco

KEY NOTES:

1. PANEL BOARD DEMOLITION SHALL BE DONE WITH MINIMAL DAMAGE TO EXISTING CONDUITS AND CABLES. NEW PANEL BOARD WILL BE INSTALLED IN THE SAME LOCATION AS EXISTING, EXISTING CONDUITS WILL CONNECT TO THE NEW PANEL BOARD, AND EXISTING CABLE WILL TERMINATE INSIDE NEW PANEL BOARD.
2. CONTRACTOR SHALL COMMUNICATE AND COORDINATE PROPER CLEARANCE REQUIRED FOR INSTALLATION OF NEW TRANSFORMER DURING DEMOLITION OF EXISTING TRANSFORMER. OBSTACLES MUST BE REMOVED DURING DEMOLITION TO PROVIDE PROPER SPACE FOR NEW TRANSFORMER INSTALLATION.
3. EXPOSED CONDUIT ASSOCIATED WITH DEMO EQUIPMENT WHICH CONNECTED TO PANELBOARD SHALL BE DEMOLISHED. ENTIRE CABLES RUN ASSOCIATED WITH DEMO EQUIPMENT FED FROM PANELBOARDS SHALL BE DEMOLISHED. LEAVE DEMO CABLES IN EXISTING CONDUITS WHERE DEMO CABLES SHARE THE SAME RACEWAY WITH OTHER EXISTING CABLES.

1 PHOTO
17D01 SCALE: NO SCALE
FILE: 9913C1017D02A

2 PHOTO
17D01 SCALE: NO SCALE
FILE: 9913C1017D02B

3 PHOTO
17D01 SCALE: NO SCALE
FILE: 9913C1017D02C

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED HR
DRAWN MNH
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER TERRY R. BAHNSMAN No. E19683 ELECTRICAL STATE OF CALIFORNIA

IN ASSOCIATION WITH carollo GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

DEMOLITION

CHLORINE BUILDING ANALYZER ROOM DEMOLITION PHOTOS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 17D02
SHEET NO. OF XXX

FILE NAME: 9913C1017D02.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Abloo

GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.

1 / 01D16 EXHIBIT CASE DEMOLITION PHOTO

SCALE: NO SCALE

FILE: 9913C1018D05C.JPG

2 / 01D16 DRY WELL DEMOLITION PHOTO

SCALE: NO SCALE

FILE: 9913C1018D05E.JPG

90% SUBMITTAL
NOT FOR CONSTRUCTION

REV	DATE	BY	DESCRIPTION

DESIGNED AC
DRAWN TM
CHECKED MM
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER — MICHAEL T. MANOLI — No. E20033 — ELECTRICAL — STATE OF CALIFORNIA

carollo

IN ASSOCIATION WITH GHD

City of ARCATA

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

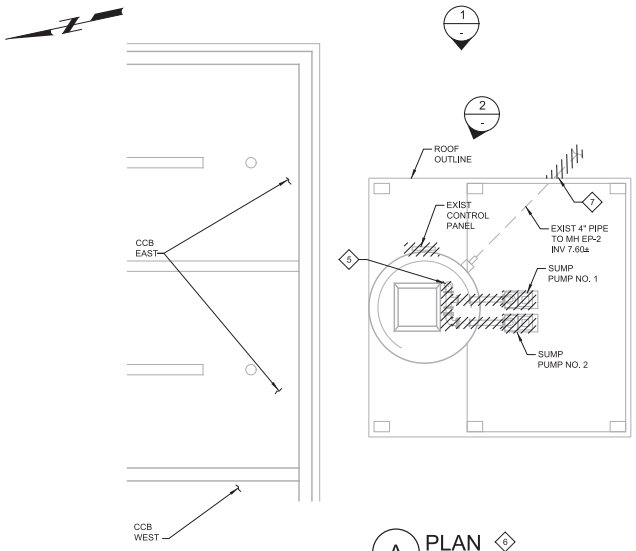
DEMOLITION

ENHANCEMENT WETLANDS PUMP STATION DEMOLITION - IV

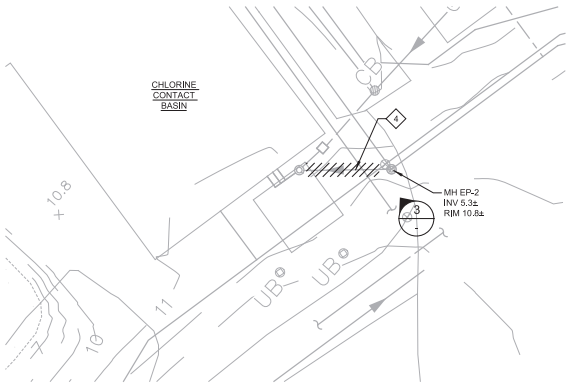
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 18D05
SHEET NO. OF XXX

FILE NAME: 9913C1018D05.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Luke.Hakonen



A PLAN [6]
SCALE: 1/4"=1'-0"
FILE: 9913C1017D9101



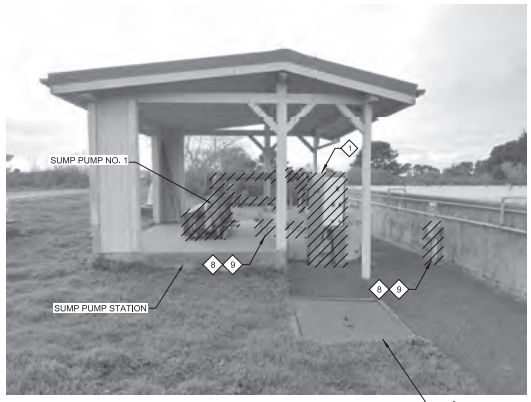
B PARTIAL SITE PLAN
SCALE: 1/16"=1'-0"
FILE: 9913C1017C9101

GENERAL NOTES:

1. ALL DEMOLITION WORK SHALL BE PERFORMED PER SPECIFICATION SECTION 01738.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING FACILITIES IN SERVICE AS DIRECTED BY THE ENGINEER.
3. PRIOR TO ANY WORK, CONTRACTOR SHALL COORDINATE ALL DEMOLITION WITH THE OWNER AND ENGINEER.
4. ALL DIMENSIONS, WALL THICKNESSES, FOUNDATIONS, PIPING, AND OTHER DETAILS SHOWN ON THIS DRAWING WERE TAKEN FROM RECORD DRAWINGS PROVIDED BY THE OWNER. ACTUAL DIMENSIONS MAY VARY, AND SHALL BE CONFIRMED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
5. PROTECT IN PLACE ALL SUCH ITEMS THAT ARE NOT DESIGNATED TO BE DEMOLISHED OR MODIFIED. SHOULD SUCH ITEMS BECOME DAMAGED DURING THE WORK, REPLACE IN KIND AT NO COST TO THE OWNER.
6. CONTRACTOR IS RESPONSIBLE FOR SECURING PARTIALLY DEMOLISHED AND CONSTRUCTED STRUCTURES AS REQUIRED TO RESIST ALL TEMPORARY LOADS DURING CONSTRUCTION. CONTRACTOR'S DEMOLITION SCHEDULE SHALL CONSIDER THE GLOBAL STABILITY OF THE STRUCTURE BEING DEMOLISHED.
7. WHERE EXISTING STRUCTURE BEING DEMOLISHED IS ANCHORED TO CONCRETE THAT WILL REMAIN, GRIND ANCHOR BOLTS BACK 1" FROM SURFACE OF CONCRETE AND FILL CAVITY WITH NON-SHRINK GROUT.
8. PRIOR TO DEMOLITION WORK, CONTRACTOR SHALL ENSURE ALL ITEMS ASSOCIATED WITH THE STRUCTURES TO BE DEMOLISHED HAVE BEEN PROPERLY DISCONNECTED INCLUDING BUT NOT LIMITED TO PIPING AND CONDUIT.
9. IMPLOSION, UNCONTROLLED COLLAPSE, OR RAPID DECONSTRUCTION FACILITATED BY GRAVITY IS NOT PERMITTED. DEMOLITION SHALL BE ACCOMPLISHED IN A CONTROLLED MANNER WITH CONVENTIONAL, MECHANICAL EQUIPMENT UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER.
10. NOT ALL DEMOLITION WORK IS SHOWN ON THIS DRAWING. SEE MECHANICAL DRAWINGS FOR PIPE SIZES AND LOCATIONS.

[#] KEY NOTES

1. DEMOLISH SUMP PUMP STATION CONTROL PANEL.
2. PROTECT VALVES IN VALVE BOX DURING CONSTRUCTION WORK. CHLORINE CONTACT BASIN WEST SHALL BE IN SERVICE ALL THE TIME DURING CONSTRUCTION.
3. DEMOLISH THE PIPING ON THE SUCTION SIDE OF THE PUMPS ABOVE GROUND AND INSIDE SUMP MANHOLE. THE PIPE LENGTH INSIDE THE MANHOLE IS APPROXIMATELY 11 FT.
4. DEMOLISH 4" STORM DRAIN PIPE FROM THE SUMP MANHOLE TO MANHOLE EP-2 AND UPSIZE THE EXISTING PENETRATION FOR A NEW 6" DRAIN PIPE PROTECT THE MANHOLE DURING DEMOLITION WORK.
5. DEMOLISH 4" DISCHARGE PIPING FROM THE PUMPS TO 6" ABOVE THE TOP OF MANHOLE. THE 4" DISCHARGE PIPE INSIDE MANHOLE SHALL BE LEFT IN PLACE AND MARKED ABANDONED. CAP THE PIPE ON TOP OF MANHOLE AND RESTORE THE SURFACE WITH NON-SHRINK GROUT.
6. ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO START THE DEMOLITION WORK.
7. CONTRACTOR SHALL POTHOLE AND DETERMINE THE LOCATION OF THE EXISTING BURIED 4" DRAIN PIPE TO MANHOLE EP-2. CONTRACTOR SHALL PROTECT THE CONCRETE PAD, AND KEEP IN PLACE THE 4" DISCHARGE PIPING BELOW THE PAD. CAP THE EXISTING 4" DRAIN PIPE AT THIS LOCATION AND DEMOLISH THE REST OF BURIED PIPE TO MANHOLE EP-2.
8. DEMOLISH ALL THE ELECTRICAL EXPOSED CONDUITS INCLUDING BUT NOT LIMITED TO POWER, CONTROL AND SIGNAL.
9. DEMOLISH ALL THE ELECTRICAL CABLES FROM FIELD EQUIPMENT TO THE SOURCE. LEAVE DEMO CABLES IN PLACE WHERE DEMO CABLES SHARE THE SAME CONDUIT WITH EXISTING CABLES.



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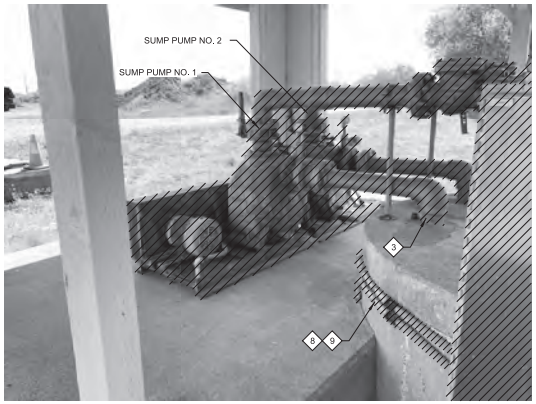


2 PHOTO
SCALE: NO SCALE
FILE: 9913C1025D01B

3 PHOTO
SCALE: NO SCALE
FILE: 9913C1025D01C

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED MN
DRAWN AL
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER — DOUGLAS W. PATTON — No. 38950 — CIVIL — STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

DEMOLITION

CHLORINE CONTACT BASIN SUMP PUMP STATION PLANS AND PHOTOS

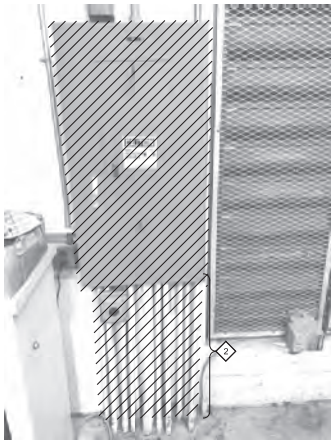
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 25D01
SHEET NO. OF XXX

FILE NAME: 9913C1025D01.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: lbordelon

1 26D01 PHOTO
SCALE: NO SCALE
FILE: 9913C1026D02A

2 26D01 PHOTO
SCALE: NO SCALE
FILE: 9913C1026D02B



3 26D01 PHOTO
SCALE: NO SCALE
FILE: 9913C1026D02C

4 26D01 PHOTO
SCALE: NO SCALE
FILE: 9913C1026D02D

GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.

KEY NOTES:

1. DEMOLISH DRY TYPE TRANSFORMER T-29.
2. FIELD VERIFY AND DEMOLISH RACEWAYS AND CABLES FOR DEMOLISHED OR REPLACED EQUIPMENT AS SHOWN ON DEMO PANELBOARD SCHEDULE FOR PANEL _____. PROTECT IN PLACE EXISTING RACEWAYS AND CONDUCTORS FOR MAINTAINED EXISTING EQUIPMENT AS SHOWN ON NEW PANELBOARD SCHEDULE _____.
3. DEMOLISH PANELBOARD AND ALL THE ASSOCIATED CABLES AND CONDUIT FOR GENERATOR BUILDING STORAGE ROOM.

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RRH
DRAWN AL
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER TERRY R. BAHNSMAN No. E19683 ELECTRICAL STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

CITY OF ARCATA

CITY OF ARCATA
AWTF IMPROVEMENTS PROJECT PHASE 1
DEMOLITION
GENERATOR BUILDING PHOTOS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 26D02
SHEET NO. OF XXX

FILE NAME: 9913C1026D02.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Albico

5 26D01 PHOTO
SCALE: NO SCALE
FILE: 9913C1026D03A

6 26D01 PHOTO
SCALE: NO SCALE
FILE: 9913C1026D03B

GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.
2. DEMOLISH CMU BLOCK BUILDING INCLUDING FOUNDATION AND ALL APPURTENANCES. BUILDING DIMENSIONS ARE APPROXIMATELY 16'x7' AND 12' TALL.
3. REROUTE OR CAP ANY ATTACHED UTILITIES.

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RRH
DRAWN AL
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER ROBERT R. HUNT No. 73037 CIVIL STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

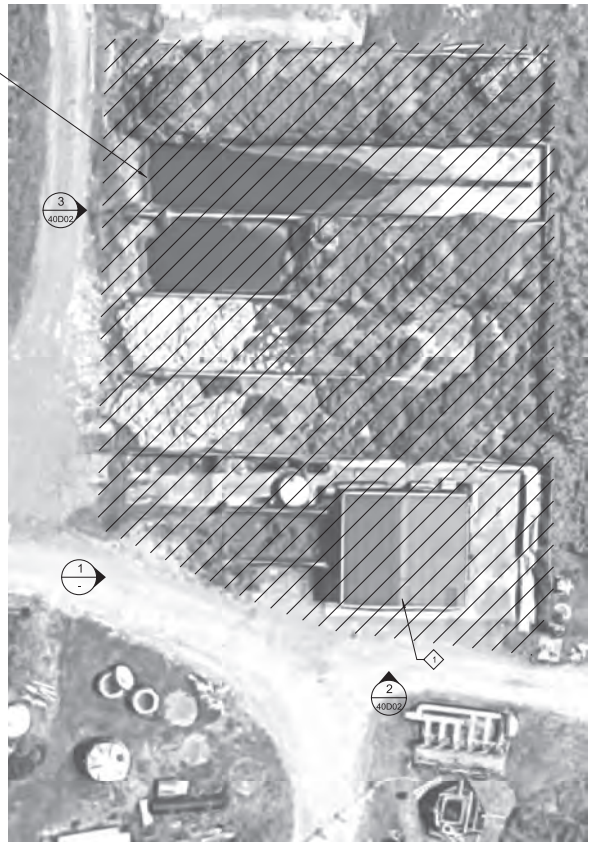
DEMOLITION

GENERATOR BUILDING STORAGE BUILDING PHOTOS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 26D03
SHEET NO. OF XXX

FILE NAME: 9913C1026D03.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Albico



A 01D02 PLAN
SCALE: NO SCALE
FILE: 9913C1040D01A

1 - PHOTO
SCALE: NO SCALE
FILE: 9913C1040D01B

GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.

KEY NOTES:

1. DEMOLISH WOOD STRUCTURE, LIGHTING, FOUNDATION AND ALL CONCRETE. STRUCTURE IS APPROXIMATELY 32'x30' AND 20' TALL. CONCRETE PAD IS APPROXIMATELY 52'x40'.
2. DEMOLISH DIVIDER WALLS, APPROXIMATELY 105' LONG.

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RRH
DRAWN AL
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER ROBERT R. HUNT No. 73037 CIVIL STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

DEMOLITION

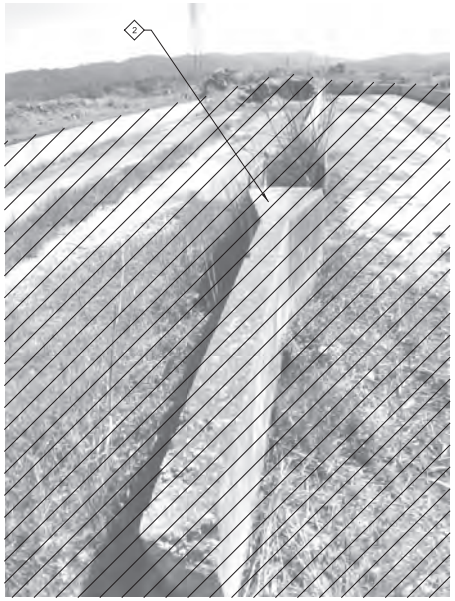
MILL SHED
PLAN AND PHOTO

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 40D01
SHEET NO. OF XXX

FILE NAME: 9913C1040D01.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Albico

2 PHOTO
40D01 SCALE: NO SCALE
FILE: 9913C1040D02A



3 PHOTO
40D01 SCALE: NO SCALE
FILE: 9913C1040D02B

GENERAL NOTES:

1. SEE GENERAL NOTES ON DRAWING 01D01.

KEY NOTES:

1. DEMOLISH WOOD STRUCTURE, LIGHTING, FOUNDATION AND ALL CONCRETE. STRUCTURE IS APPROXIMATELY 32'x30' AND 20' TALL. CONCRETE PAD IS APPROXIMATELY 52'x40'.
2. DEMOLISH DIVIDER WALLS, APPROXIMATELY 105 FEET LONG.

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED RRH
DRAWN AL
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER ROBERT R. HUNT No. 73037 CIVIL STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

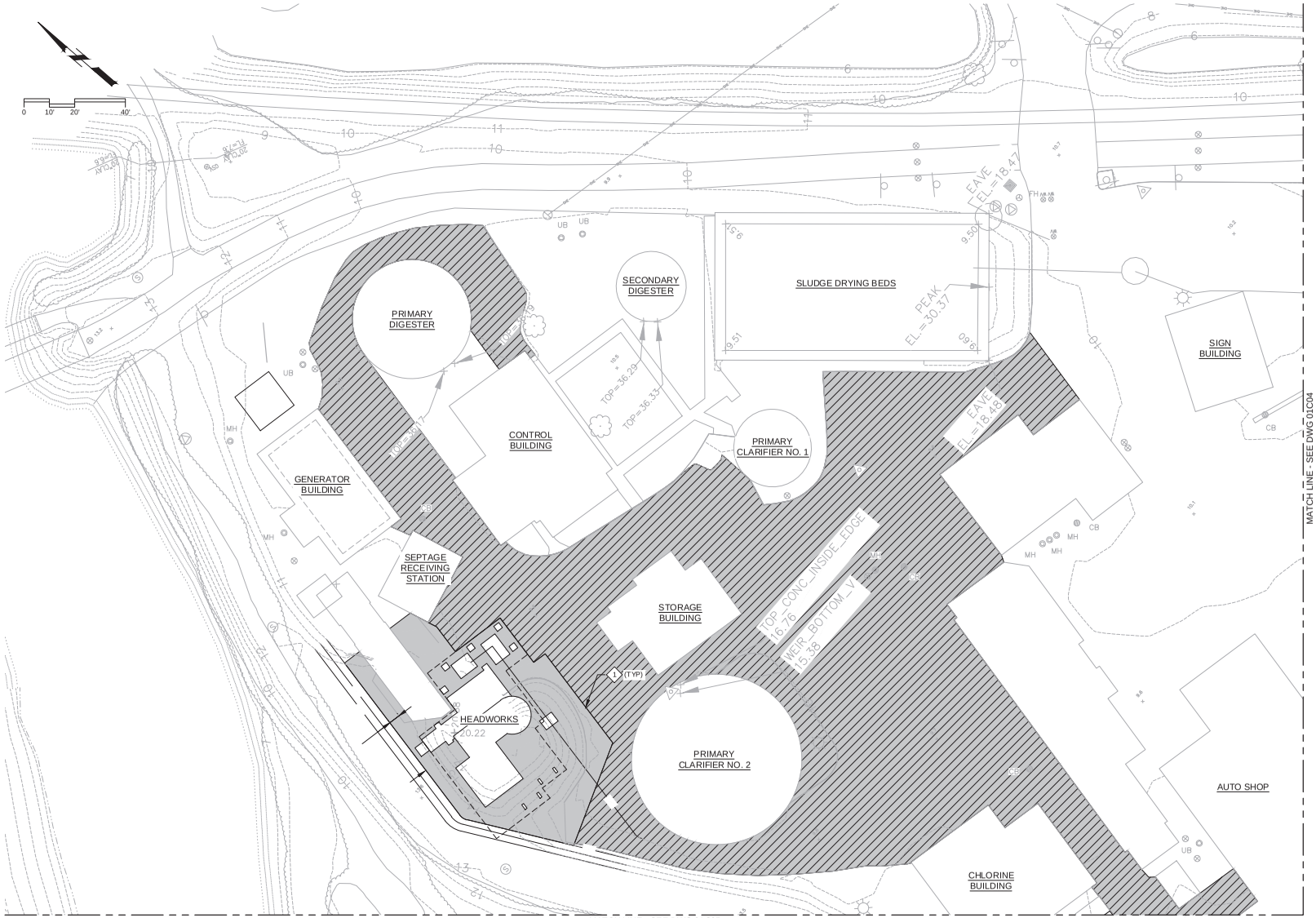
DEMOLITION

MILL SHED PHOTOS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 40D02
SHEET NO. OF XXX

FILE NAME: 9913C1040D02.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Albico



GENERAL NOTES:

1. SEE PAVING AND GRADING GENERAL NOTES ON DRAWING 00C01.

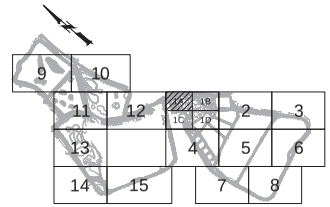
KEY NOTES:

1. SAW CUT AND MATCH EXISTING PAVING WITH NEW PAVING PER DETAIL 1 ON DRAWING 00C08.

LEGEND:

NEW AC PAVEMENT 4" AC / 9.5" ABC / MIRAFI 600X

GRIND AND OVERLAY EXISTING PAVING PER SECTION 02952.



KEY PLAN

REV	DATE	BY	DESCRIPTION

90% SUBMITTAL
NOT FOR CONSTRUCTION

DESIGNED RRH
DRAWN AL
CHECKED
DATE OCTOBER 2020

IN ASSOCIATION WITH carollo GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

CIVIL

GRADING AND PAVING
AREA 1 - ENLARGED SITE PLAN A

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 01C03
SHEET NO. OF XXX

FILE NAME: 9913C10001C03.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: Alsico

CODE COMPLIANCE SUMMARY

2016 CALIFORNIA BUILDING CODE

BUILDING NAME	FLOOR PLAN DWG NO.	CONST TYPE	OCCUPANCY CLASSIFICATION	CHEMICALS IN USE/ STORAGE: MATERIAL & CONCENTRATION / HAZARD / CONTAINMENT CONDITION	CHEMICALS IN USE/ STORAGE: ACTUAL QUANTITY (GALLONS)	CHEMICALS IN USE/ STORAGE: MAX. ALLOWABLE QUANTITY BEFORE CLASSIFYING	ALLOWABLE STORIES / HEIGHT	ACTUAL STORIES / HEIGHT	ALLOWABLE AREA (EA FLOOR)	ACTUAL BUILDING AREA	MAXIMUM FLOOR AREA ALLOWANCE PER OCCUPANT	CALCULATED OCCUPANT LOAD	EXITS: REQ	EXITS: PROV	OCCUPANCY SEPARATION	FIRE SUPPRESSION	ADA ACCESS
ELECTRICAL BUILDING	16S10	II-B	U UTILITY														NR

2016 CALIFORNIA ENERGY CODE
HUMBOLDT COUNTY

MINIMUM PROVIDED R VALUE - OPAQUE THERMAL ENVELOPE: ROOF R VALUE	WALL R VALUE	FLOOR R VALUE	DOOR VALUE

ROOM FINISH SCHEDULE

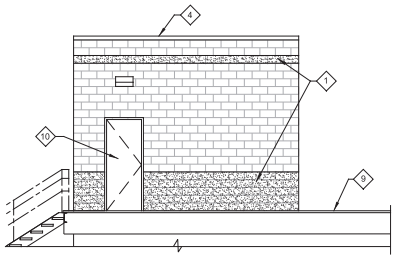
ROOM NO.	ROOM NAME	FLOOR: MATL	FLOOR: FINISH	BASE: MATL	NORTH WALL: MATL	NORTH WALL: FINISH	SOUTH WALL: MATL	SOUTH WALL: FINISH	EAST WALL: MATL	EAST WALL: FINISH	WEST WALL: MATL	WEST WALL: FINISH	CEILING: MATL	CEILING: HEIGHT	CEILING: FINISH	REMARKS
UV ELECTRICAL BUILDING - SEE DWG 16S09 FOR PLAN																
160	ELECTRICAL ROOM	CONC	SEALER	NONE	CMU	"	CMU	"	CMU	"	CMU	"	EXPO CONST	VARIES	COATING	

DOOR & HARDWARE SCHEDULE

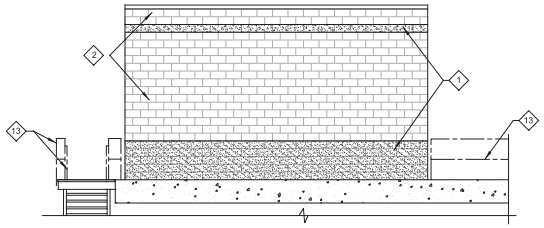
AJ103 TYP — SEE THESE TYP DETAILS UNLESS OTHERWISE INDICATED — AJ100 TYP, AJ105 TYP, AJ107 TYP, AJ109 TYP

DOOR AND HARDWARE NOTES:
ALL EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT. AT PAIRS OF DOORS PROVIDE SCHEDULED HARDWARE AT EACH DOOR UNLESS OTHERWISE NOTED.

DOOR NO.	INT/EXT	DOOR: WIDTH	DOOR: HEIGHT	DOOR: THICK	DOOR: TYPE	DOOR: MATL	DOOR: FINISH	FRAME: WIDTH	FRAME: HEIGHT	FRAME: DEPTH	FRAME: TYPE	FRAME: MATL	FRAME: FINISH	DETAILS: HEAD	DETAILS: JAMB	DETAILS: SILL	HARDWARE: LOCK	HARDWARE: HINGE	HARDWARE: CLOSER	HARDWARE: T'HOLD	HARDWARE: WSTRIP	HARDWARE: SILENCER	HARDWARE: BOLTS	HARDWARE: PUSH	HARDWARE: PULL	HARDWARE: DRIP	HARDWARE: ASTRAGAL	HARDWARE: DR BOTT	HARDWARE: EXIT DEV	HARDWARE: STOP	FIRE LABEL	ACTIVE LEAF	REMARKS	DOOR NO.
UV ELECTRICAL BUILDING - SEE DWG 16S09 FOR PLAN																																	
01	EXT	3'-0"	7'-2"	1 3/4"	F	STEEL	COATING	3'-4"	8'-0"	6"	R	STEEL	COATING				L-1	H-1	C-1	T-1	W-1	-	-	-	-	R-1	-	D-1	E-1		-	-		01
02	EXT	PR 3'-6"	7'-2"	1 3/4"	F&T	STEEL	COATING	7'-4"	10'-0"	6"	T	STEEL	COATING				L-2	H-1	C-1	T-1	W-1	-	B-1	-	-	R-1	A-1	D-1	E-1		-	RHRA		02



A NORTH ELEVATION
SCALE: 3/16" = 1'-0"
FILE:



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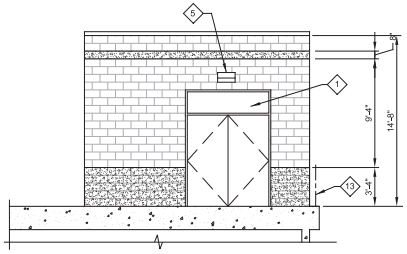

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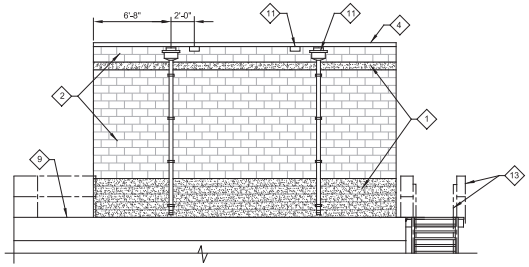

D EAST ELEVATION
SCALE: 3/16" = 1'-0"
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ACCESSIBILITY NOTE:

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GENERAL NOTES:

1. FOR BUILDING FLOOR PLAN, ROOF PLAN AND SECTIONS, SEE STRUCTURAL AREA 27 DRAWINGS

KEY NOTES:

1. 8x8x16 INTEGRALLY COLORED, SPLIT FACE CMU,
2. 8X8X16 INTEGRALLY COLORED, STANDARD SMOOTH FACE CMU
3. COAT ALL EXPOSED EXTERIOR MASONRY WITH WATER REPELLENT
4. PREFABRICATED METAL COPING, SEE SPEC
5. LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS FOR DETAILS
6. MASONRY CONTROL JOINT, SEE STRUCTURAL DRAWINGS FOR DETAILS
7. WALL OPENING FOR HVAC DUCTING, SEE HVAC DRAWINGS
8. REMOVABLE TRANSOM, TYP AT DOUBLE DOORS
9. TOP DECK OF UV DISINFECTION AND CHLORINE CONTACT BASIN. SEE DRAWING 16S02
10. HOLLOW METAL DOOR AND FRAME, SEE FLOOR PLAN AND SCHEDULE ABOVE FOR DETAILS
11. DRAIN SCUPPER, CONDUCTOR HEAD AND DOWNSPOUT, SEE TYPICAL DETAILS .....,
12. OVERFLOW SCUPPER, SEE TYPICAL DETAIL .....
13. ALUM GUARDRAIL / HANDRAIL, SEE STRUCTURAL DRAWINGS FOR DETAILS

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED JCA
DRAWN JCA
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER — MICHAEL E. JOHN — No. S5368 — STRUCTURAL — STATE OF CALIFORNIA

carollo — IN ASSOCIATION WITH GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

STRUCTURAL

UV ELECTRICAL BUILDING
EXTERIOR ELEVATIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 16S09
SHEET NO. OF XXX

FILE NAME: 9913C1016S09.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: jalband

CODE COMPLIANCE SUMMARY

2016 CALIFORNIA BUILDING CODE

BUILDING NAME	FLOOR PLAN DWG NO.	CONST TYPE	OCCUPANCY CLASSIFICATION	CHEMICALS IN USE/ STORAGE: MATERIAL & CONCENTRATION / HAZARD / CONTAINMENT CONDITION	CHEMICALS IN USE/ STORAGE: ACTUAL QUANTITY (GALLONS)	CHEMICALS IN USE/ STORAGE: MAX. ALLOWABLE QUANTITY BEFORE CLASSIFYING	ALLOWABLE STORIES / HEIGHT	ACTUAL STORIES / HEIGHT	ALLOWABLE AREA (EA FLOOR)	ACTUAL BUILDING AREA	MAXIMUM FLOOR AREA ALLOWANCE PER OCCUPANT	CALCULATED OCCUPANT LOAD	EXITS: REQ	EXITS: PROV	OCCUPANCY SEPARATION	FIRE SUPPRESSION	ADA ACCESS
ELECTRICAL BUILDING	27S02	II-B	U UTILITY	NA	NA	NA	-	1 /19'		2,267 SF	300 SF	8 PERSONS	6	6	2,267 SF	2,267 SF	NR

2016 CALIFORNIA ENERGY CODE
HUMBOLDT COUNTY

MINIMUM PROVIDED R VALUE - OPAQUE THERMAL ENVELOPE			
ROOF R VALUE	WALL R VALUE	FLOOR R VALUE	DOOR VALUE

ROOM FINISH SCHEDULE

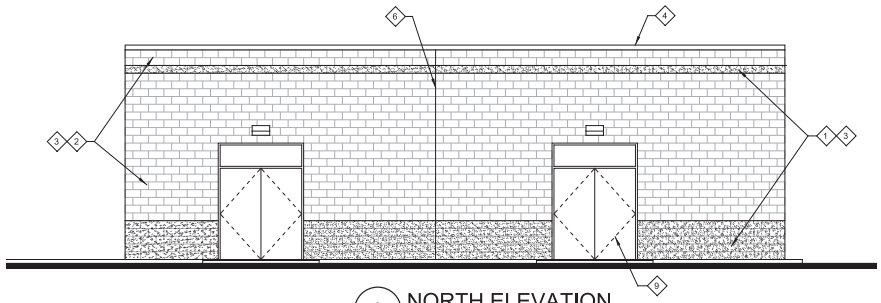
ROOM NO.	ROOM NAME	FLOOR: MATL	FLOOR: FINISH	BASE: MATL	NORTH WALL: MATL	NORTH WALL: FINISH	SOUTH WALL: MATL	SOUTH WALL: FINISH	EAST WALL: MATL	EAST WALL: FINISH	WEST WALL: MATL	WEST WALL: FINISH	CEILING: MATL	CEILING: HEIGHT	CEILING: FINISH	REMARKS
ELECTRICAL BUILDING - SEE DWG 27S02 FOR PLAN																
270	LV ELECTRICAL ROOM	CONC	SEALER	NONE	CMU	*	CMU	*	CMU	*	CMU	*	EXPO CONST	VARIES	COATING	
271	MV ELECTRICAL ROOM	CONC	SEALER	NONE	CMU	*	CMU	*	CMU	*	CMU	*	EXPO CONST	VARIES	COATING	
272	BATTERY ROOM	CONC	SEALER	NONE	CMU	*	CMU	*	CMU	*	CMU	*	EXPO CONST	VARIES	COATING	
273	CONTROL ROOM	CONC	SEALER	NONE	CMU	*	CMU	*	CMU	*	CMU	*	EXPO CONST	VARIES	COATING	

DOOR & HARDWARE SCHEDULE

AJ103 TYP ← SEE THESE TYP DETAILS UNLESS OTHERWISE INDICATED → AJ100 TYP, AJ105 TYP, AJ107 TYP, AJ109 TYP

DOOR AND HARDWARE NOTES:
ALL EXIT DOORS SHALL BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT. AT PAIRS OF DOORS PROVIDE SCHEDULED HARDWARE AT EACH DOOR UNLESS OTHERWISE NOTED.

DOOR NO.	INT/EXT	DOOR: WIDTH	DOOR: HEIGHT	DOOR: THICK	DOOR: TYPE	DOOR: MATL	DOOR: FINISH	FRAME: WIDTH	FRAME: HEIGHT	FRAME: DEPTH	FRAME: TYPE	FRAME: MATL	FRAME: FINISH	DETAILS: HEAD	DETAILS: JAMB	DETAILS: SILL	HARDWARE: LOCK	HARDWARE: HINGE	HARDWARE: CLOSER	HARDWARE: T'HOLD	HARDWARE: WSTRIP	HARDWARE: SILENCER	HARDWARE: BOLTS	HARDWARE: PUSH	HARDWARE: PULL	HARDWARE: DRIP	HARDWARE: ASTRGAL	HARDWARE: DR BOTT	HARDWARE: EXIT DEV	HARDWARE: STOP	FIRE LABEL	ACTIVE LEAF	REMARKS	DOOR NO.
ELECTRICAL BUILDING - SEE DWG 27S02 FOR PLAN																																		
01	EXT	PR 3'-6"	7'-2"	1 3/4"	F&T	STEEL	COATING	7'-4"	9'-4"	6"	T	STEEL	COATING	C	C	E	L-1	H-1	C-1	T-1	W-1	-	B-1	-	-	R-1	A-1	D-1	E-1		-	RHRA		01
02	INT	3'-0"	7'-2"	1 3/4"	F	STEEL	COATING	7'-4"	7'-4"	6"	R	STEEL	COATING	C	C	B	L-2	H-1	C-1	-	-	Q-1	-	-	-	-	-	-		-	-		02
03	EXT	PR 3'-6"	7'-2"	1 3/4"	F&T	STEEL	FACT FIN	3'-4"	9'-4"	6"	T	STEEL	COATING	C	C	E	L-1	H-1	C-1	T-1	W-1	-	B-1	-	-	R-1	A-1	D-1	E-1		-	RHRA		03
04	EXT	3'-0"	7'-10"	1 3/4"	F	STEEL	FACT FIN	3'-4"	8'-0"	6"	R	STEEL	COATING	C	C	E	L-1	H-1	C-1	T-1	W-1	-	-	-	-	R-1	-	D-1	E-1		-	-		04
05	EXT	PR 3'-6"	7'-2"	1 3/4"	F&T	STEEL	COATING	7'-4"	9'-4"	6"	T	STEEL	COATING	C	C	E	L-1	H-1	C-1	T-1	W-1	-	B-1	-	-	R-1	A-1	D-1	E-1		-	RHRA		05
06	EXT	PR 3'-6"	7'-2"	1 3/4"	F&T	STEEL	FACT FIN	7'-4"	9'-4"	6"	T	STEEL	COATING	C	C	E	L-1	H-1	C-1	T-1	W-1	-	B-1	-	-	R-1	A-1	D-1	E-1		-	RHRA		06
07	INT	3'-0"	7'-2"	1 3/4"	F	STEEL	COATING	3'-4"	7'-4"	6"	R	STEEL	COATING	C	C	B	L-2	H-1	C-1	-	-	Q-1	-	-	-	-	-	-		-	-		07
08	EXT	PR 3'-6"	7'-2"	1 3/4"	F&T	STEEL	COATING	7'-4"	9'-4"	6"	T	STEEL	COATING	C	C	E	L-1	H-1	C-1	T-1	W-1	-	B-1	-	-	R-1	A-1	D-1	E-1		-	RHRA		08



A NORTH ELEVATION
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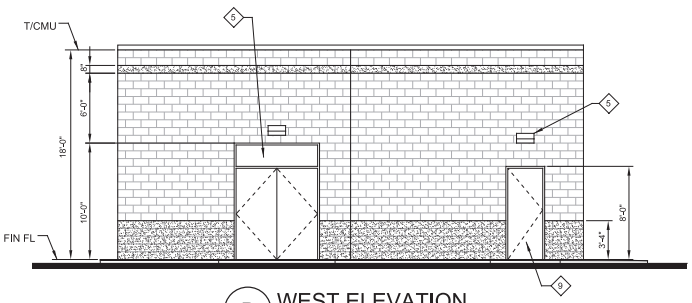
FILE: FILE



B WEST ELEVATION
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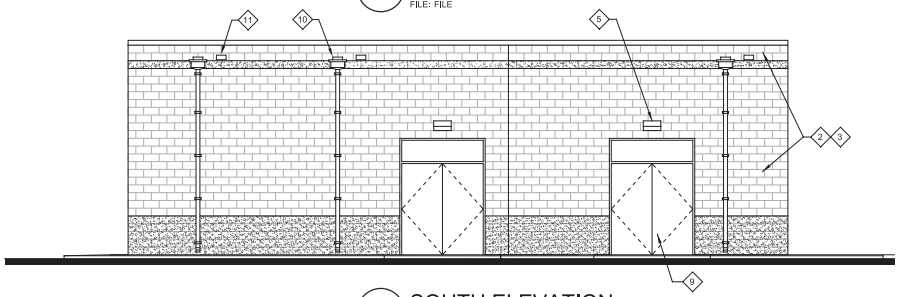

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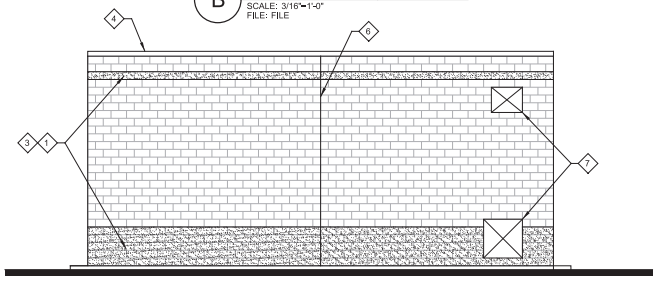

D EAST ELEVATION
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FILE: FILE

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GENERAL NOTES:

1. FOR BUILDING FLOOR PLAN, ROOF PLAN AND SECTIONS, SEE STRUCTURAL AREA 27 DRAWINGS

 # KEY NOTES:

1. 12x8x16 INTEGRALLY COLORED, SPLIT FACE CMU
2. 12x8x16 INTEGRALLY COLORED, STANDARD SMOOTH FACE CMU
3. COAT ALL EXPOSED EXTERIOR MASONRY WITH WATER REPELLENT
4. PREFABRICATED METAL COPING, SEE SPEC
5. LIGHT FIXTURE, SEE ELECTRICAL DRAWINGS FOR DETAILS
6. MASONRY CONTROL JOINT, SEE STRUCTURAL DRAWINGS FOR DETAILS
7. WALL OPENING FOR HVAC DUCTING, SEE HVAC DRAWINGS
8. REMOVABLE TRANSOM, TYP AT DOUBLE DOORS
9. HOLLOW METAL DOOR AND FRAME, SEE SCHEDULE ABOVE FOR SIZE, MATERIAL AND DETAILS
10. DRAIN SCUPPER, CONDUCTOR HEAD AND DOWNSPOUT, SEE TYPICAL DETAILS .....
11. OVERFLOW SCUPPER, SEE TYPICAL DETAIL .....

REV	DATE	BY	DESCRIPTION
			90% SUBMITTAL NOT FOR CONSTRUCTION

DESIGNED JCA
DRAWN JCA
CHECKED
DATE OCTOBER 2020

REGISTERED PROFESSIONAL ENGINEER DOUGLAS W. ROBERTS No. 38950 CIVIL STATE OF CALIFORNIA

carollo IN ASSOCIATION WITH GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

STRUCTURAL

NEW ELECTRICAL BUILDING
EXTERIOR ELEVATIONS AND SCHEDULES

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 27S01
SHEET NO. OF XXX

FILE NAME: 9913C1027S01.dwg
PROJECT NO. 9913C1S_P1
LAST SAVED BY: jakband

LUMINAIRE SCHEDULE

11/17/2021

ITEM	DESCRIPTION	MOUNTING METHOD	LAMP QUANTITY	LAMP TYPE	LUMINAIRE SPECIFICATIONS MANUFACTURER	CATALOG	VOLTS	VA
A	LED LOW BAY LUMINAIRE, WIDE GLASS LENS, CLASS 1 DIV 2 RATED 80 CRI, SUITABLE FOR WET LOCATIONS, WITH GRAY SUPER DURABLE FINISH AND CORROSION RESISTANT PAINT, w/ HIGH EFFICIENCY LEDs FOR AMBIENT TEMPERATURES -40 TO 65 DEG C, L80 AT 100,000 HOURS	PENDANT	N/A	LED 4000K CCT	HOLOPHANE	PXLW 10000LM WD MVOLT 40K 80CRI PM UPS CR DGXD	120	80
B	SEALED, AND GASKETED LED LUMINAIRE, CLEAR POLYCARBONATE LENS 80 CRI, SUITABLE FOR WET LOCATIONS, w/ HIGH EFFICIENCY LEDs FOR AMBIENT TEMPERATURES -29 TO 40 DEG C, L80 AT 75,000 HOURS 0-10V DIMMING	CEILING MOUNT OR SUSPENDED AS NEEDED	N/A	LED 4000K CCT	HOLOPHANE	EVT4 8000LM PCL WD MVOLT GZ10 40K 80 CRI	120	81
B1	SEALED, AND GASKETED LED LUMINAIRE, CLEAR POLYCARBONATE LENS 80 CRI, SUITABLE FOR WET LOCATIONS, w/ HIGH EFFICIENCY LEDs FOR AMBIENT TEMPERATURES -29 TO 40 DEG C, L80 AT 75,000 HOURS WITH BATTERY PACK 0-10V DIMMING	CEILING MOUNT OR SUSPENDED AS NEEDED	N/A	LED 4000K CCT	HOLOPHANE	EVT4 8000LM PCL WD MVOLT GZ10 40K 80 CRI E15WCP	120	81
C1	CIMARRON CL1 30K, 80CRI, SUITABLE FOR -40 DEG C TO 40 DEG C AMBIENT TEMPERATURES w/ROUND TAPERED POLE, ALUMINUM, 10'-0" OR 12'-0" HEIGHT AS NOTED ON DRAWINGS, 5" DIA, BLACK INTEGRATED PHOTOCELL CONTROL GFCI RECEPTACLE EMBEDDED IN LIGHT POLE WHEN NOTED ON DRAWINGS	POLE	-	LED	HUBBEL	CL1A30LU3K3BL7PRSCL	120	80
C2	CIMARRON CL1 30K, 80CRI, SUITABLE FOR -40 DEG C TO 40 DEG C AMBIENT TEMPERATURES w/ROUND TAPERED POLE, ALUMINUM, 10'-0" OR 12'-0" HEIGHT AS NOTED ON DRAWINGS, 5" DIA, BLACK INTEGRATED PHOTOCELL CONTROL BACK-TO-BACK ARRANGEMENT, GFCI RECEPTACLE EMBEDDED IN LIGHT POLE WHEN NOTED ON DRAWINGS	POLE	-	LED	HUBBEL	CL1A30LU3K3BL7PRSCL	120	160
C3	CIMARRON CL1 30K, 80CRI, SUITABLE FOR -40 DEG C TO 40 DEG C AMBIENT TEMPERATURES INTEGRATED PHOTOCELL CONTROL AND WITH WALL BRACKET	WALL	-	LED	HUBBEL	CL1A30LU3K3BLWBSCL	120	80
D	W4 WALL PACK LED DUAL VOLTAGE 120/277 HIGH PERFORMANCE LED OPTICS DIE-CAST ALUMINUM HOUSING INTEGRATED PHOTOCELL CONTROL	WALL	-	LED 4000K 8375 LUMENS	HOLOPHANE	W4GLED 30C 40K	120	104
E	SINGLE FACE LED EXIT SIGN SURGE PROTECTION MEETS ANSI/IEEE C62.41 CATEGORY B AND IEC 1000 MAINTENANCE FREE NICKEL-CADMIUM BATTERY-90 MIN CAPACITY	WALL OR CEILING	-	LED	LITHONIA	LE S W 1 G EL N	120	1
E1	DOUBLE FACE LED EXIT SIGN SURGE PROTECTION MEETS ANSI/IEEE C62.41 CATEGORY B AND IEC 1000 MAINTENANCE FREE NICKEL-CADMIUM BATTERY-90 MIN CAPACITY	WALL OR CEILING	-	LED	LITHONIA	LE S W 2 G EL N	120	2

REV	DATE	BY	DESCRIPTION

DESIGNED HR
DRAWN MNH
CHECKED CAC
DATE APRIL 2022

REGISTERED PROFESSIONAL ENGINEER — CURTIS R. BATHEMAN — No. E19683 — ELECTRICAL — STATE OF CALIFORNIA — 5/13/2022

IN ASSOCIATION WITH carollo GHD

CITY OF ARCATA

AWTF IMPROVEMENTS PROJECT PHASE 1

ELECTRICAL

LUMINAIRE SCHEDULE

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 9913C.10
DRAWING NO. 05E03
SHEET NO. 299 OF 444

9913C1005E03.dwg
9913C1S_P1
MHood

1C	01D03	01C05	02C04	01E05
1D	01D04	01C06	02C05	01E06
2	01D05	-	02C06	01E07
3	01D06	-	02C07	01E08
4	01D07	-	02C08	01E09
5	01D08	-	02C09	01E10
6	01D09	-	02C10	01E11
7	01D10	-	02C11	01E12
8	01D11	-	02C12	01E13
9	01D12	-	02C13	01E14
10	01D13	-	02C14	01E15
11	01D14	-	02C15	01E16
12	01D15	-	02C16	01E17
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14	01D17	01C07	02C18	01E19
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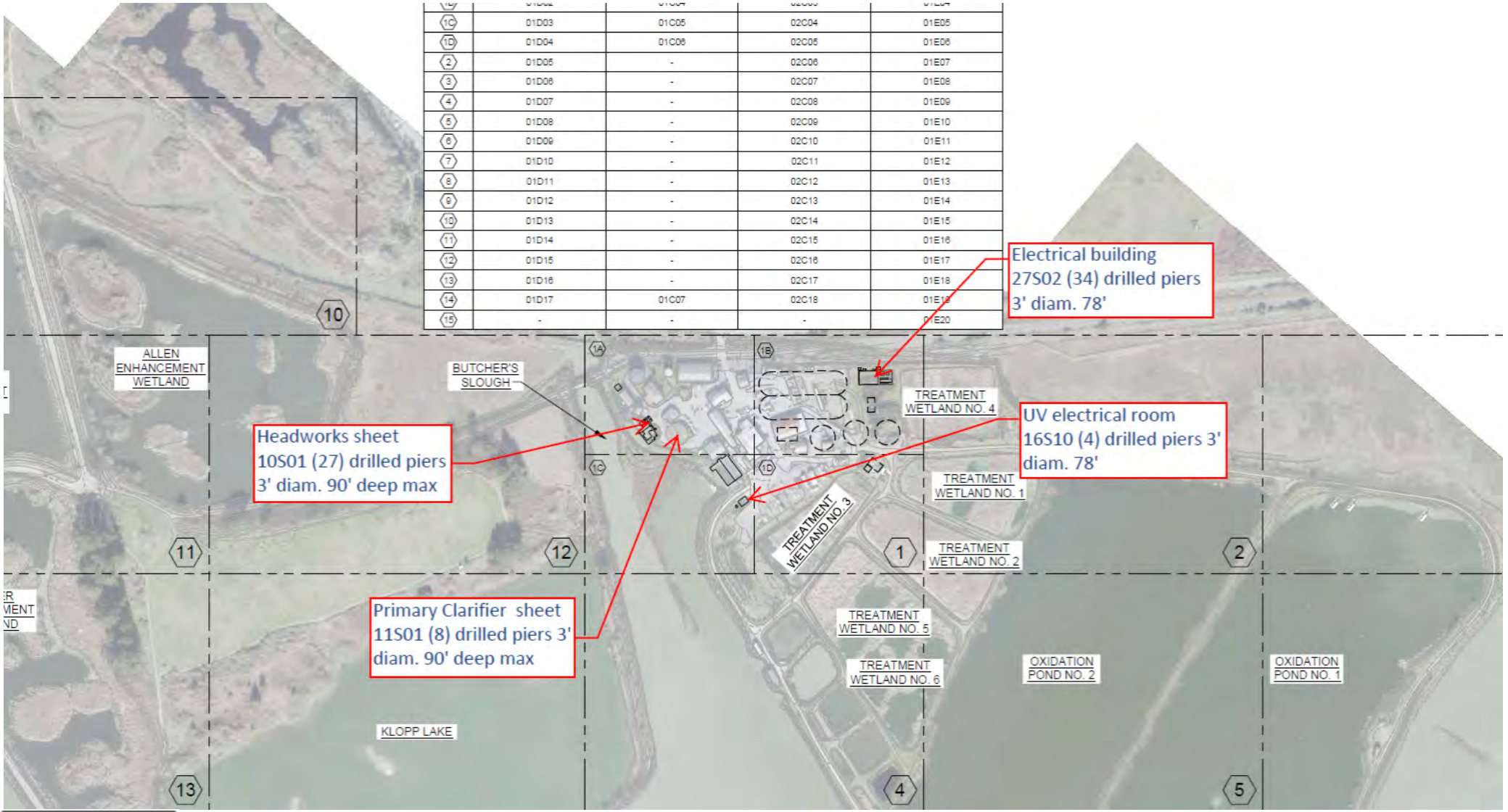
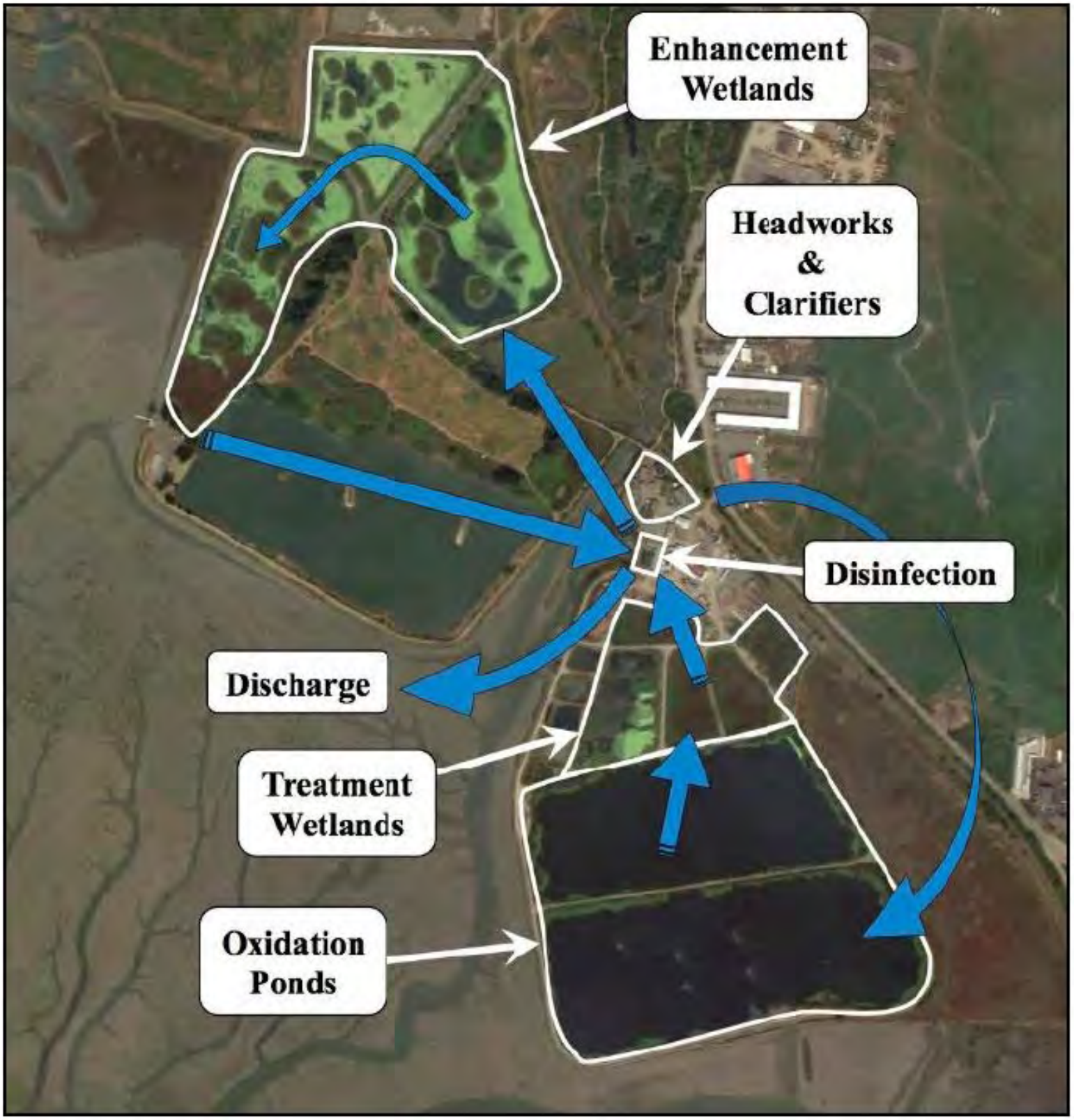


EXHIBIT NO. 6

CDP APPLICATION NO.
1-20-0711
(City of Arcata)

Drilled Pier Placement



Current Flow Pathways (from 2017 Facility Plan prepared by LACO/Carollo)

EXHIBIT NO. 7
CDP APPLICATION NO. 1-20-0711 (City of Arcata)
Flow Schematics

AWTF RECONFIGURATION AND OUTFALL LOCATIONS

FIGURE 2.1

CITY OF ARCATA
WASTEWATER TREATMENT FACILITY IMPROVEMENTS PROJECT

carollo

arc0516rf12-9913.ai

City of Arcata Wastewater Treatment Facility Improvements

The City of Arcata WWTP improvements construction is outlined below.

Phase 1 Project Sequence of Construction

The Phase 1 Project will be constructed in four phases over 30 to 36 months including dry weather and wet weather construction seasons. The phasing outlined below will be incorporated into the project sequence and constraints for the installation contractor. It is anticipated that the Phase 1 Project installation construction will be bid, and a contractor will get Notice to Proceed in September 2022 or later. Depending on weather and mobilization we anticipate the following sequence.

Construction Phase 1 –

The Initial phase of construction (wet season 1 (2022/2023)) will include new ultraviolet (UV) disinfection equipment installation, testing and commissioning by March 1, 2023 to meet grant funding conditions. During this period, construction is isolated to within the core treatment area. Ground disturbing activities are limited to those associated construction of the new ultraviolet (UV) light building, trenching and piping. The following shall be completed during construction phase 1:

- Contractor mobilization.
- Structural modification for conversion of the east chlorine contact basin to a UV disinfection system.
- UV equipment installation and installation of associate electrical equipment.
- New UV building construction.
- UV electrical equipment installation
- Piping and trenching in core treatment area
- UV equipment testing and start up.
- Minimal site work and building foundation in the core treatment area (Corporation yard)

Construction Phase 2 –

Once the initial phase has been completed, then the second phase (dry season 1 (2023)) will include:

- Site clearing and utility relocation.
- Site work, foundation, and structural construction of the new Electrical Building.
- New Electrical Building electrical and mechanical equipment installation.
- Retrofit of Primary Clarifier (PC) No. 2, including foundation work, and installation of new clarifier mechanism, startup, and testing. Effluent flows from the headworks will be sent to PC No. 1 while PC No. 2 is out of service.
- Modification of the existing Generator Building including new electrical equipment installation, startup, and testing.
- Pond 2 aerator installation, including mooring, electrical power and control cables, conduit, and ductbanks, startup, and testing.
- Continued electrical power distribution work including installing new transformers and cable installation.
- Switchover to new utility service from PG&E.
- Piping and trenching.

EXHIBIT NO. 8
CDP APPLICATION NO. 1-20-0711
(City of Arcata)
Construction Schedule

- Site work and building foundation

Construction Phase 3 – The third phase of construction (dry season 2 (2024)) will include the following:

- Installation, testing, and startup of the temporary bypass pumping system for headworks modifications.
- Headworks modifications including demolition and structural construction. Mechanical and electrical installation and modifications.
- Modification of the west chlorine contact basin including structural modifications and installation.
- Installation of the new standby generator at the new Electrical Building.
- Modifications of Pond Pump Station (PS) and PS no. 1, including new mechanical (pumps), electrical, and controls.
- Emergency Pond Pump Station modifications.
- Pond 1 and 2 piping modifications for the Pond 1 wet weather storage improvements.
- Enhancement wetland electrical improvements including new feeder to Enhancement Wetlands (Hauser) PS.
- Enhancement wetland baffle installation.
- Demolition of the old Butcher Slough Bridge and modification of the electrical feeders that cross attached to the existing pipe crossing.
- Hauser outlet vegetation management work.
- Hauser outlet structure construction and outlet piping modification.
- Enhancement Wetlands (Hauser) PS modifications including new piping, structural modification, and grading.
- Continued electrical power distribution work including installing new transformers, duct banks construction, and cable installation.
- Outfall 003 construction including the new effluent piping along South I street.
- Final Paving and Grading
- Piping and trenching
- Site work and building foundation

Construction Phase 4 – The last phase of the construction (wet season 2 (2024/2025)) work will involve completion of the project including:

- Overall plant process startup and startup testing.
- Contractor demobilization.

The general project phasing is illustrated on the attached construction Phasing sketches including:

- Central site plan – phased construction
- Oxidation ponds and treatment wetlands site plan
- Enhancement wetlands site plan
- Piping and trenching in core treatment area
- Minimal site work and building foundation in the core treatment area (Corporation yard)

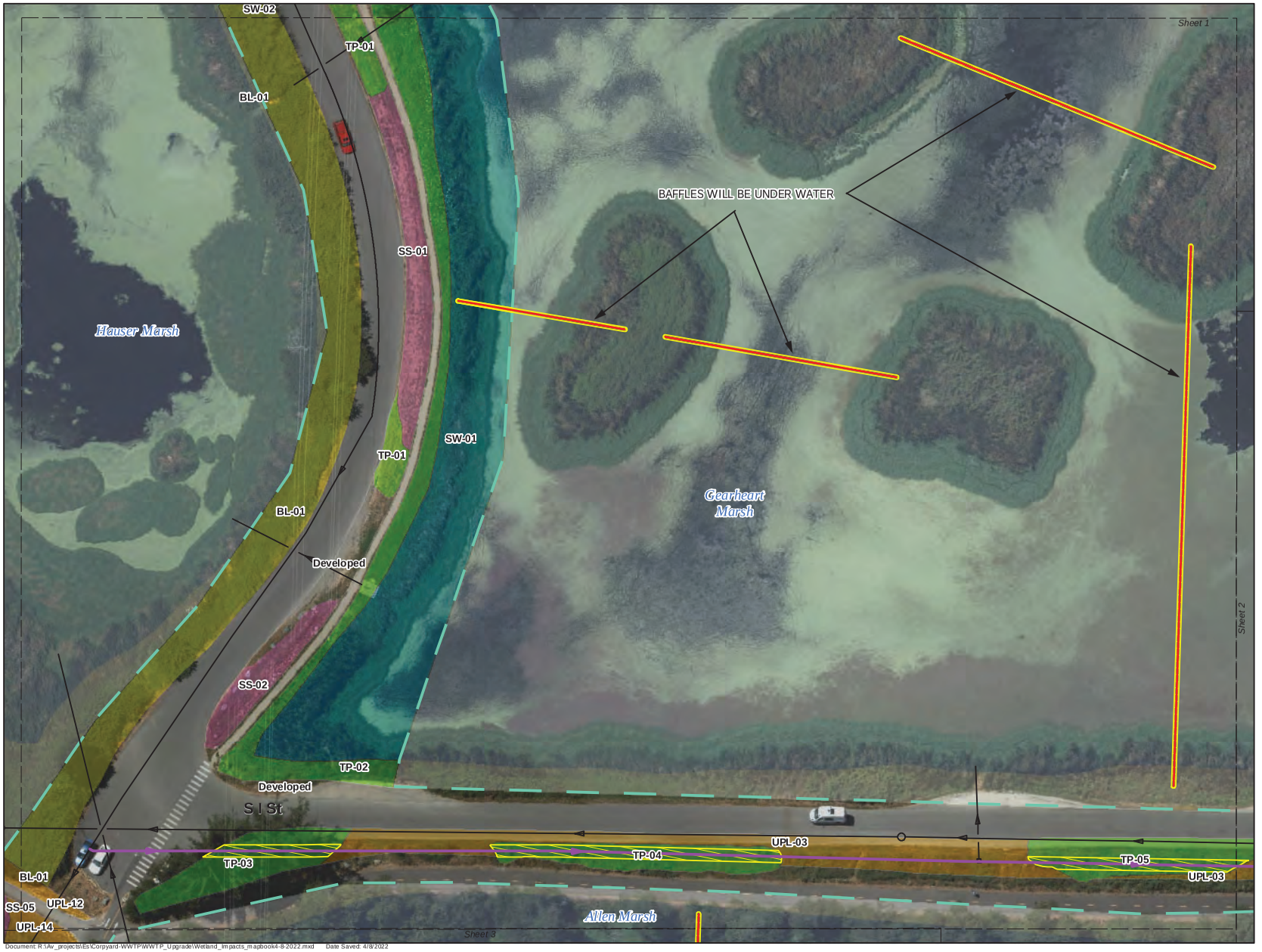
EXHIBIT NO. 9
CDP APPLICATION NO. 1-20-0711
(City of Arcata)
Site Photos

Photo 1. View looking across Butcher Slough at Primary Digester and Generator Building within the Wastewater Treatment Plant headworks. Taken March 2021

Photo 2. View looking towards Humboldt Bay and wastewater treatment plant from newer bridge over Butcher Slough.

Photo 3. View of wooden pedestrian bridge and newer aluminum bridge over Butcher Slough.

Photo 4. Site of proposed new Outfall 003. Image source: Google Maps Nov. 2015



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Arcata Wastewater Treatment Facility Upgrade

Wetland Impacts

Legend

Sheet Index

Carollio CAD data; 2/9/2022
- New Infrastructure
- New Electrical
- Other Proposed Infrastructure
- Existing Infrastructure
- Upgrade Existing Infrastructure

Wetland Impacts
- Permanent Impacts
- Temporary Impacts
- Wetland Survey Area

Wetland Delineation
- Vegetated upland
- Developed

Wetlands by Jurisdiction Type

Coastal Commission
- Two-parameter
- Riparian

ACOE & Waterboard
- Broadleaved decidious
- Estuarine persistent emergent
- Seasonally saturated
- Seasonally flooded
- Semipermanent emergent
- Waters
- Waters of the State

Date Prepared: 4/8/2022	Sheet 1 of 6

NOTES: WETLANDS: STILLWATER SCIENCES (UPDATED WITH 3/2022 ADDITIONAL SURVEY). WETLAND IMPACTS UPDATED BY CITY OF ARCATA USING 100% PLANS FROM CAROLLO ENGINEERS.

0 12.5 25 50 Feet

1:600 1 inch = 50 feet

Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 (2011) StatePlane California I FIPs 0401 Feet

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T 707 822-8184 F 707 825-2186
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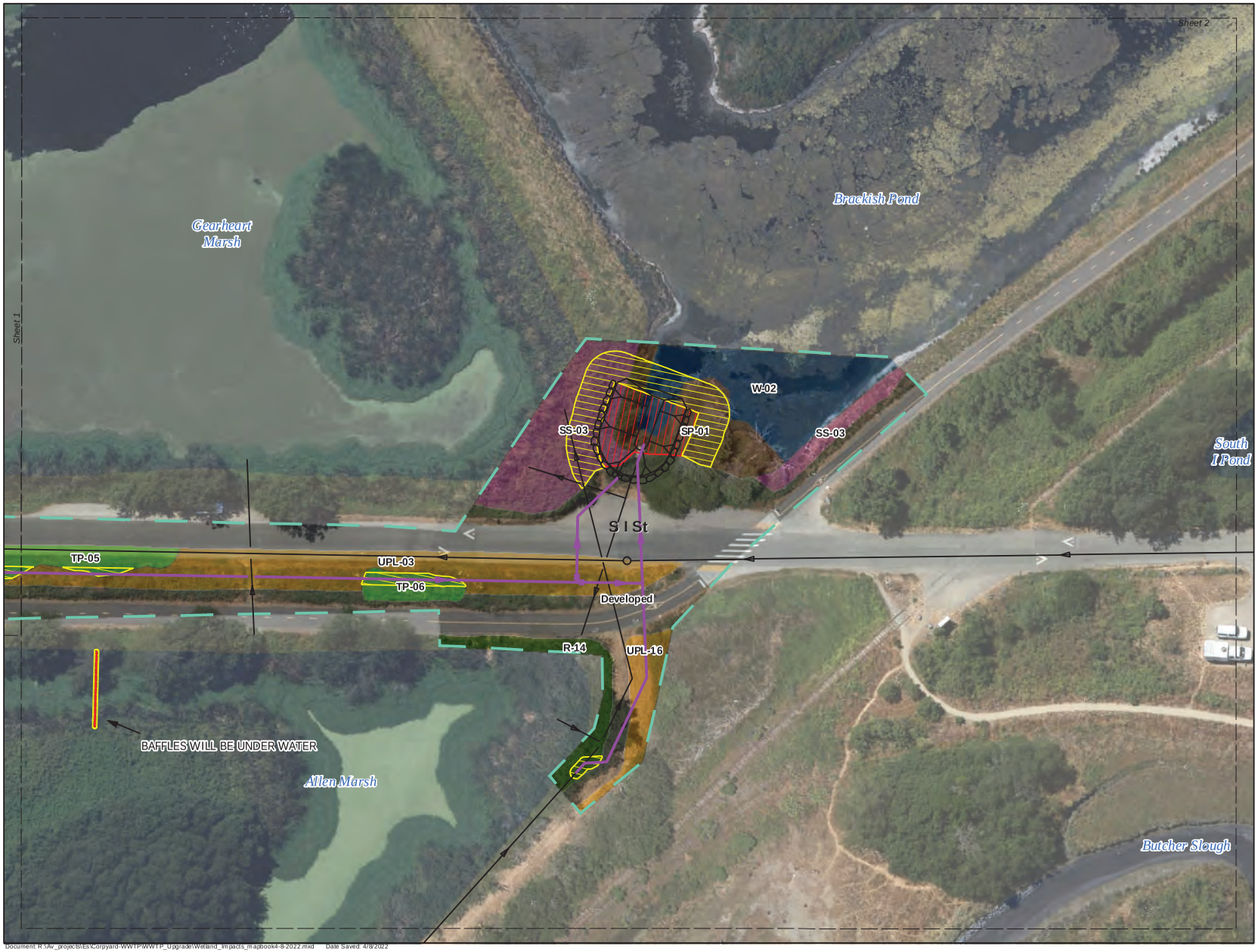
EXHIBIT NO. 10
CDP APPLICATION NO. 1-20-0711
(City of Arcata)
Excerpts from Wetland Delineation



Arcata Wastewater Treatment Facility Upgrade

Wetland Impacts

Legend

Sheet Index

Carollo CAD data; 2/9/2022
- New Infrastructure
- New Electrical
- Other Proposed Infrastructure
- Existing Infrastructure
- Upgrade Existing Infrastructure

Wetland Impacts
- Permanent Impacts
- Temporary Impacts
- Wetland Survey Area

Wetland Delineation
- Vegetated upland
- Developed

Wetlands by Jurisdiction Type

Coastal Commission
- Two-parameter
- Riparian

ACOE & Waterboard
- Broadleaved decidious
- Estuarine persistent emergent
- Seasonally saturated
- Seasonally flooded
- Semipermanent emergent
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- Waters of the State

Date Prepared:	Sheet
4/8/2022	2 of 6

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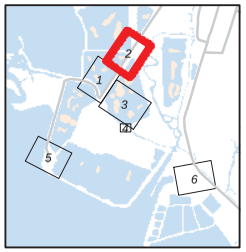

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Legend

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- Other Proposed Infrastructure
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Wetland Impacts
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Date Prepared: 4/8/2022	Sheet 3 of 6

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0 15 30 60
Feet

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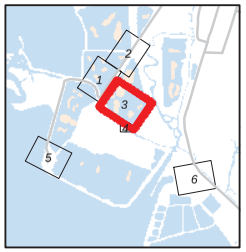

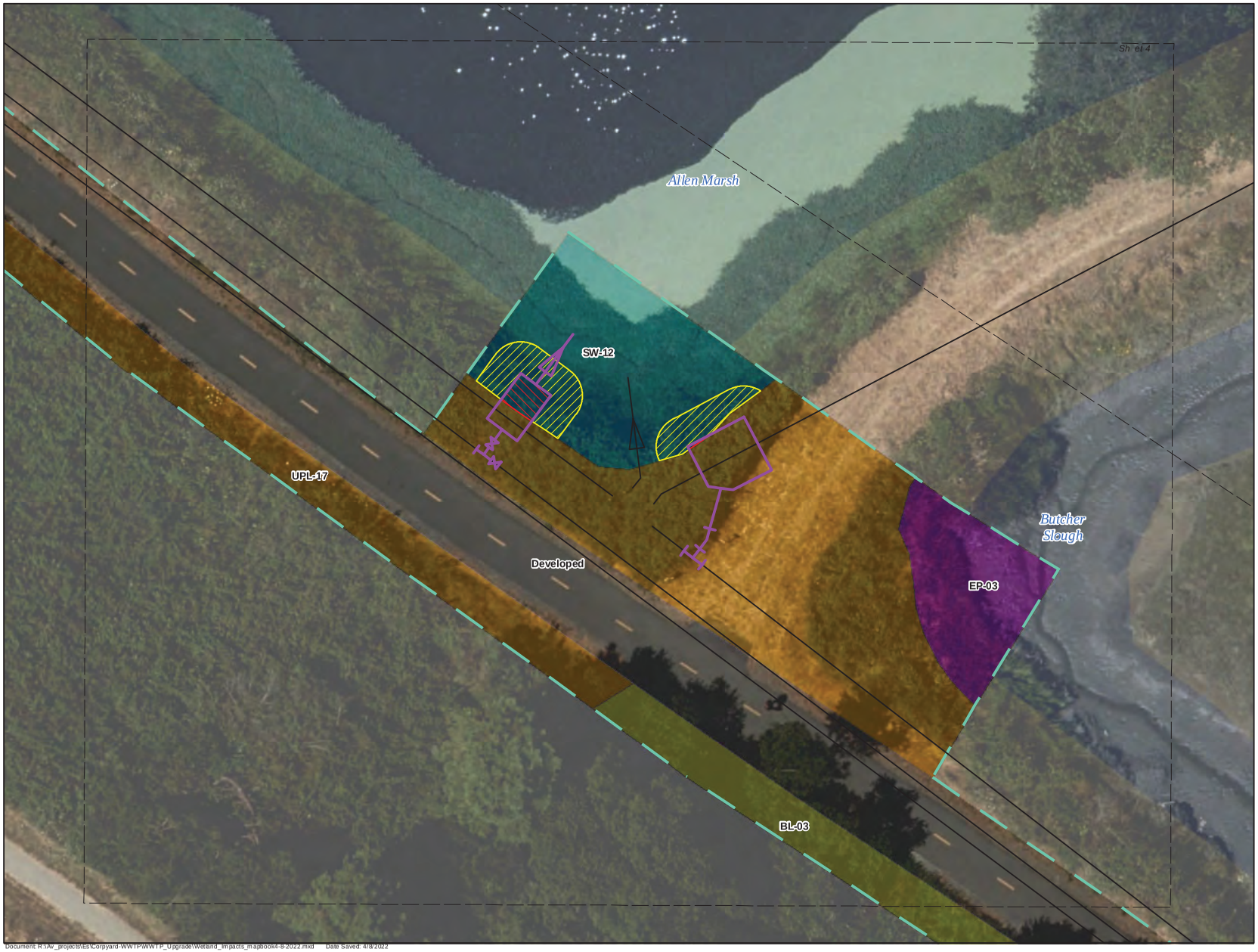

Arcata Wastewater Treatment Facility Upgrade

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Legend

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- New Infrastructure
- New Electrical
- Other Proposed Infrastructure
- Existing Infrastructure
- Upgrade Existing Infrastructure

Wetland Impacts

- Permanent Impacts
- Temporary Impacts
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4/8/2022	4 of 6

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0 4 8 16 Feet

1:180 1 inch = 15 feet

Map Projection: Lambert Conformal Conic
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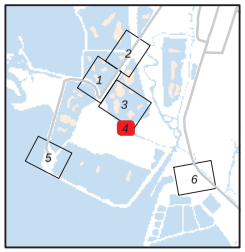

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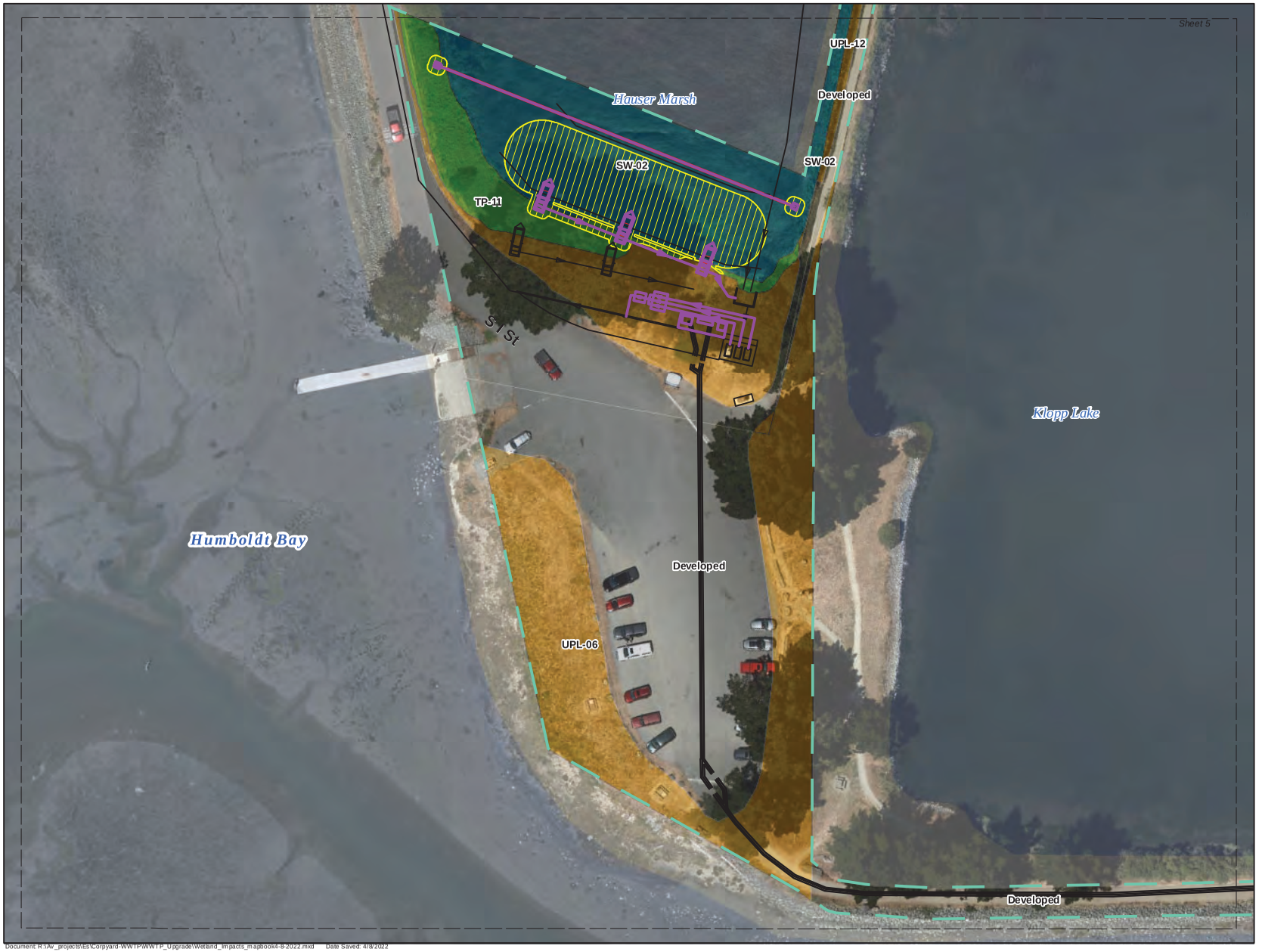

Arcata Wastewater Treatment Facility Upgrade

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Sheet Index

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4/8/2022	5 of 6

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Feet

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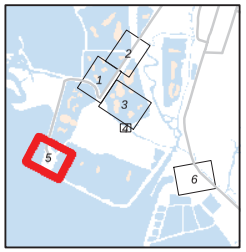

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Arcata Wastewater Treatment Facility Upgrade

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Sheet Index

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- Other Proposed Infrastructure
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Date Prepared: 4/8/2022	Sheet 6 of 6

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0 12.5 25 50 Feet

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Wetland ID	Wetland Jurisdiction	Description	Originally Submitted Temporary Impacts	100% Temporary Impacts	Acreage difference	Orginally Submitted Permanent Impacts	100% Permanent Impacts	Area difference
BL-02	ACOE	Electrical trenching (temp) and junction (perm)	0	0.028844	0.028844	0	0.000382	0.000382
SP-01	ACOE	Outfall 003	0.02	0.022463	0.002463	0.02	0.019563	-0.000437
SS-03	ACOE	Outfall 003	0.03	0.028164	-0.001836	0.01	0.009497	-0.000503
Total			*0.05*	*0.079471*	*0.029471*	*0.03*	*0.029442*	*-0.000558*
SW-02(Modified/added)	WOTS	Boom and Footing @ Hauser	0	0.009476	0.009476	0	0.008568	0.008568
SW-02	WOTS	Hauser Marsh Excavation	0.183	0.11658	-0.06642	0.035	0	-0.035
N/A	WOTS	New baffles in Gearheart & Allen Marshes	0	0.072626	0.072626	0.0016	0.0008988	-0.0007012
SW-07(Modified/added)	WOTS	Electrical trenching	0	0.000045	0.000045	0	0	0
SW-12	WOTS	new distribution box - 002 outfall and A-line dist. Box	0	0.004479	0.004479	0	0.000743	0.000743
Total			*0.183*	*0.203206*	*0.020206*	*0.0366*	*0.0102098*	*-0.0263902*
TP-03	Coastal Commission	New wastewater pipe along S. I St.	0	0.009765	0.009765	0	0	0
TP-04	Coastal Commission	New wastewater pipe along S. I St.	0	0.022932	0.022932	0	0	0
TP-05	Coastal Commission	New wastewater pipe along S. I St.	0	0.018198	0.018198	0	0	0
TP-06	Coastal Commission	New wastewater pipe along S. I St.	0	0.007312	0.007312	0	0	0
R-03	Coastal Commission	New Electrical trenching along walking trail to ox pond	0.05	0.053241	0.003241	0	0	0
R-14	Coastal Commission	New wastewater piping	0.003	0.002522	-0.000478	0	0	0
TP-11	Coastal Commission	Boom and Footing @ Hauser	0	0.011189	0.011189	0	0.001731	0.001731
Total			*0.053*	*0.125159*	*0.072159*	*0*	*0.001731*	*0.001731*
W-02	ACOE (Waters)	Outfall 003	0.01	0.007491	-0.002509	0.01	0.006977	-0.003023
Total			*0.01*	*0.007491*	*-0.002509*	*0.01*	*0.006977*	*-0.003023*
grand total (acres)			*0.296*	*0.415327*	***0.119327***	*0.0766*	*0.0483598*	***-0.0282402***
grand total (sq. feet)			*12,894*	*18,092*	***5,198***	*3,337*	*2,107*	***(1,230)***

* Acres calculated in UTM nad 83; Original wetlands updated up additional survey area 2/23/2022.

0.058118	temp. estuarine impact acres
0.357209	temp. palustrine impact acres

0.036037	perm. estuarine impact acres
0.0123	perm. palustrine impact acres

Change in Impacts by Wetland Jurisdiction

	Temp. Impacts Change Acres	Temp Impacts Change Sq. Ft.	Perm. Impacts Change Acres	Perm Impacts Change Sq. Ft.
ACOE	0.027	1174	-0.004	-156
WOTS	0.020	880	-0.026	-1150
Coastal Commission	0.072	3143	0.002	75

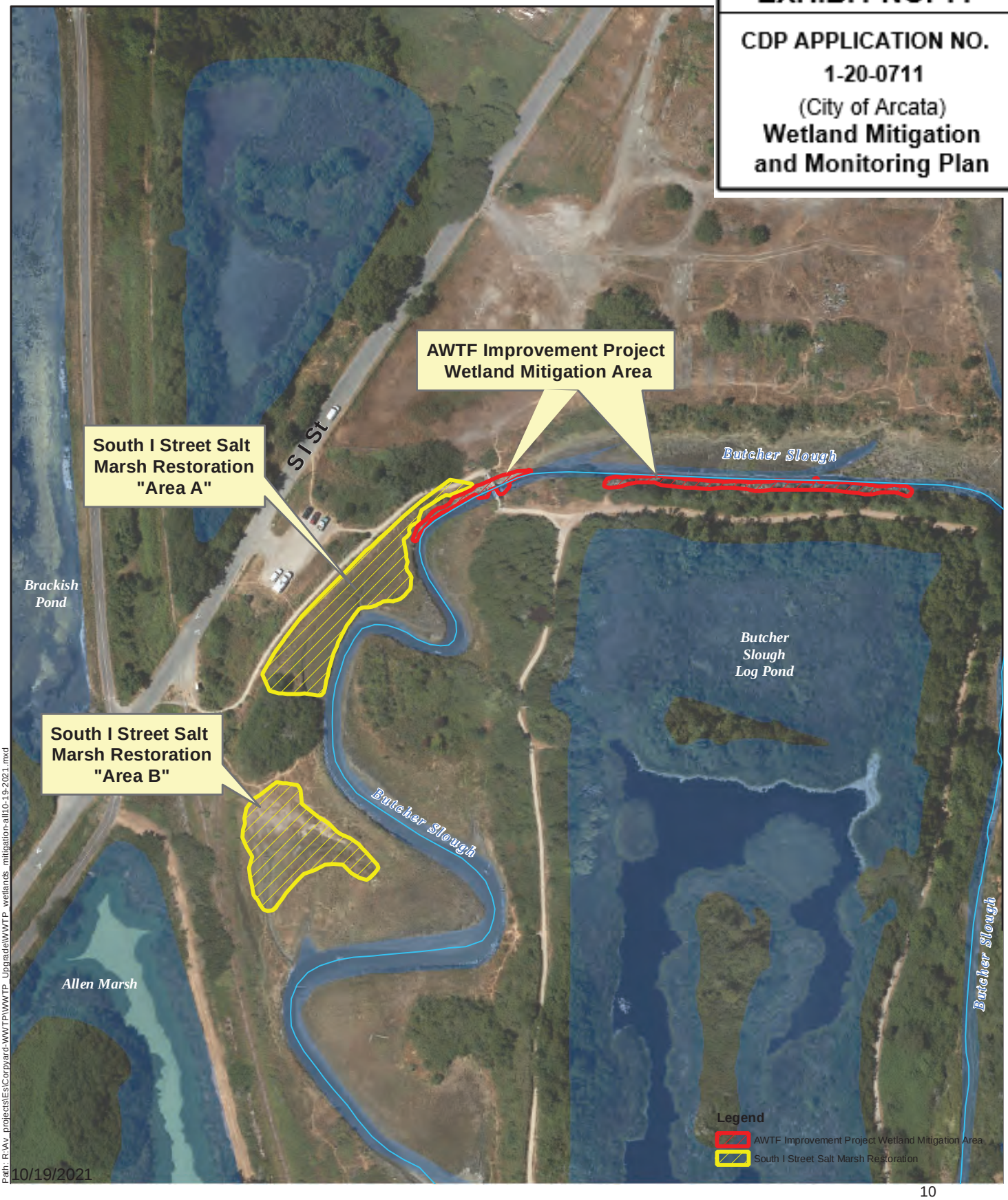
Mitigation Areas

EXHIBIT NO. 11

CDP APPLICATION NO. 1-20-0711

(City of Arcata)

Wetland Mitigation and Monitoring Plan



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10/19/2021

City of Arcata
Environmental Services

Attachment 1
Arcata Wastewater Treatment Facility Improvement
Project Wetland Mitigation Area

0 10 20 40 60 Feet
0 5 10 20 Meters

City of Arcata
Wetland Mitigation and Monitoring Plan for
Arcata Wastewater Treatment Facility Improvement Project
Arcata, California, Humboldt County
August 2022

Project Description

The Proposed Project is intended to improve the overall functioning of the City's existing Arcata Wastewater Treatment Facility (AWTF) system, which includes both mechanical and natural treatment systems. Upgrades are proposed to be undertaken in two separate Phases, with water quality improvements resulting from Phase 1 dictating next steps and final designs of Phase 2. The current project includes construction of Phase I.

Phase 1 construction is proposed to begin in 2022 and to be completed in 2025. Phase 1 will focus on rehabilitation of the current natural system and reconfiguring the flow to a single path. Currently treated wastewater is chlorinated, routed through the enhancement marshes then sent back to the treatment plant for re-chlorination and de-chlorination and discharged to Outfall 001. The proposed alterations as negotiated with the Regional Board provides a single path from primary treatment, through ponds, treatment wetlands, to UV disinfection, then to the enhancement marshes for discharge at Outfall 003, which will be constructed as part of this project. Rehabilitation will also be done to the natural treatment system facilities (i.e., oxidation ponds and the treatment wetlands and enhancement marshes) and to aging infrastructure within the footprint of central treatment plant. These improvements generally involve replacing and installing new equipment to improve the overall functioning of the existing treatment system (i.e., pumps, aerators, electrical equipment, instrumentation/controls and monitoring equipment).

Wetland Impacts

The construction of the project will result in permanent impacts to approximately .048 acres (2,107 square feet) of wetlands. It will result in temporary impacts to approximately 0.4 (18,092 square feet) acres of wetlands. The following table summarizes impact area by project feature and mapped wetland area, identified in the Preliminary Delineation of Waters and Wetlands for the City of Arcata Wastewater Treatment Plant Improvement Project (Stillwater, 2020 – Updated 2022 as supplemented by City staff):

Table 1 - Impacted Wetlands by Project Feature

Wetland ID	Wetland Jurisdiction	Description	100% Temporary Impacts	100% Permanent Impacts
BL-02	ACOE	Electrical trenching (temp) and junction (perm)	0.028844	0.000382
SP-01	ACOE	Outfall 003	0.022463	0.019563
SS-03	ACOE	Outfall 003	0.028164	0.009497
Total			*0.079471*	*0.029442*
SW-02(Modified/added)	WOTS	Boom and Footing @ Hauser	0.009476	0.008568
SW-02	WOTS	Hauser Marsh Excavation	0.11658	0
N/A	WOTS	New baffles in Gearheart & Allen Marshes	0.072626	0.0008988
SW-07(Modified/added)	WOTS	Electrical trenching	0.000045	0

SW-12	WOTS	new distribution box - 002 outfall and A-line dist. Box	0.004479	0.000743
Total			*0.203206*	*0.0102098*
TP-03	Coastal Commission	New wastewater pipe along S. I St.	0.009765	0
TP-04	Coastal Commission	New wastewater pipe along S. I St.	0.022932	0
TP-05	Coastal Commission	New wastewater pipe along S. I St.	0.018198	0
TP-06	Coastal Commission	New wastewater pipe along S. I St.	0.007312	0
R-03	Coastal Commission	New Electrical trenching along walking trail to ox pond	0.053241	0
R-14	Coastal Commission	New wastewater piping	0.002522	0
TP-11	Coastal Commission	Boom and Footing @ Hauser	0.011189	0.001731
Total			*0.125159*	*0.001731*
W-02	ACOE (Waters)	Outfall 003	0.007491	0.006977
Total			*0.007491*	*0.006977*
grand total (acres)			*0.415327*	*0.0483598*
grand total (sq. feet)			*18,092*	*2,107*

Permanent Wetland Impact Compensatory Mitigation

To mitigate for the .048 acres (2,107 square feet) of permanent wetland impacts (combined Waters of the US, Waters of the State, and Coastal Commission Jurisdiction), the City proposes on-site mitigation within the broader Area of Potential Effect. Mitigation will be located along the banks of Butcher Slough (See Attachment 1 "Arcata Wastewater Treatment Improvement Facility Wetland Mitigation Area"). It will consist of clearing non-native vegetation to provide heavy equipment access to the top of bank, and using an excavator to remove existing concrete from approximately 0.1 acres along the left and right banks of the slough that are subject to tidal inundation. This represents an approximately 2:1 mitigation ratio. Mitigation work will occur within two years of wetland impacts. Including mobilization and demobilization, work is anticipated to last approximately 2 weeks.

The concrete will be loaded into trucks for hauling to an off-site disposal recycling facility. All work will be conducted by an excavator from the top of levee/access road during a tidal window when the areas are exposed. In general, concrete rubble is located above 4.0 feet (NAVD88) and work will occur when tidal elevations are below 4 feet. The mean tide for Arcata Wharf is below 4 feet for 11 months of the year. Work in the wetted channel will be avoided. Any disturbed areas outside of the intertidal zone will be stabilized using erosion control BMPs and revegetated with native vegetation. Revegetation will occur during the winter months to increase survival rate. During mitigation work, a qualified biologist will be on-site to monitor activity and ensure all protective protocols are adhered to and appropriate BMPs are implemented.

All mitigation measures included in the adopted Mitigation Negative Declaration (SCH#2020100483) will continue to apply. Additionally, during mitigation work, the City will implement the following measures to minimize or avoid potential adverse impacts:

- 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 U.S.
- Work will only occur at tides below 4.0 feet (NAVD88).
- Sedimentation and Turbidity Best Management Practices (BMP): BMPs will be implemented in areas of soil disturbance to minimize the potential for erosion and sediment delivery into waters of the U.S. BMPs could include installation 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 U.S./State immediately on cessation of construction when no longer necessary.
- No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or by the State of California shall be planted in the project area. No plant species listed as a 'noxious weed' by the State of California or the U.S. Federal Government shall be planted in the project area.

The City will also adhere to the following protocols to ensure no adverse impacts result from mobilization of potentially contaminated soils:

- Prior to commencement of work, City will conduct a dioxin sample in the proposed mitigation location footprint. Regardless of results, the following protocols will be adhered to.
- Contractor will adhere to protocols specified in the Soil and Groundwater Contingency Plan (SHN, 2020) in the event of inadvertent discovery of contaminated soils or hazardous materials
- Upon completion of concrete removal and prior to winter rains, all disturbed areas above the mean high tide line will be stabilized with erosion control to prevent sediment mobilization
- All individuals handling soil, concrete, or plantings will wear rubber boots and gloves to minimize contact with potentially contaminated soil. Gloves will be disposable, and boots will be covered with disposable boot covers.
- Prior to departing from the work site, disposable boot covers and gloves will be removed and placed in plastic bags to prevent potential dust-borne contamination. After leaving the site, bags will be disposed.

Permanent Wetland Impact Compensatory Mitigation Monitoring

After implementation, A Global Positioning System (GPS) will be used to digitally capture the mitigation area and dimensions to produce an "as built" map".

The mitigation area will be monitored for five years to qualitatively assess channel conditions in the areas surrounding concrete removal. Evidence of channel instability, such as migrating headcuts, substantial changes in bedload characteristics, or bank erosion will be documented. If such conditions develop, remediation measures will be implemented as determined appropriate by a qualified engineer and as approved by regulatory agencies. Photographs, and a summary discussion shall be provided with the annual monitoring report.

In addition to channel monitoring, plantings will be monitored to ensure species survival. After implementation, the planting area will be monitored yearly during the spring or summer months for a minimum of five years following planting. Photographs of plantings will be taken immediately upon planting completion and annually, during the growing season, for five years.

Monitoring will include the following:

a. The number of surviving riparian plants that were planted
b. Any notable disturbance or impacts (anthropogenic or natural to the area)

Revegetation shall achieve a standard for success of at least 80% survival of plantings.

If the required number of surviving plants (as determined by 80% survival rate) is not achieved by the end of the five year monitoring term, the City will plant additional species and continue to monitor until that number is met.

Invasive species management will occur if greater than 10% invasive wetland or streambank plant species [identified by the Humboldt Weeds Management Area Regional Partnership's "Invasive Weeds of Humboldt County"] is found within wetland mitigation area during the monitoring period.

Temporary Wetland Impact Mitigation and Monitoring

Temporary impacts fall into three general categories:

1. Utilities trenching
2. Construction buffer areas (surrounding Outfall 003 and new distribution boxes into Allen Marsh)
3. Recontouring of Hauser Marsh

Upon completion of ground disturbance associated with temporary impact types 1 and 2, above, areas will be regraded to match pre-project contours and will be revegetated with native wetland species. Revegetation will occur during the winter months to increase survival rate.

Because temporary Impact 3 includes deepening a portion of Hauser Marsh that is currently submerged 100% of the time, revegetation is not proposed. The post-project wetland type will maintain the same characteristics as pre-project.

One year following completion of project construction, a vegetation survey will be completed at locations associated with temporary impacts types 1 and 2 to ensure successful plant reestablishment. If temporarily impacted wetlands do not have a similar vegetative density and cover to the surrounding wetlands, the City will prepare and implement a revised restoration program to mitigate for wetland impacts in kind and in place.

Invasive species management will occur if greater than 10% invasive wetland or streambank plant species [identified by the Humboldt Weeds Management Area Regional Partnership's "Invasive Weeds of Humboldt County"] is found within wetland mitigation areas during the monitoring period.

Project Reporting Schedule

Within 45 days of completion of the mitigation project, A Global Positioning System (GPS) will be used to digitally capture the mitigation area and dimensions to produce an "as built" map". An annual monitoring report shall be prepared and submitted by June 1 of each year. The final monitoring report will be submitted to the Coastal Commission at the end of the reporting period. The final report will contain all the post-project data collected over the monitoring period including pre-project (or baseline) information to provide a comparison. A project evaluation section will evaluate whether the mitigation site conforms to the goals, objectives, and performance standards set forth in this monitoring plan.

EXHIBIT NO. 12
CDP APPLICATION NO.
1-20-0711
(City of Arcata)
Excerpts from
Proposed BMP's

Comment 4 (A) Construction-phase BMPs

The MND indicates that work will be performed during the dry season, and that BMPs will be employed for erosion and sediment control and stormwater pollution prevention during construction. Please provide a preliminary construction-phase pollution prevention plan with a specific description of the relevant temporary BMPs proposed to minimize erosion and sedimentation during construction, and to minimize pollution of runoff by construction chemicals and materials. Among other information, please provide the following information related to construction-phase impacts on marine resources and water quality:

i Dewatering: The MND indicates that during construction, isolated and short-duration dewatering of surface and groundwater may be needed. Please provide best management practices for dewatering during construction.

ii Heavy equipment fuels: Please consider using non-petroleum hydraulic fluids in principal heavy equipment operated over or in coastal waters and wetlands, or provide an explanation as to why the use of such fluids is not a feasible alternative.

iii In-water work to install Outfall 003: Please provide an estimate of the area square footage) to be dewatered depicted in Figure 3.5-6 of the MND between the cofferdam and the shoreline), and please provide an estimate of the duration of fish exclusion. In addition, please confirm that the proposed in-water BMPs have been reviewed and found acceptable by CDFW, USFWS, and NOAA Fisheries.

Response:

A Construction-phase BMPs

In general construction activities will be limited to the dry weather low flow season as most of the structures, excavations and improvements being worked on will require ongoing bypass pumping of raw or treated wastewater to continue to be treated and meet discharge requirements. Some completely new facilities including the electrical building, generator pad and associated trenching are major items work which may be constructed in the wet season, weather permitting. The new electrical building construction is limited to work within the WWTP site and BMPs would be possible to permit these time sensitive construction activities to occur in anticipation of other major works requiring the new electrical service to be available for dry weather operations. Additionally the electric equipment and building interior could be installed once the building is water tight. The physical modifications of the existing chlorine contact chamber to accept a new ultra violet UV) disinfection system in half of the system will be constructed in the dry season and the associated electrical equipment may be installed in the wet season was no major excavations would be required. Other electrical work and demolition of the redundant existing natural gas generator can occur during the wet season in the existing electrical building as well as electrical modifications in anticipation of the new electrical service. Additionally, ordering, delivery, staging and storage of equipment may occur during the wet season to be construction ready and avoid anticipated construction delays due to reduced production levels, delivery and high demand for many major items.

The contractor will be required to submit a preliminary construction schedule within 14 days of the notice to proceed (NTP) and a baseline schedule within 45 days after NTP.

A SWPPP will be developed by the selected contractor to meet State regulations. Since BMPs will be selected based on the contractor's equipment use and proposed strategy/timing for completing the work, it will not be available until after the bidding process. The Project will require enrollment into State Water Boards Construction General Permit as well as City approval. BMPs would be implemented to control erosion and sedimentation and prevent damage to streams, watercourses and aquatic habitat. In addition, SWQCB Order No. 2009-0009 applies to public and private construction projects that include one or more acres of soil disturbance. Because the Proposed Project is anticipated to disturb over one 1) acre of land, compliance with Order No. 2009-0009 would be required.

In compliance with the NPDES requirements, a Notice of Intent NOI) would be prepared and submitted to the NCRWQCB, providing notification and intent to comply with the State of California Construction General Permit. In addition, a Construction SWPPP would be prepared for pollution prevention and control prior to initiating site construction activities. The Construction SWPPP would identify and specify the use of erosion and sediment control BMPs for control of pollutants in stormwater runoff during construction related activities, and would be designed to address erosion control, sediment control, off-site tracking control, wind erosion control, non-stormwater management control, waste management and materials pollution control. A sampling and monitoring program would be included in the Construction SWPPP that meets the requirements of the NCRWQCB to ensure the BMPs are effective. A Qualified
SWPPP Practitioner would oversee implementation of the Plan, including visual inspections, sampling and analysis, and ensuring overall compliance.

The contractor will be responsible for implementing BMPs and a Spill Prevention Plan, and the City will ensure that the contractor's Spill Prevention Plan meets the City's adopted Stormwater BMPs Handbook such as standard SC-11, SC-20, SC-21, SC-22, WM-1, and WM-4) for specific guidance that the contractor will adhere to for their Spill Prevention Plan. Additionally, the contractor will be required to comply with the BMP Handbook, per Ordinance # 1319, section 7999.08, which states:

> *Any applicant for a building and/or grading permit shall, as a condition of receiving such permit, read and sign a certificate stating that the applicant has read the BMP Manual and shall use approved BMPs for all construction activity. The applicant shall submit for approval a Best Management Practices Plan specifying those methods which will prevent the entry of pollutants into the stormwater drainage facilities, including but not limited to the use of filter materials at drain inlets to retain debris, dirt or other pollutants generated by such work. Property owners and developers shall comply with all terms, provisions, and conditions of City approved Best Management Practices Plans.*

As a general reference for BMP installation and maintenance, the City will use the specifications in the Caltrans Construction Site Best Management Practices BMP) Manual CTSW-RT-17-314.18., which contains specifications for 54 BMPs. See reference below)

(i Dewatering:

Specific BMPs will be included in the project Stormwater Pollution Prevention Plan SWPPP).
The SWPPP prepared for this project is required to be consistent with the General NPDES

Permit No. CA0024902 Waste Discharge Requirements for Low Threat Discharges to Surface Waters in the North Coast Region. The contractor will be required to conduct dewatering in accordance with the Construction General permit

https://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/2015/150312_0003_Low_Threat_General_Order.pdf) and according to "Dewatering Operations" BMPs BMP NS-2; Caltrans Construction Site BMPs Manual, pages151-153. https://dot.ca.gov/-/media/dot-media/programs/construction/documents/environmental-compliance/csbmp-may-2017-final.pdf); and the Field Guide to Construction Site Dewatering http://website.dot.ca.gov/hq/construc/stormwater/field-guide-to-construction-site-dewatering.pdf).

The above will be required, in addition to the mitigation measures included in the MND. As noted in MND Mitigation Measure Biol-2: Aquatic Species at Outfall 003;

> *Potential impacts to aquatic species are limited to activities associated with construction of Outfall 003. The City's standard practices include the following to minimize impacts; 1 the work area will be isolated during construction; 2 In-water construction activities required to isolate the work area will be scheduled during low tides between June 15 and September 15, when species are least likely to be present; 3) a qualified biologist who possesses the appropriate handling permits i.e. Scientific Collection Permit, NOAA 4 d Rule Permit will be responsible for fish relocation. Prior to installation of the coffer dam, fish exclusion fences meeting "fry-size" criteria of CDFW and FWS will be installed in water surrounding the construction area. The area within the fish exclusion fences will be seined, and fish will be relocated to an appropriate adjacent habitat. Fish exclusion and methodology may be modified slightly, should field conditions require. All modifications will be consistent with resource agency requirements and qualified biologist recommendations; and 4 consistent with the City of Arcata's Stormwater Best Management Practices Manual, the City's stormwater ordinance, and the SWRCB's construction general permit, Standard best management practices will be implemented to prevent sedimentation and/or turbidity from entering WOTS or WOTUS.*

In addition to Mitigation Measure Biol-2: Aquatic Species at Outfall 003, that requires establishing a fish exclusion area and transferring of any found fish species, before constructing the new outfall pipes, the City will close the tide gate at low tide, allowing for maximum drainage of Brackish Pond, set up coffer dams with minimum one-foot freeboard to isolate the work site, dewater the interior, discharging it to the Brackish Pond, and then excavate 273 cubic feet of soil and install the concrete vault. The new pipes will be placed in the excavated area and 263 cubic yards of rip-rap/energy dissipation will be placed around the new outfall pipes to secure the structure and protect the surrounding habitat. After construction, water will be allowed to settle 12-24 hours before removal of the coffer dam. The tidegate will then be reopened if water turbidity is negligible following dam removal or within 24 hours to restore tidal flows from the next incoming tide.

ii) Heavy equipment fuels

The City required the contractor to use non-toxic vegetable oil for operating hydraulic equipment instead of conventional hydraulic fluids for the Bay Trail project and the contractor complied with it. It is also required for the kayak boat launch facility. The City will include this as a project

requirement in the bid documents for portions of the project over or in coastal waters and wetlands.

iii) In-water work to install Outfall 003
The area proposed to be dewatered is an area approximately 40 feet wide and 65 feet long (total area approximately 2600 feet . See Figure 4A-1

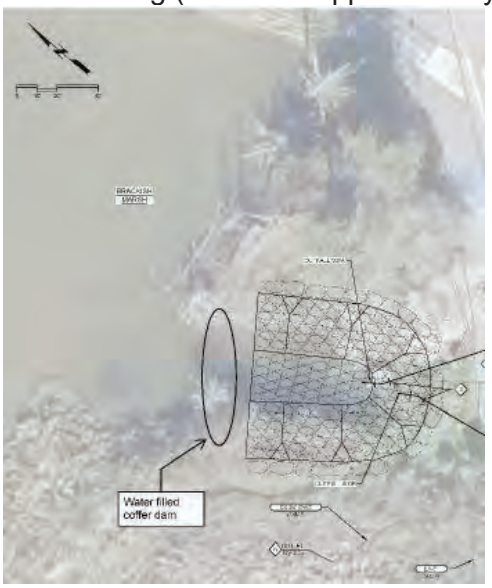


Figure 4A-1

In response to a request for other agency review:

CDFW responded in a letter dated December 4, 2020 regarding the MND. The City responded and made modifications to the MND.

Fish Passage

Comment: The "Brackish Marsh" is controlled with a tidal inlet/outlet structure that provides for a muted tidal exchange. Fish monitoring surveys that were conducted bimonthly from 2014-2017 throughout the AWTF did not document any special status fish species within the "Brackish Pond" and captured one Coho salmon smolt within the nearby "Freshwater Pond". The DMND states that providing a freshwater input to the "Brackish Pond" via Outfall 003 may result in increased food sources and attractive estuarine habitat for anadromous species. While providing additional estuarine habitat may benefit fish in the Project area, there is concern regarding fish passage through the tide gate structure that connects the "Brackish Pond" to McDaniel Slough. The DMND and McDaniel Slough Wetland Enhancement Project Environmental Impact Report EIR) do not provide sufficient detail regarding how the tide gate is operated to prevent fish entrapment and allow safe passage.

Recommendations: The Department recommends the City include information in the FMND regarding fish passage through the tide gate that connects the "Brackish Pond" to McDaniel Slough, including flow velocities, percentage of time the tide gate remains open, risk of fish entrapment or impingement, and turbidity levels through the tide gate during

different tidal cycles. The Department recommends the FMND assess how often and when fish might be trapped within the "Brackish Pond" due to tide gate obstruction. The Department also recommends the City develop a post-project fish monitoring and adaptive management plan that includes surveys within the "Brackish Marsh" and McDaniel Slough to determine fish passage and usage following implementation of the Project. The Department recommends the monitoring plan include an adaptive management component should fish be trapped in "Brackish Pond".

City Response to CDFW:

The footprint of the construction activity within the "Brackish Marsh" is depicted in Figure 3.5-6. The area between the water filled coffer dam and the shoreline is the area to be de-watered and isolated from the rest of the marsh. While the specific equipment will be the contractor's determination, it is most likely that land-based long reach excavator will place the empty coffer dam and then it will be filled with water to create the excluded area. All equipment will be land-based, and no equipment will operate within the Brackish Marsh. Prior to construction, the contractor will be required to submit a specific de-watering plan for review and approval by the City. The outfall will be constructed using heavy equipment that is standard for small-scale earth-moving and utilities trenching activities. This information has been incorporated into the MND on page 85.

A qualified biologist who possesses the appropriate handling permits i.e. Scientific Collection Permit, NOAA 4 d) Rule Permit will be responsible for fish relocation. Prior to installation of the coffer dam, fish exclusion fences meeting "fry-size" criteria of CDFW and FWS) will be installed in water surrounding the construction area. The area within the fish exclusion fences will be seined, and fish will be relocated to an appropriate adjacent habitat. Fish exclusion and methodology may be modified slightly, should field conditions require. All modifications will be consistent with resource agency requirements and qualified biologist recommendations. This information has been incorporated into Mitigation Measure Biol-2 as clarifying language.

Currently, the tide gate is a muted tide gate that was designed for easily adjusting flows and allow for adequate fish passage; it is open 100% of the time and does not result in tide gate obstruction. The tide gate will not be obstructed as a result of project activities, and the City's NPDES permit requires that the discharge does not cause the turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels. . As noted on page 142 of the MND, discharge has been designed to be a maximum 9.3 cfs.

The City will be developing its Operations and Maintenance O&M Manual to include pre- and post-project monitoring to specify minimum, maximum, and optimal range of volume of the Brackish Marsh, and velocities discharging from the tide gate. One of the primary goals of the O M Manual will be to design and maintain discharges for fisheries and other species benefits. The City will regularly monitor conditions to ensure habitat enhancement targets are met and to ensure fish entrapment or impingement does not occur. This information was incorporated into the MND on pages 84-85.

Since the tide gate to the Brackish Marsh will remain functional for fish passage, the project will not result in an adverse impact to the listed aquatic species that CDFW referenced. Should the freshwater input from 003 result in presence of listed aquatic

species where they currently have not been documented based on 2014-2017 surveys , the project will have a beneficial impact as long as fish do not become entrapped or entrained. Tide-gate monitoring will ensure the tide gate functions promote fish passage. Because fish presence would be a beneficial impact of the project, post-project fish monitoring is not required to ensure there are no significant impacts.

The National Marine Fisheries Service in a July 27, 2021 ESA Section 7 Concurrence letter (Attachment 1) notes:

The effects of the proposed action include brief periods of turbidity; potential for being crushed by falling objects or heavy equipment during the construction elements; and changes to water quality after Outfall 003 is constructed and provides freshwater to the Brackish Marsh. Most of the action area for the Project contains habitat that will be unsuitable for listed salmonids at the time of construction when water temperatures and salinities are expected to be high, and access into the action area is limited by surrounding infrastructure levee and tidegate). Prior sampling efforts have not captured listed SONCC coho salmon, CC Chinook salmon, or NC steelhead in the action area and NMFS expects the effects of the Project to be discountable. Brief periods of turbidity are not expected to change depths or values of critical habitat and NMFS expects these short term effects to critical habitat to be insignificant. The reductions in discharges of nutrients resulting from the Project is expected to improve water quality features of designated critical habitat of the action area into the future. Critical habitat features related to water quality within the Brackish Marsh are also expected to improve after the construction of Outfall 003 provides freshwater into the area and creates more desirable brackish water conditions for juveniles.

Conclusion - Based on this analysis, NMFS concurs with the Corps that the proposed action is not likely to adversely affect the subject listed species and designated critical habitats.

The USFWS is currently conducting ESA Section 7 Consultation and their response will be forthcoming.

Water Quality

1. ***<u>Stormwater Sizing Calculations:</u> The City's transmittal refers to the Arcata Storm Drainage Rev20210811 for stormwater management sizing calculations. The sizing of the stormwater management system is given for flood control purposes, using the FEMA 1% return interval. Typically, we ask for calculations for sizing BMPs for water quality purposes, using the 85th percentile 24-hour design storm for flow-based BMPs, and/or the 85th percentile 1-hour design storm (multiplied by a safety factor of 2) for flow-based BMPs. Therefore, please provide calculations following this standard.***

Carollo recalculated the stormwater pump design based on the standard that Coastal requested. The 100-year storm was the more conservative standard so the system is capable of meeting the standard used by coastal staff without further design. Please see attached revised calculation sheet.

2. ***<u>Butcher Slough Bridge Pipe Coating:</u> Please clarify what material will be used for the sandblasting (Commission staff recommend not using plastic sandblasting material). Please also address the following questions:***
    a. ***How will the sandblasting debris be fully captured and contained?***
    b. ***What coating will be used on the pipes?***
    c. ***How will drips of spills of the coating be fully captured and contained?***
    d. ***The suspended barrier under the bridge seems to refer to the removal of concrete sections, rather than to the sandblasting and recoating of the pipes. Please clarify this information.***

Pipes will be sandblasted using an abrasive blast material. The pipes will be coated with epoxy. Spills drips and sandblasting debris will be captured using a suspended barrier. Regarding capturing debris from all activities associated with improvements to the Butcher Slough Bridge, a suspended barrier is likely to be used for both removal of concrete sections and for pipe sandblasting and coasting, and it is anticipated that the entire bridge will be tented to contain debris. The contractor will be given flexibility to propose a final containment methods to staff 90 days prior to work, and the main requirement will be that the Contractor will need to provide a containment plan based on SSPC GUIDE 6 GUIDE FOR CONTAINING SURFACE PREPARATION DEBRIS GENERATED DURING PAINT REMOVAL OPERATIONS.

This guide describes methods of paint removal, containment systems, and procedures for minimizing or preventing emissions from escaping the work area, and procedures for assessing the adequacy of the controls over emissions. The containment systems are categorized in up to four classes per type of paint removal method, based on the extent to which emissions are controlled. This guide is primarily intended for use with steel structures; however, some of the methods and materials may be suited for use on concrete, aluminum, wood, or other materials of construction. This guide is intended for use by facility owners, specifiers, designers, and contractors. Carollo Engineers provided staff with filed manuals and guides from the Federal Highway Administration and others that can be provided upon request.

Section 01140-*Work Restrictions* contains methods for sandblasting and coating along with other environmental restrictions. Please note the SPCC Guide and coating system information is also attached.

Plant Drain Pump Station Storm Flow Calculations
WWTP Facility Improvements
City of Arcata

Central Plant Area and Corp Yard

Area	A	168,200	sf	
	A	1.56	ha	

Rainfall Intensity

Intensity	I	0.65	in/hr	85th percentile 24-hour design storm
	I	16.51	mm/hr	85th percentile 24-hour design storm

Rational Method for Peak Flow

Run off coefficient	R	0.90	Industrial
Area	A	1.56	ha
Intensity	I	16.51	mm/hr
Constant	N	0.00278	
Flow	Q	0.065	m3/s
	Q	2.28	ft3/s
	Q	**1.47**	**MGD**
	Q	1,023	gpm
Flow per pump	Q	512	gpm

Runoff Coefficient

Land Use Type	Coefficient (1:10 year)
Agricultural (cultivated)	0.10-0.25
Single Family Residential	0.70
Multi Family Residential	0.75
Commercial	0.90
Industrial	0.90
Institutional	0.80
Parks/Grasslands	0.25
Roofs or Pavement	0.95

Pump Station Influent Pipe Capacity

Free-flow, non-surcharged			
Manning Formula			
Diameter	D	18	in
		0.457	m
Cross-sectional Area	A	0.164	m2
Hydraulic Radius	R	0.114	
Slope	S	0.005	m/m
Roughness Coefficient	n	0.015	
Flow Capacity	Q	0.182	m3/s
		2,887	gpm

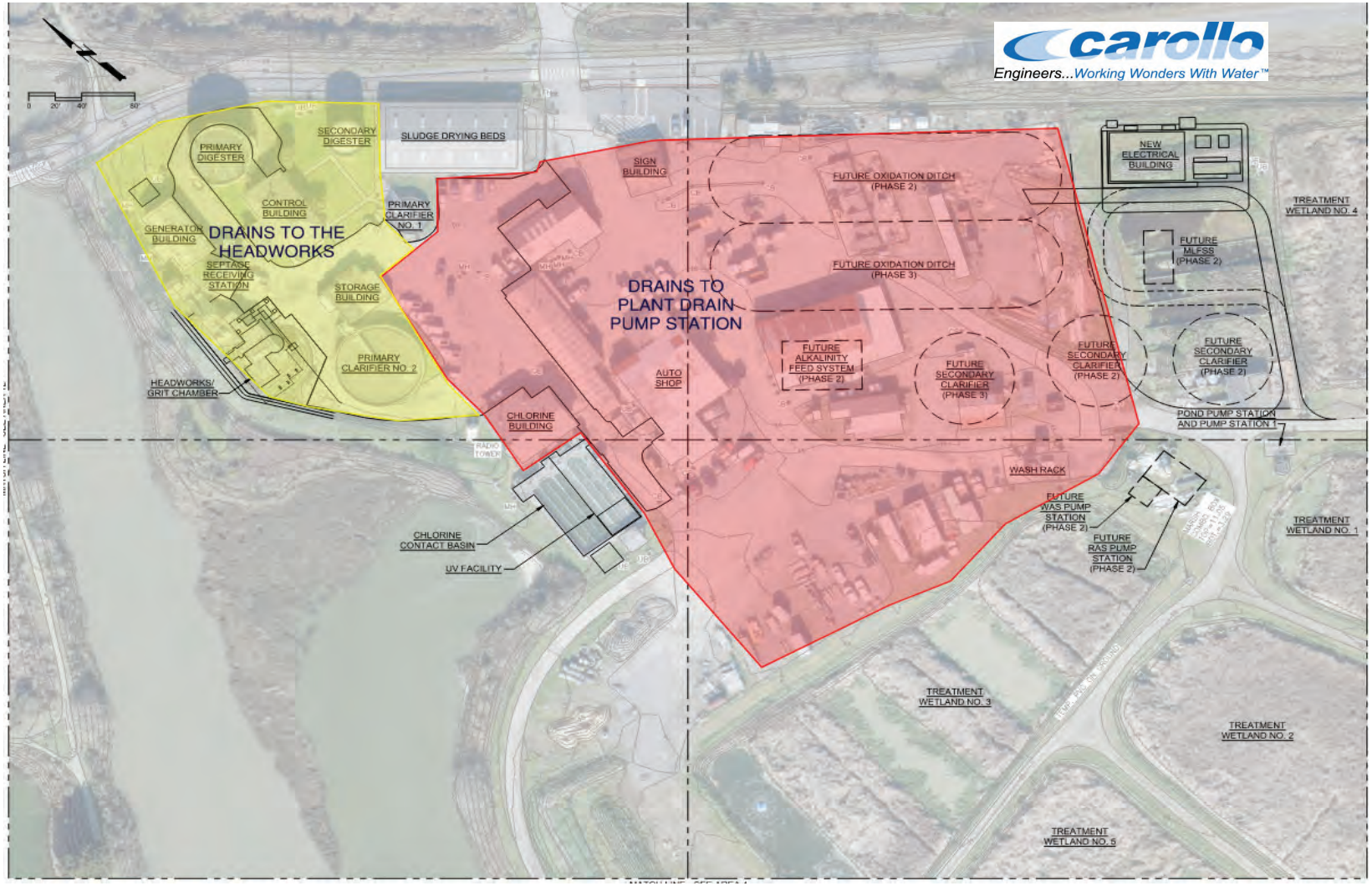
Roughness Coefficient

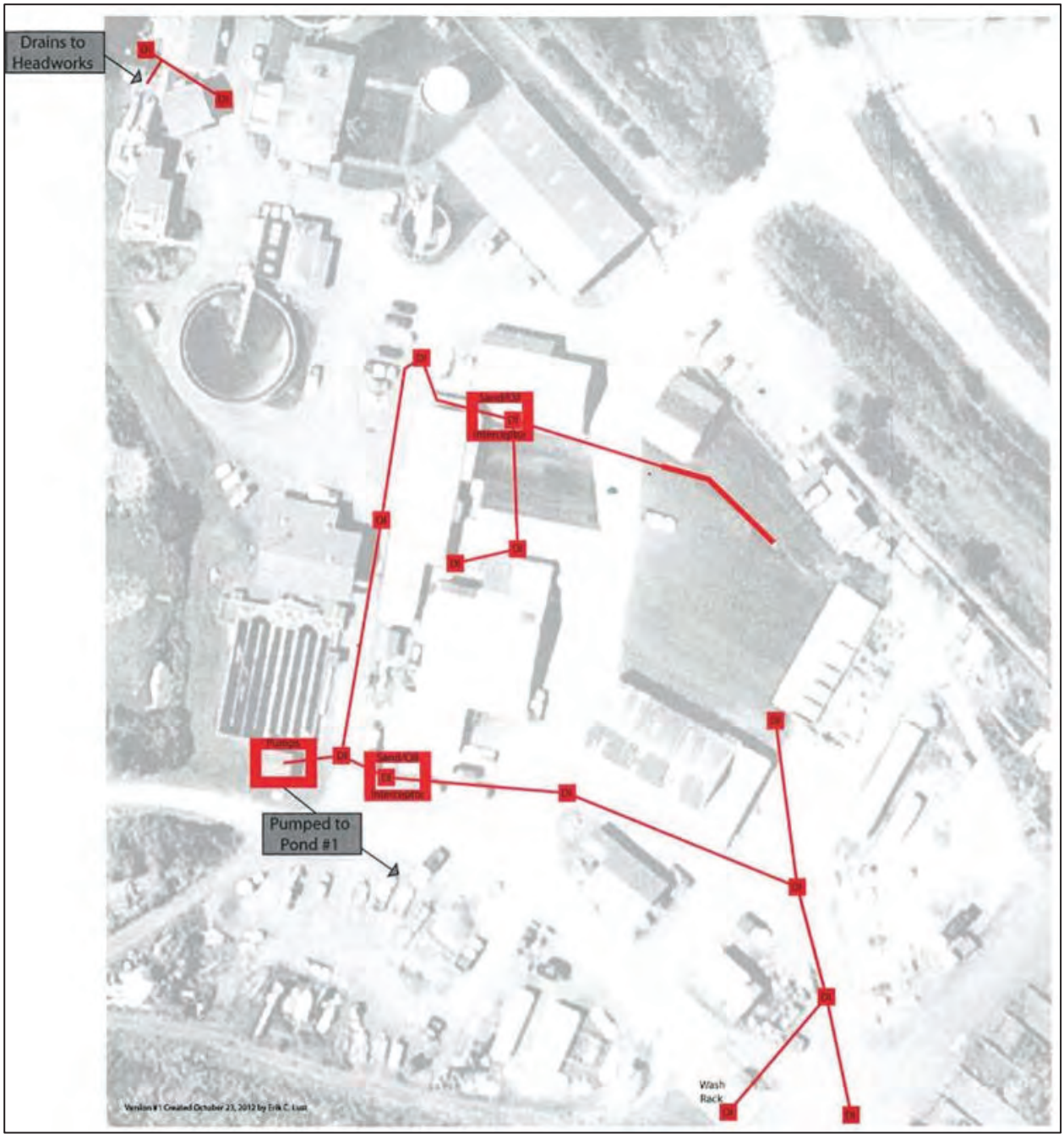
Natural channels	0.060
Excavated ditches	0.040
Concrete pipe	0.015
PVC Pipe	0.013

Pump Station Wet Well

Diameter	D	6.0	ft
Top Elevation	T	12.1	ft EL
Invert Elevation	I	0.1	ft EL
Volume	V	339	cf
	V	2,538	gal
Time	T	5.0	min

Drainage Area for Plant Drain Pump Station



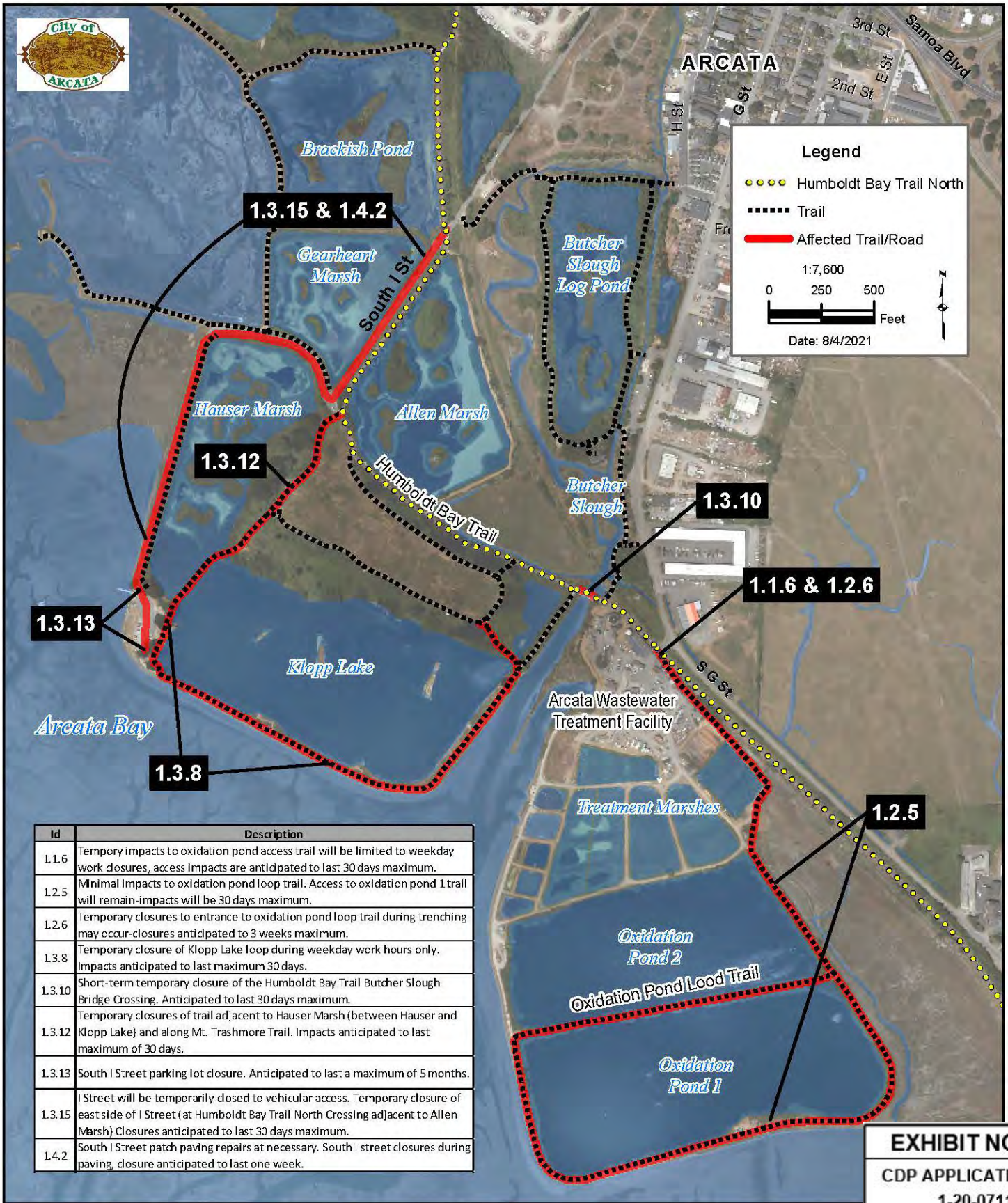


Arcata Storm Drain Layout

Doby Glass 2021-07-29

Arcata Wastewater Treatment Facility Improvement Project

Impacts to Public Access



Id	Description
1.1.6	Tempory impacts to oxidation pond access trail will be limited to weekday work closures, access impacts are anticipated to last 30 days maximum.
1.2.5	Minimal impacts to oxidation pond loop trail. Access to oxidation pond 1 trail will remain-impacts will be 30 days maximum.
1.2.6	Temporary closures to entrance to oxidation pond loop trail during trenching may occur-closures anticipated to 3 weeks maximum.
1.3.8	Temporary closure of Klopp Lake loop during weekday work hours only. Impacts anticipated to last maximum 30 days.
1.3.10	Short-term temporary closure of the Humboldt Bay Trail Butcher Slough Bridge Crossing. Anticipated to last 30 days maximum.
1.3.12	Temporary closures of trail adjacent to Hauser Marsh (between Hauser and Klopp Lake) and along Mt. Trashmore Trail. Impacts anticipated to last maximum of 30 days.
1.3.13	South I Street parking lot closure. Anticipated to last a maximum of 5 months.
1.3.15	I Street will be temporarily closed to vehicular access. Temporary closure of east side of I Street (at Humboldt Bay Trail North Crossing adjacent to Allen Marsh) Closures anticipated to last 30 days maximum.
1.4.2	South I Street patch paving repairs at necessary. South I street closures during paving, closure anticipated to last one week.

EXHIBIT NO. 13

CDP APPLICATION NO.
1-20-0711
(City of Arcata)
Temporary Public Access Impacts by Area

9. Temporary Impacts to Public Access from Construction

The following document contains a breakdown of each sub-phase of construction to be undertaken during Phase 1 activities. This construction-phasing document was drafted by Carollo Engineers and was provided as part of the original CDP application package. Staff has edited it to include anticipated impacts to public access for each stage of the construction phasing.

Please note many of the Phase 1 activities will have no anticipated impacts to public access, as they will be undertaken within the main corporation yard and will therefore be inaccessible to the general public. Generally speaking, all closures will be on weekdays and limited to working hours with public access in the evenings and weekends. No open trenches or other site hazards will be permitted when the site is not actively in use. During temporary closures of specific areas of the Marsh and Wildlife Sanctuary, the remaining areas will continue to be open and the majority of trail segments will not be impacted. Finally, the city commits to ensuring trail closures will be adequately signed by the chosen contractor, and City staff will coordinate with local news outlets to notify the public of upcoming trail closures in advance of all construction work.

City of Arcata Wastewater Treatment Facility Improvements- Phase 1 Project Sequence of Construction

The Phase 1 Project will be constructed in four phases over 30 to 36 months including two dry weather construction seasons. The phasing outlined below will be incorporated into the project sequence and constraints for the installation contractor. It is anticipated that the Phase 1 Project installation construction will be bid and a contractor will get Notice to Proceed in late 2021. Depending on weather and mobilization we anticipate the following sequence.

Construction Phase 1.1 – The initial phase of construction (dry season 1 (2022)) will include the following:

1.1.1 Contractor mobilization
- ***No anticipated impacts to access (mobilization of this area will be in Corporation Yard).***

1.1.2 Site clearing and utility relocation
- ***No anticipated impacts to access.***

1.1.3 Structural modifications for conversion of the east chlorine contact basin to an ultraviolet (UV) disinfection system
- ***No anticipated impacts to access.***

1.1.4 Retrofit of Primary Clarifier (PC) No. 2, including foundation work, and installation of new clarifier mechanism. Effluent flows from the headworks will be sent to PC No. 1while PC No. 2 is out of service
- ***No anticipated impacts to access.***

1.1.5 Site work, foundation, and structural construction of the new Electrical Building
- ***No anticipated impacts to access.***

1.1.6 Pond 2 aerator installation and Pond 2 duct bank installation in pond levees

- ***Temporary impacts to oxidation pond public access trail will be limited to weekday work closures, access impacts are anticipated to last 30 days maximum.***

Construction Phase 1.2 – Once the initial phase has been completed, then the second phase (wet season 1 (2022 to 2023)) will include:

1.2.1 UV equipment installation and installation of associated new electrical equipment
- ***No anticipated impacts to access.***

1.2.2 New Electrical Building electrical and mechanical equipment installation
- ***No anticipated impacts to access.***

1.2.3 PC No. 2 mechanical installation completion, startup, and testing
- ***No anticipated impacts to access.***

1.2.4 Modification of the existing Generator Building including new electrical equipment installation
- ***No anticipated impacts to access.***

1.2.5 Pond 2 aerator startup and testing
- ***Minimal impacts to oxidation pond loop trail. Access to oxidation pond 1 trail will remain -- impacts will be 30 days maximum.***

1.2.6 Continued electrical power distribution work including installing new transformers, ductbanks construction, and cable installation
- ***Temporary closures to entrance to oxidation pond loop trail during trenching may occur -- closures anticipated to 3 weeks maximum.***

1.2.7 Switchover to new utility service from PG&E late in Phase 2
- ***No anticipated impacts to access.***

1.2.8 Startup, testing, and commissioning the new UV system prior to March 2023 completion milestone
- ***No anticipated impacts to access.***

Construction Phase 1.3 – The third phase of construction (dry season 2 (2023)) will include the following:

1.3.1 Installation, testing, and startup of the temporary bypass pumping system for headworks modifications
- ***No anticipated impacts to access.***

1.3.2 Headworks modifications including demolition and structural construction. Mechanical and electrical installation and modifications
- ***No anticipated impacts to access.***

1.3.3 Modification of the west chlorine contact basin including structural modifications and mechanical installation
- ***No anticipated impacts to access.***

1.3.4 Installation of the new standby generator at the new Electrical Building
- ***No anticipated impacts to access.***

1.3.5 Modification of Pond Pump Station (PS) and PS No. 1, including new mechanical(pumps), electrical, and controls

- ***No anticipated impacts to access.***

1.3.6 Emergency Pond Pump Station modifications

- ***No anticipated impacts to access.***

1.3.7 Pond 1 and 2 piping modifications for the Pond 1 wet weather storage improvements.

- ***No anticipated impacts to access.***

1.3.8 Enhancement wetland electrical improvements including new feeder to Enhancement Wetlands (Hauser) pump station.

- ***Temporary closure of Klopp Lake loop during weekday work hours only. Impacts anticipated to last maximum 30 days.***

1.3.9 Enhancement wetland baffle installation (maybe moved to a City project)

- ***No anticipated impacts to access.***

1.3.10 Demolition of the old Butcher Slough Bridge and modification of the electrical feeders that cross attached to the existing pipe crossing.

- ***Short-term temporary closures during trenching, anticipated to last 30 days maximum. Efforts will be made to allow Humboldt Bay Trail Butcher Slough Bridge Crossing during 30-day access impact window to the extent feasible.***

1.3.11 Hauser outlet vegetation management work.

- ***No anticipated impacts to access.***

1.3.12 Hauser outlet structure construction and outlet piping modifications.

- ***Temporary closures of trail adjacent to Hauser Marsh (between Hauser and Klopp Lake) and along Mt. Trashmore Trail. Impacts anticipated to last maximum of 30 days.***

1.3.13 Enhancement Wetlands (Hauser) PS modifications including new piping, structural modifications, grading and associated power distribution and new transformer.

- ***Work will involve South I Street parking lot closure. Greatest impacts will be to vehicular access of South I Street parking lot when it is being used as a contractor staging area. This is anticipated to last a maximum of five months. The Arcata Marsh Interpretive Center (located on H Street) will remain open. The City will appropriately notify the public and encourage active transportation use to and from the AMWS.***

1.3.14 Continued electrical power distribution work including installing new transformers, ductbanks construction, and cable installation.

- ***No additional public access impacts to those described above.***

1.3.15 Outfall 003 construction including the new effluent piping along South I street.

- ***I Street will be temporarily closed to vehicular access. Temporary closure of east side of I Street (at Humboldt Bay Trail North Crossing adjacent to Allen Marsh) Closures anticipated to last 30 days maximum.***

Construction Phase 1.4 – The last phase of the construction (wet season 2 (2023/2024)) work will involve completion of the project including:

1.4.1 Overall plant process startup and startup testing.

- ***No anticipated impacts to public access.***

1.4.2 Final paving and grading.

- ***South I Street patch paving repairs at necessary. South I street closures during paving, closure anticipated to last one week.***

1.4.3 Contractor demobilization.

- ***No anticipated impacts to public access.***

The impacts to public access is illustrated on the attached Figure Access-1