Initial Study/Mitigated Negative Declaration Addendum

Arcata Wastewater Treatment Facility Improvements Project-Levee Augmentation

SCH# 2020100483

City of Arcata

October 20, 2025

1. Introduction

1.1 Environmental Review Process to Date

The City of Arcata (City) previously completed an Initial Study/Mitigated Negative Declaration (ISMND) for the Arcata Wastewater Treatment Facility Upgrades Project (Project). Prior CEQA review filed under State Clearing House number 2020100483 consisted of the Draft ISMND, comments received on the Draft ISMND, the City's responses to comments, revisions to the Draft ISMND and the adopted Mitigation Monitoring and Reporting Program (MMRP).

The ISMND identified the likely environmental consequences associated with the Project and included mitigation measures to reduce potentially significant impacts to a less than significant level. The Final ISMND inclusive of the MMRP was certified by the Arcata City Council on December 16, 2020. The full environmental record, along with technical information about the Project, is available online at https://www.cityofarcata.org/856/Wastewater-Treatment-Facilities-Improvem.

1.2 Need for Minor Project Changes and Subsequent Environmental Review

Levee augmentation was included in the full scope of treatment plant improvements analyzed in the adopted ISMND; however, levee augmentation was described in limited detail, with exact height and method of construction still to be developed.

The City has received a grant through the Federal Emergency Management Agency (FEMA) to fund a 30% design plan set for levee augmentation (levee construction is not proposed or funded through current grant). As part of the grant, FEMA requires environmental review for consistency with existing environmental review. The 30% designs analyzed through this CEQA addendum determine consistency with previous level of review and the City's adopted MMRP.

The levees were described as being raised/augmented to a minimum of 14' (NAVD 88) to protect critical infrastructure within the core treatment plant area. The following construction detail was provided and analyzed in the adopted ISMND:

- Placement of engineered fill (light rock facing) on top and interior sides of the levees to a minimum elevation of 14' NAVD to be protective of improvements and be incompliance with FEMA standards in the "VE" zone surrounding the wastewater treatment facility, for approximately 1.25 miles, maintaining a minimum driving surface width of 8' wide. Interior side slopes will be a maximum 1:1.5 or per engineered recommendations.
- Placement of fill, excavations and new structures to the top and interior of existing earthen levees will be engineered. Elevations of all new essential facilities (Flood design class 4) will be protected to the base flood elevation

(BFE) of 10.0’ (NAVD 88) plus 2.0’ within the protective earthen levee. Engineered Fill will vary from between 0’-3’ predominantly from the south eastern and eastern side of the Oxidation Pond earthen levee, and along the trail access to the existing trail parking lot.

The 30% design plan set (Appendix A) is consistent with proposed work as described in the ISMND project description. Additional details include a finalized proposed height of 15’ to allow one foot of freeboard above base flood elevation (BFE) of 14’ and a finalized construction method/material of unpainted corrugated steel metal sheet pile, which will likely fade to a rusty red/brown color. The planned construction and treatment of the levee materials does not include treatments/seals on the steel sheet pile, or any pressure treated wood pilings.

Installation will involve pile-driving vertical piles deep into the soil along the perimeter of the existing levee system, and will also involve using reinforced concrete where sheetpile cannot be driven due to existing utilities to form a continuous, 15’ high barrier. A storm gate system will be installed at the existing entrance to maintain traffic flow in and out of the facility. The existing levee system’s height varies along the levee perimeter, ranging from roughly 10-14’; the finished levee system will be raised to a consistent 15’ height NAVD. Where there is existing armoring of the outboard levee slope and no permanent impact to ESHA, engineered fill (light rock facing) is proposed from the bottom of sheetpile to the top of existing armoring. Living shoreline construction will be evaluated as a separate project if modeling in Phase 2 determines that additional shoreline reinforcement is necessary beyond the limits of existing armoring.

The 2025 Area of Potential Effects (APE) associated with the 30% plans is shown in Appendix B and includes all areas of proposed ground disturbance associated with the levee enhancement project. A comparison of the current 2025 APE (Appendix B) with the previous 2020 CEQA APE (Appendix C) confirms the current project remains inside the original APE. The existing levee footprint will not be expanded and augmentation will involve construction on top of the existing earthen levees solely from within the treatment plant interior (no in-water work). All work will be undertaken within previously surveyed areas with no expansion of Area of Potential Effects.

The adjustment does not meet any of the criteria in CEQA guidelines Section 15162 regarding Subsequent and Supplemental Negative Declarations. New significant effects not previously considered will not result from updated project information, as the proposed project has not substantially changed in approach or scope, and new information related to resources protected under CEQA (specifically, threatened sensitive Biological Resources) can be addressed with minor updates to the City’s mitigation approach.

One mitigation measure (Mitigation Measure Biol-4) has been revised and strengthened (Appendix F) due to the northwestern pond turtle (NWPT) now proposed for listing as a threatened species under the Federal Endangered Species Act (FESA) in October 2023, which is new information not known at the time the previous Mitigated Negative Declaration was certified. Technical assistance with USFWS and coordination with California Department of Fish & Wildlife (CDFW) documented that the revised Mitigation Measure Biol-4 is appropriate to

avoid impacts to the northwestern pond turtle, and no new significant effects have been identified as a result.

Based on these findings and the evidence in the record, a subsequent Initial Study/Mitigated Negative Declaration is not required. As such, this Addendum has been prepared under CEQA guidelines Section 15164 to document minor but necessary changes to the Project that do not meet the conditions described in CEQA guidelines Section 15612.

2. Evaluation of Consistency with the ISMND

Potential environmental impacts associated with the proposed levee augmentation are summarized in Table 2. The following environmental factors have been omitted as the project has no potential to impact these categories: 1) Agricultural and Forestry Resources; 2) Hazards and Hazardous Materials; 3) Land Use/Planning; 4) Mineral Resources; 5) Population/Housing; 6) Public Services; and 7) Wildfire.

A comparison of the current 2025 APE (Appendix B) with the previous 2020 CEQA APE (Appendix C) confirms the current project remains inside the original APE. The additional project details and design in the 30% design plan set (Appendix A) are consistent with proposed work as described in the ISMND project description. The 30% project design will not result in any new impact. The existing mitigation measures detailed in the MMRP adopted for the Project will remain in effect and unchanged, with the exception of Mitigation Measure Biol-4, which was revised and strengthened to avoid impacts to the northwestern pond turtle, due to its change in federal status from no Federal listing to Federally Proposed Threatened in 2023. During technical assistance, the US Fish and Wildlife Service concurred that the City's proposed update to Mitigation Measure Biol-4 is appropriate to avoid impacts to northwestern pond turtle. California Department of Fish and Wildlife (CDFW) was also notified of the mitigation measure update and concurred with it (Appendix D). The revised Mitigation Measure Biol-4 is as follows, with additions underlined (and no deletions):

> ***Mitigation Measure Biol-4: Northern Red-Legged Frog & Western Pond Turtle***
> *Prior to Project mobilization or Project-related ground disturbance, conduct a Worker Environmental Awareness Training (WEAT) presented by a qualified biologist to all construction personnel. The WEAT shall include the identification and natural history of Northern Red-legged Frog and Northwestern Pond Turtle. If any Northern red-legged frogs or northwestern pond turtles are encountered during construction activities, activities in the vicinity shall cease until appropriate corrective measures have been implemented or it has been determined by a qualified biologist that the species will not be harmed. This includes a CDFW-approved biologist relocating these species to an appropriate habitat adjacent to the work area. Any listed reptile or amphibian species that are trapped, injured, or killed, shall be reported immediately to CDFW.*

The City's consultant (SHN) prepared a letter (Appendix D) updating the special-status species lists and reviewing the adequacy of the existing biological and wetland studies for the current project as defined by the 30% plans. The letter documented the update to Mitigation Measure Biol-4, which was revised and strengthened to avoid impacts to the northwestern pond turtle, and found that no additional biological reports, wetland delineations, consultations, or additional mitigation measures are needed for the current project.

The City's consultant (DZC Archaeology and Cultural Resource Management) prepared an Addendum #1 (Appendix E) to its 2019 Cultural Resource Assessment Report for the current project as defined by the 30% plans. DZC's Addendum #1 documented that, with the implementation of the Management Consideration noted in Section 8 of the original report, the Project remains in compliance Section 9.53 (Historic Resource Preservation) of the Arcata Land Use Code. Additionally, DZC's review maintained the recommendation of a **Finding of No Impacts** to historic resources, unique archaeological resources, or Tribal Cultural Resources as defined by PRC § 5024.1, Title 14 CCR, Section 482, and a **Finding of No Effects** to Historic Properties as defined by 36 CFR 800.16 (i).

Implementation of the mitigation measures in the MMRP (incorporating the revised Mitigation Measure Biol-4) will ensure any potential impact associated with the adjusted project boundary will remain less than significant. See Appendix F for the revised MMRP.

Table 1 Review of Environmental Impact

Section	Evaluation of Potential Impacts
Project Description	Proposed activities are consistent with project components described in the project description of the ISMND. Levee design was described in the project description of the adopted ISMND with the amount of detail that could be provided at that time (see Section 1.2); further refinements in design adhere to the specifications provided in the adopted ISMND with no new elements that would constitute substantial changes.
Aesthetics	Potential aesthetic impacts associated with proposed activities are consistent with those described in the ISMND. The treatment plant has been screened from the public right-of-way to the extent feasible, in alignment with City of Arcata aesthetics policies adopted as part of the General Plan 2045. Views from the interior of the Arcata Marsh and Wildlife Sanctuary (specifically surrounding Klopp Lake) are already of existing an industrial facility and views will not be significantly altered in an obtrusive manner as a result of proposed levee construction type or materials. Levee construction will not block public views of any scenic vista. Sheet pile wall material and color will blend into earthen surroundings, and a 15' levee is substantially similar in aesthetic impact to a "14' minimum" levee as analysed in the adopted ISMND.
Air Quality	Potential air quality impacts associated with proposed activities within the are consistent with those described in the ISMND. No new heavy machinery will be needed that was not previously evaluated. Construction and operational emissions will be approximately equivalent based on updated CalEEMod results.
Biological Resources	Potential biological resource impacts associated with proposed activities are consistent with those described in the ISMND. The elevated earthen levees and direct adjacent interior of the plant are largely unvegetated and do not provide habitat for wildlife. The City's consultant (SHN) prepared a letter (Appendix D) updating the special-status species lists and reviewing the adequacy of several biological and wetland studies that were prepared for the project area since the previous 2020 ISMND. Regarding botany, the 2023 and 2024 seasonally appropriate rare plant surveys by GHD (2023) and Naiad Biological Consulting (2024) found that CEQA Mitigation Measures Biol-6 and Biol-7 remain appropriate and adequate for the current project. No additional botanical surveys, consultations, or mitigation measures are necessary. Regarding wildlife, the existing mitigation measures detailed in the MMRP adopted for the Project will remain appropriate and unchanged, with the exception of Mitigation Measure Biol-4, which was revised and strengthened to avoid impacts to the northwestern pond turtle, due to its change in federal status from no Federal listing to Federally Proposed

Section	Evaluation of Potential Impacts
	Threatened in 2023. During technical assistance, USFWS concurred that the City's proposed update to Mitigation Measure Biol-4 is appropriate to avoid impacts to northwestern pond turtle. California Department of Fish and Wildlife (CDFW) was also notified of the mitigation measure update and concurred with it (Appendix D). Other than the updated Mitigation Measure Biol-4, SHN's review found that no additional wildlife surveys, consultations, or additional mitigation measures are needed. Regarding wetlands, SHN's (2025) wetland delineation updated wetland mapping for the entire project APE. The current project as defined by the 30% plans would have temporary impacts to a narrow band (approximately 1,433 square feet) of estuarine intertidal persistent emergent, regularly flooded wetland as a result of extending the existing rock slope protection up to meet the proposed sheet piling. Mitigation Measure Biol-8 remains applicable and adequate to address the project's potential wetland impacts, and additional wetland delineation or wetland-related mitigation measures are not needed for the current project (Appendix D).
Cultural Resources	Potential cultural resource impacts associated with proposed activities are consistent with those described in the ISMND. Levee augmentation will require minimal grading and ground disturbance. Existing requirements related to cultural resource monitoring and discovery protocols will be applied to the project. The City's consultant (DZC Archaeology and Cultural Resource Management) prepared an Addendum #1 (Appendix E) to its 2019 Cultural Resource Assessment Report for the current project as defined by the 30% plans. DZC's Addendum #1 documented that, with the implementation of the Management Consideration noted in Section 8 of the original report, the Project remains in compliance with Section 9.53 (Historic Resource Preservation) of the Arcata Land Use Code. Additionally, DZC's review maintained the recommendation of a *Finding of No Impacts* to historic resources, unique archaeological resources, or Tribal Cultural Resources as defined by PRC § 5024.1, Title 14 CCR, Section 482, and a *Finding of No Effects* to Historic Properties as defined by 36 CFR 800.16 (i).
Energy	Potential energy impacts associated with proposed activities are consistent with those described in the ISMND. No new heavy machinery will be needed that was not previously analysed. Construction and operational emissions will be approximately equivalent based on updated CalEEMod results.
Geology and Soils	Potential geology and soils impacts associated with proposed activities are consistent with those described in the ISMND. The soils within the expanded area will be approximately the same as those previously

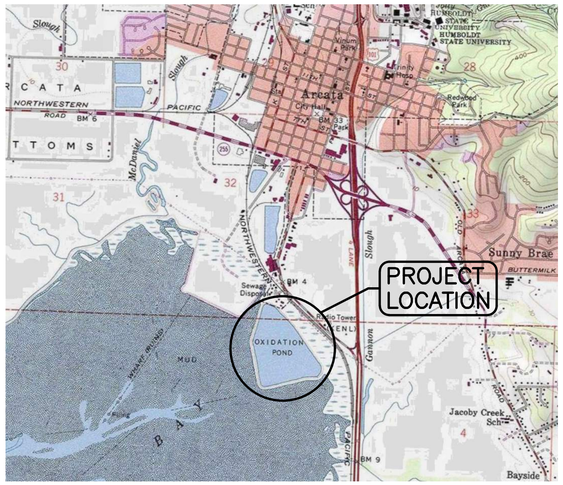
Section	Evaluation of Potential Impacts
	analysed. Levee augmentation will require minimal grading and ground disturbance.
Greenhouse Gas Emissions	Potential greenhouse gas emissions impacts associated with proposed activities are consistent with those described in the ISMND. No new heavy machinery will be needed that was not previously analysed. Construction and operational emissions will be approximately equivalent based on updated CalEEMod results.
Hydrology and Water Quality	Potential hydrology and water quality impacts associated with proposed activities are consistent with those described in the ISMND. Impervious surface area will not increase, and on-site and off-site erosion and flooding will not be impacted beyond what was previously analysed in the ISMND. Sheet pile construction will occur solely from within plant interior with no direct impacts to Humboldt Bay (no in-water work).
Noise	Potential noise impacts associated with proposed activities are consistent with those described in the ISMND. Construction and operational noise will be approximately equivalent. The adopted ISMND analysed noise associated with pile driving, which is likely to be the most significant source of short-term noise associated with the selected construction method. As stated in the negative declaration, noise and vibration within the expanded Project Area will be short-term and will occur during daytime hours as required by city noise standards.
Recreation	Potential recreation impacts associated with proposed activities are consistent with those described in the ISMND. Construction disruptions to recreation trail use within the Arcata Marsh and Wildlife Sanctuary will be approximately equivalent. Public trail access around the oxidation ponds and existing trail network will be maintained with minor short-term disruption.
Transportation	Potential transportation impacts associated with proposed activities are consistent with those described in the ISMND. Construction disruptions to traffic will be approximately equivalent.
Tribal Cultural Resources	Potential tribal cultural resource impacts associated with proposed activities are consistent with those described in the ISMND. Levee augmentation will require minimal grading and ground disturbance. Existing discovery protocols will be applied as needed.
Utilities and Service Systems	Potential utility and service system impacts associated with proposed activities are consistent with those described in the ISMND. No utilities or storm drain improvements will be within the levee augmentation area that were not previously analysed in the ISMND. An emergency overflow pump outlet is planned to be impacted by levee construction and relocated. However there is no change in capacity of the pipe nor the system's ability to support future development.

Section	Evaluation of Potential Impacts
Cumulative	Potential cumulative impacts associated with proposed activities are consistent with those described in the ISMND. The 30% design does not require or affect any resources that will result in cumulative impacts not previously analysed in the ISMND.

- **APPENDIX A** 30% DESIGN PLANSET
- **APPENDIX B** 2020 AREA OF POTENTIAL EFFECTS
- **APPENDIX C** 2025 AREA OF POTENTIAL EFFECTS
- **APPENDIX D** ADEQUACY OF EXISTING BIOLOGICAL AND WETLAND STUDIES LETTER
- **APPENDIX E** ADDENDUM #1 TO CULTURAL RESOURCES REPORT (confidential)
- **APPENDIX F** REVISED MMRP

CITY OF ARCATA

ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA



VICINITY MAP
NTS

PREPARED BY:

SHN

JUNE 2025

INDEX OF SHEETS	
SHEET	TITLE
G0.0	COVER
G1.0	SURVEY SOURCE DATA
G2.0	GENERAL NOTES AND ABBREVIATIONS
C1.0	PROJECT OVERVIEW
C1.1	TYPICAL SECTIONS
C1.2	TYPICAL SECTIONS
C2.0	SHEET LAYOUT
C2.1	ENLARGED PLAN
C2.2	ENLARGED PLAN
C2.3	ENLARGED PLAN
C2.4	ENLARGED PLAN
C2.5	ENLARGED PLAN
C2.6	ENLARGED PLAN
C2.7	ENLARGED PLAN
C2.8	ENLARGED PLAN
C2.9	ENLARGED PLAN
C2.10	ENLARGED PLAN
C3.0	CROSS SECTIONS
C3.1	CROSS SECTIONS
C3.2	CROSS SECTIONS
C3.3	CROSS SECTIONS
C3.4	CROSS SECTIONS
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C3.10	CROSS SECTIONS
C3.11	CROSS SECTIONS
C3.12	CROSS SECTIONS
C3.13	CROSS SECTIONS
C3.14	CROSS SECTIONS
C4.0	DETAILS



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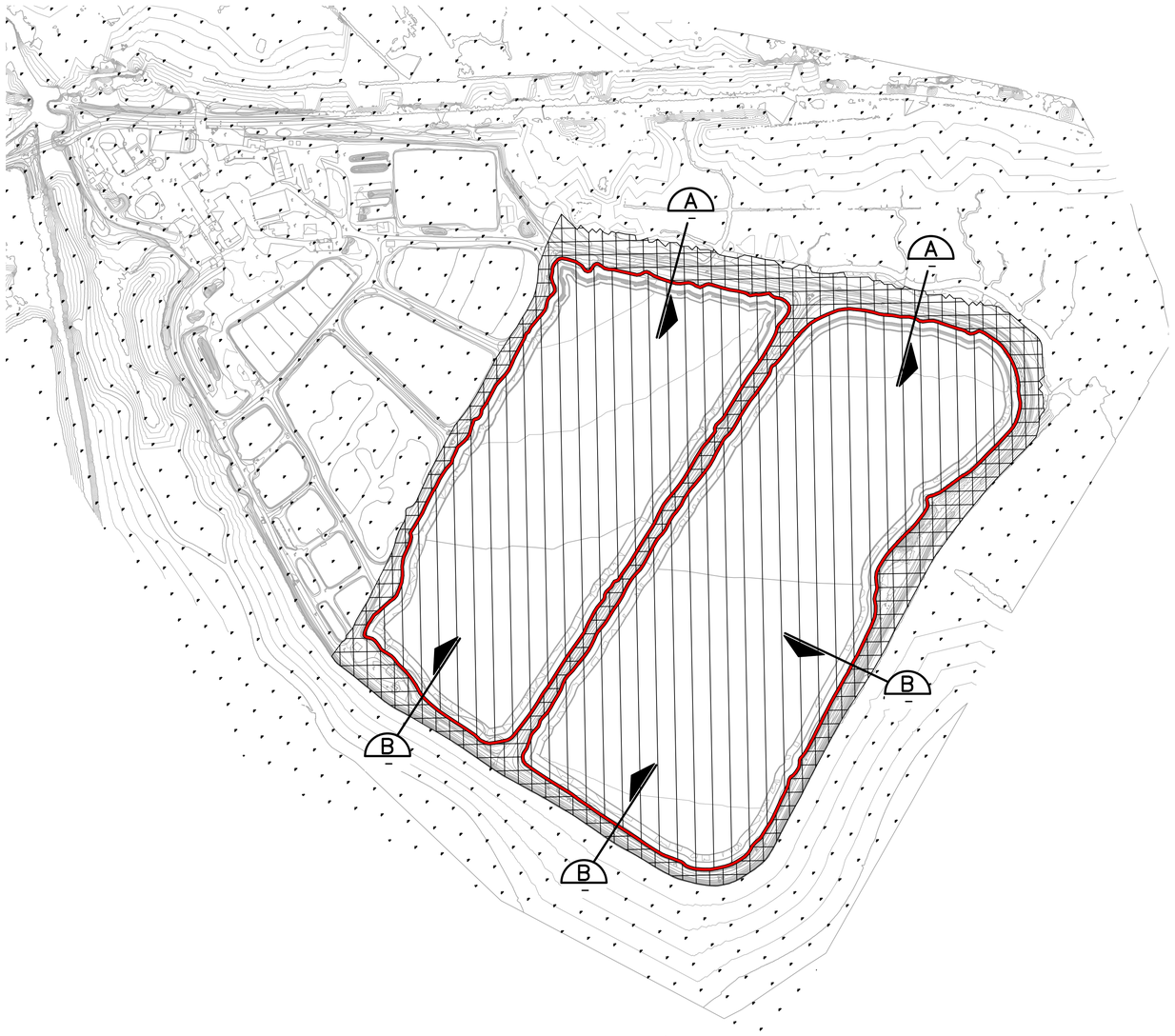
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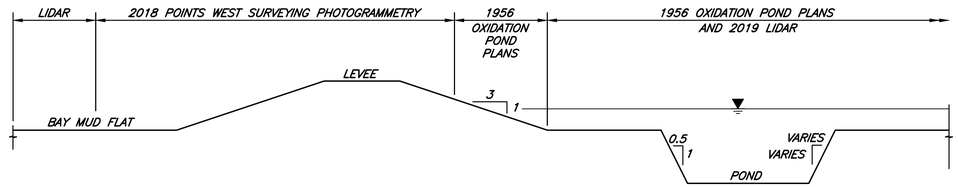


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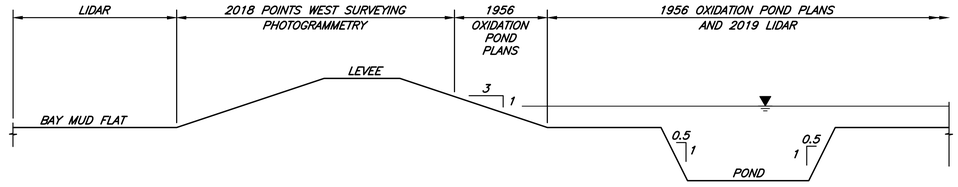
DISCLAIMER: THE THREE-DIMENSIONAL SURFACE WAS CREATED USING A COMBINATION OF DATA SOURCES. THE BAY SIDE MUD FLAT ELEVATION DATA IS BASED ON PUBLICLY AVAILABLE LIDAR DATA DATED 2019. THE LEVEE PRISM ELEVATION DATA IS BASED ON THE PHOTOGRAMMETRY SURFACE PROVIDED BY POINTS WEST DATED 2018. THE NORTH AND SOUTH OXIDATION PONDS WERE MODELED USING INFORMATION FORM THE ORIGINAL OXIDATION POND DESIGN DRAWINGS BY BATES & TROTTER, CONSULTING ENGINEERS DATED SEPTEMBER 1956.

LEGEND

- LIDAR
- 2018 POINTS WEST SURVEYING PHOTOGRAMMETRY
- 1956 OXIDATION POND PLANS
- 1956 OXIDATION POND PLANS AND 2019 LIDAR



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SURVEY SECTION B
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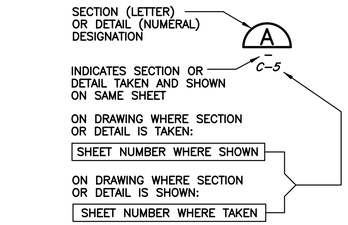
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GENERAL NOTES:

1. CONSTRUCTION SHALL COMPLY WITH THE RECOMMENDATIONS PROVIDED IN THE PROJECT GEOTECHNICAL INVESTIGATION REPORT PREPARED BY SHN, DATED MARCH 2024.
2. ALL WORK SHALL CONFORM TO CURRENT CALIFORNIA BUILDING CODE.
3. THE WORKING DRAWINGS ARE GENERALLY DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW REQUIRED FOR INSTALLATION IN THE SPACE PROVIDED. THEY DO NOT SHOW EVERY DIMENSION, COMPONENT PIECE, SECTION, JOINT OR FITTING REQUIRED TO COMPLETE THE PROJECT. ALL LOCATIONS FOR WORK SHALL BE CHECKED AND COORDINATED WITH EXISTING CONDITIONS IN THE FIELD BEFORE BEGINNING CONSTRUCTION. EXISTING UNDERGROUND UTILITIES WITHIN THE LIMITS OF EXCAVATION SHALL BE VERIFIED AS TO CONDITION, SIZE AND LOCATION BY UNCOVERING, PROVIDED SUCH IS PERMITTED BY LOCAL PUBLIC AUTHORITIES WITH JURISDICTION, BEFORE BEGINNING CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES.
4. THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
5. THE CONTRACTOR SHALL PROVIDE A COPY OF THE TRENCH PERMIT FROM THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO THE EXCAVATION OF ANY TRENCH OVER FIVE FEET IN DEPTH.
6. CONTRACTOR SHALL PERFORM TRENCH WORK IN CONFORMANCE WITH THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY REQUIREMENTS AND SHALL CONFORM TO ALL APPLICABLE OCCUPATIONAL SAFETY AND HEALTH STANDARDS, RULES, REGULATIONS AND ORDERS ESTABLISHED BY THE STATE OF CALIFORNIA AND OTHER APPLICABLE AGENCIES.
7. CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, GENERAL CONTRACTOR WILL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. ALL WORK AND EQUIPMENT SHALL COMPLY WITH THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY REQUIREMENTS. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY, AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR FURTHER AGREES TO HOLD HARMLESS, INDEMNIFY AND DEFEND THE OWNER, THE ENGINEER AND HIS/HER CONSULTANTS.
8. THE CONTRACTOR SHALL INDEPENDENTLY REVIEW GROUND, TOPOGRAPHY AND TREE CONDITIONS THROUGHOUT THE SITE, AND ASSUME THE RISK OF COMPLETING THE WORK SET OUT ON THESE PLANS, REGARDLESS OF ROCK, WATER TABLE OR OTHER CONDITIONS WHICH MAY BE ENCOUNTERED IN THE COURSE OF THE WORK.
9. ANY DISCREPANCY DISCOVERED BY THE CONTRACTOR IN THESE PLANS, OR ANY FIELD CONDITIONS DISCOVERED BY THE CONTRACTOR THAT MAY DELAY OR OBSTRUCT THE PROPER COMPLETION OF THE WORK SHOWN HEREIN SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND THE ENGINEER IMMEDIATELY UPON DISCOVERY. SAID NOTIFICATION SHALL BE IN WRITING.
10. ALL UNDERGROUND IMPROVEMENTS SHALL BE INSTALLED TESTED AND APPROVED PRIOR TO PAVING.
11. THE CONTRACTOR SHALL NOT BEGIN EXCAVATING UNTIL ALL EXISTING UTILITIES HAVE BEEN MARKED IN THE FIELD. THE CONTRACTOR SHALL NOTIFY EACH APPLICABLE ENTITY AT LEAST 48 HOURS PRIOR TO COMMENCING WORK. CALL UNDERGROUND SERVICE ALERT (USA) TWO WORKING DAYS BEFORE DIGGING AT (800) 227-2600 FOR LOCATES.
12. GRADING AND CONSTRUCTION CONTRACTORS SHALL STOP WORK AND NOTIFY THE OWNER AND THE ENGINEER IF CULTURAL RESOURCES ARE DISCOVERED DURING CONSTRUCTION.
13. THE CONTRACTOR SHALL GIVE THE INSPECTOR 48 HOURS ADVANCE NOTICE OF ANY CONSTRUCTION OR REQUIRED TESTING.
14. SHOULD THE CONTRACTOR OR ANY OF HIS AGENTS OR EMPLOYEES ENCOUNTER OR DISCOVER MATERIALS WHICH APPEAR TO BE HAZARDOUS DURING THE PERFORMANCE OF THE WORK, THE CONTRACTOR SHALL INFORM THE ENGINEER IMMEDIATELY AND SUSPEND WORK IN THE AFFECTED AREA UNTIL THE ENGINEER HAS INSPECTED THE LOCATION AND MATERIALS IN QUESTION. SHOULD IT BE NECESSARY TO UNDERTAKE REMEDIATION, THE ENGINEER WILL GIVE WRITTEN NOTICE TO SUSPEND WORK IN THE AFFECTED AREA UNTIL THE PROPER COURSE OF ACTION HAS BEEN DETERMINED. OPERATIONS IN THE AFFECTED AREA SHALL BE RESUMED ONLY UPON WRITTEN NOTICE BY THE ENGINEER.
15. ALL SITE GRADING WILL BE INSPECTED BY THE ENGINEER. COMPACTION TESTING WILL BE CONDUCTED AFTER SUFFICIENT DENSITIES HAVE BEEN ACHIEVED IN THE CONTRACTOR'S OPINION. THE CONTRACTOR SHALL MAKE ALL REQUESTS FOR MATERIALS TESTING AT LEAST 48 HOURS IN ADVANCE. ANY SOILS THAT FAIL TO MEET THE REQUIRED COMPACTION LEVELS SHALL BE REMOVED, AND RECOMPACTED. ALL COSTS ASSOCIATED WITH ACHIEVING COMPACTION STANDARDS SHALL BE INCLUDED IN THE CONTRACTOR'S ORIGINAL BID.
16. THE TOPSOIL SHALL BE REMOVED FROM CUT AND FILL AREAS AND SHALL NOT BE USED FOR ENGINEERED FILL. TOPSOIL SHALL BE STOCKPILED SEPARATELY AND REPLACED OVER AREAS OF EXPOSED SUBGRADE TO A MINIMUM DEPTH OF 6 INCHES.
17. NO CHANGES OR MODIFICATIONS SHALL BE MADE TO THESE PLANS WITHOUT WRITTEN APPROVAL BY THE ENGINEER.
18. REFER TO THE PROJECT SWPPP FOR CONSTRUCTION EROSION AND SEDIMENT CONTROL MEASURES.

DETAIL AND SECTION DESIGNATION



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GENERAL NOTES AND ABBREVIATIONS

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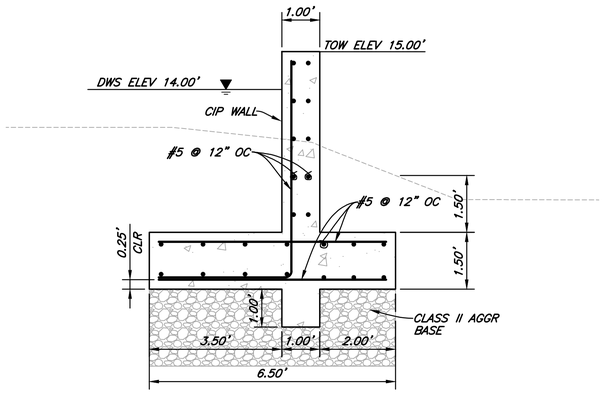
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PLAN
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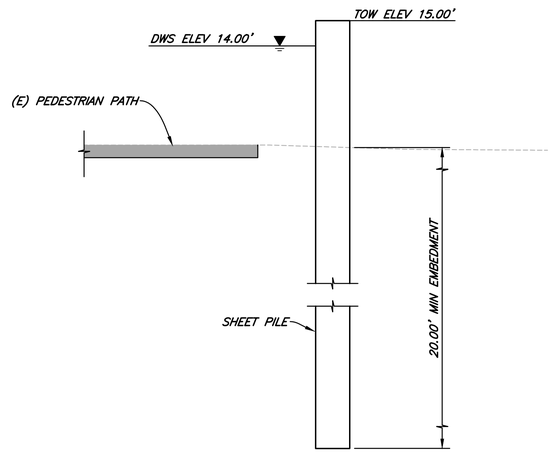
30% SUBMITTAL

PROJ. NO. 023018	DATE 06/2025	SEQ	SHEET C1.0	CITY OF ARCATA ARCATA WWTF LEVEE ENHANCEMENTS ARCATA, CALIFORNIA PROJECT OVERVIEW	DSGN CC DR CDN/JWF CHK JSO APVD	NO. / DATE / REVISION / BY	SHN 812 W. WABASH AVE. EUREKA, CA. 95501 WWW.SHN-ENGR.COM 707-441-8855	VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY



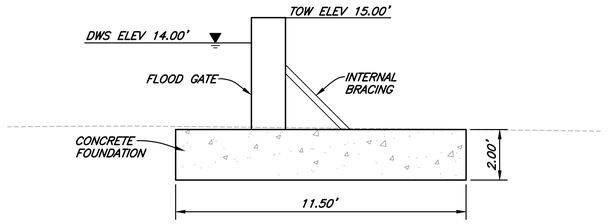
TYPICAL SECTION A
NTS C1.0

(CIP WALL–STATION 10+50)



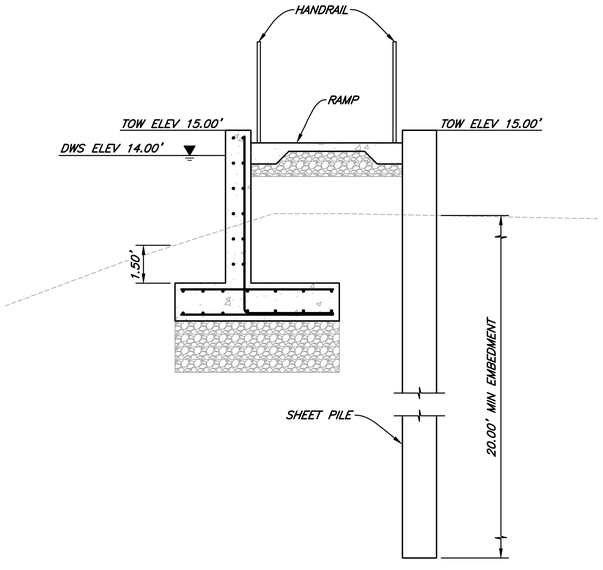
TYPICAL SECTION B
NTS C1.0

(SHEET PILE WALL AT PEDESTRIAN TRAIL–STATION 12+50)



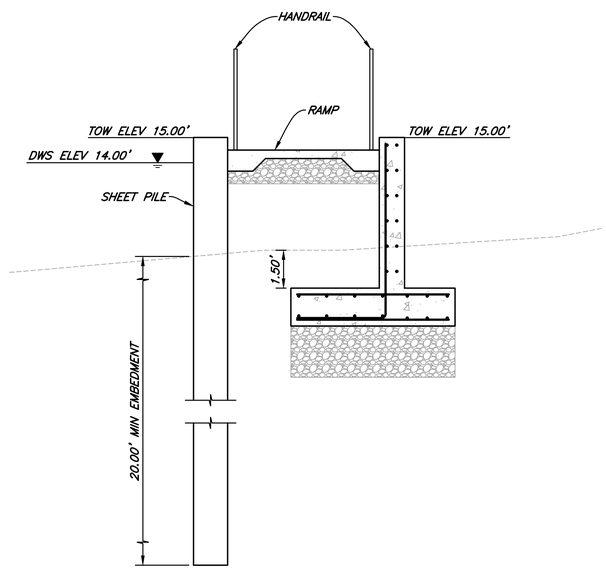
TYPICAL SECTION C
NTS C1.0

(FLOOD GATE–STATION 13+75)



TYPICAL SECTION D
NTS C1.0

(PEDESTRIAN TRAIL RAMP–STATION 23+50)



TYPICAL SECTION E
NTS C1.0

(PEDESTRIAN TRAIL RAMP–STATION 24+50)

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0 1"
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NO.	DATE	REVISION	BY

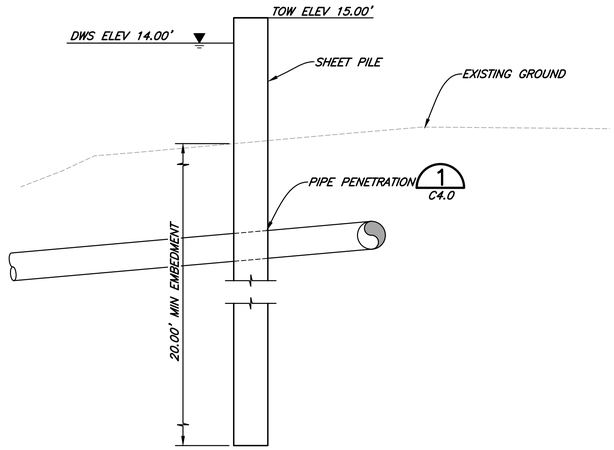
DSGN CC
DR CDN/JWF
CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

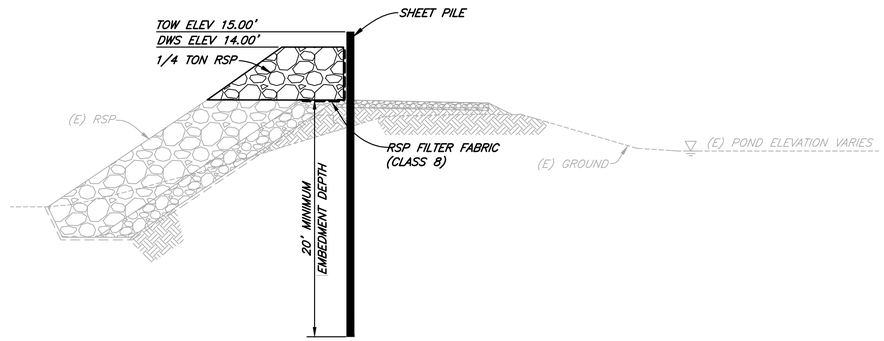
TYPICAL SECTIONS

SHEET C1.1
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 6/18/2025 12:19 PM JFOSTER, PLOTTED: 8/13/2025 10:39 AM NEWELL, CHRIS
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TYPICAL SECTION F
NTS C1.0
(SHEET PILE WALL, NO RSP–STATION 30+50)



TYPICAL SECTION G
NTS C1.0
(SHEET PILE WALL, RSP–STATION 48+00)

30% SUBMITTAL

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TYPICAL SECTIONS

SHEET C1.2
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 6/18/2025 12:19 PM JFOSTER, PLOTTED: 8/13/2025 10:39 AM NEWELL, CHRIS
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PLAN
1"=200'

30% SUBMITTAL

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NO.	REVISION	BY	DATE

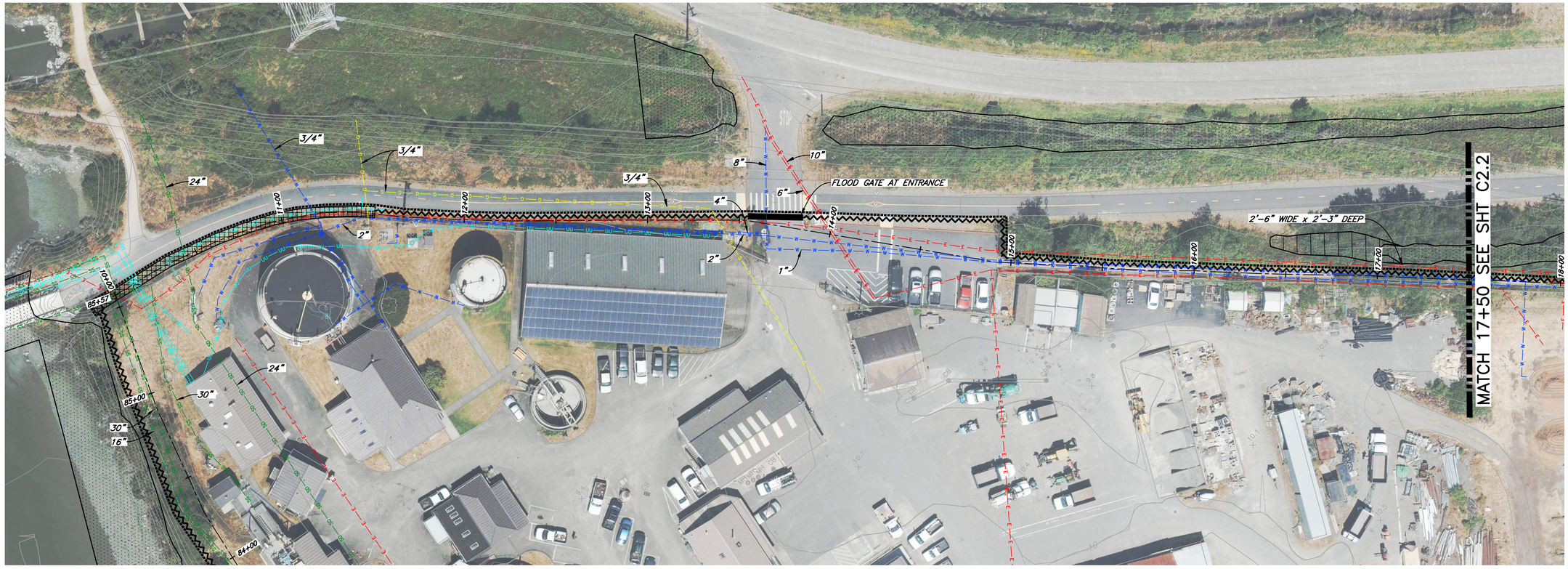
DSGN CC
DR CDN/JWF
CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

SHEET LAYOUT

SHEET C2.0
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 4/23/2025 8:54 AM CNEWELL, PLOTTED: 8/13/2025 10:40 AM NEWELL, CHRIS
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PLAN
1"=30'

LEGEND

LINE	DESCRIPTION
	SHEET PILE WALL
	CONCRETE T-WALL
	FLOOD GATE
	RSP
	APE LINE
	3 PARAMETER WETLAND
	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM COM	COMMUNICATION
E E	ELECTRICAL
G G	GAS
W W	POTABLE WATER
SS SS	SEWER
SD SD	STORM DRAIN
UU UU	UNKNOWN UTILITY

DISCLAIMER: LOCATIONS OF UTILITIES ARE APPROXIMATE BASED UPON REVIEW OF HISTORICAL DESIGN DOCUMENTS, CURRENT DESIGN DOCUMENTS, AND PUBLICLY AVAILABLE UTILITY INFORMATION. ALL UTILITY LOCATIONS SHOULD BE LOCATED AND MAPPED PRIOR TO COMPLETION OF DESIGN.

30% SUBMITTAL

SAVED: 8/13/2025 10:37 AM CNEWELL. PLOTTED: 8/13/2025 10:39 AM NEWELL, CHRIS
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ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

ENLARGED PLAN

SHEET C2.1
SEQ
DATE 06/2025
PROJ. NO. 023018



PLAN
1"=30'

LEGEND

LINE	DESCRIPTION
	SHEET PILE WALL
	CONCRETE T-WALL
	FLOOD GATE
	RSP
	APE LINE
	3 PARAMETER WETLAND
	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM — COM	COMMUNICATION
E — E	ELECTRICAL
G — G	GAS
W — W	POTABLE WATER
SS — SS	SEWER
SD — SD	STORM DRAIN
UU — UU	UNKNOWN UTILITY

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ARCATA, CALIFORNIA

ENLARGED PLAN

SHEET C2.2
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 8/13/2025 10:37 AM CNEWELL, PLOTTED: 8/13/2025 10:40 AM NEWELL, CHRIS
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PLAN
1"=30'

LEGEND

LINE	DESCRIPTION
	SHEET PILE WALL
	CONCRETE T-WALL
	FLOOD GATE
	RSP
	APE LINE
	3 PARAMETER WETLAND
	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM COM	COMMUNICATION
E E	ELECTRICAL
G G	GAS
W W	POTABLE WATER
SS SS	SEWER
SD SD	STORM DRAIN
UU UU	UNKNOWN UTILITY

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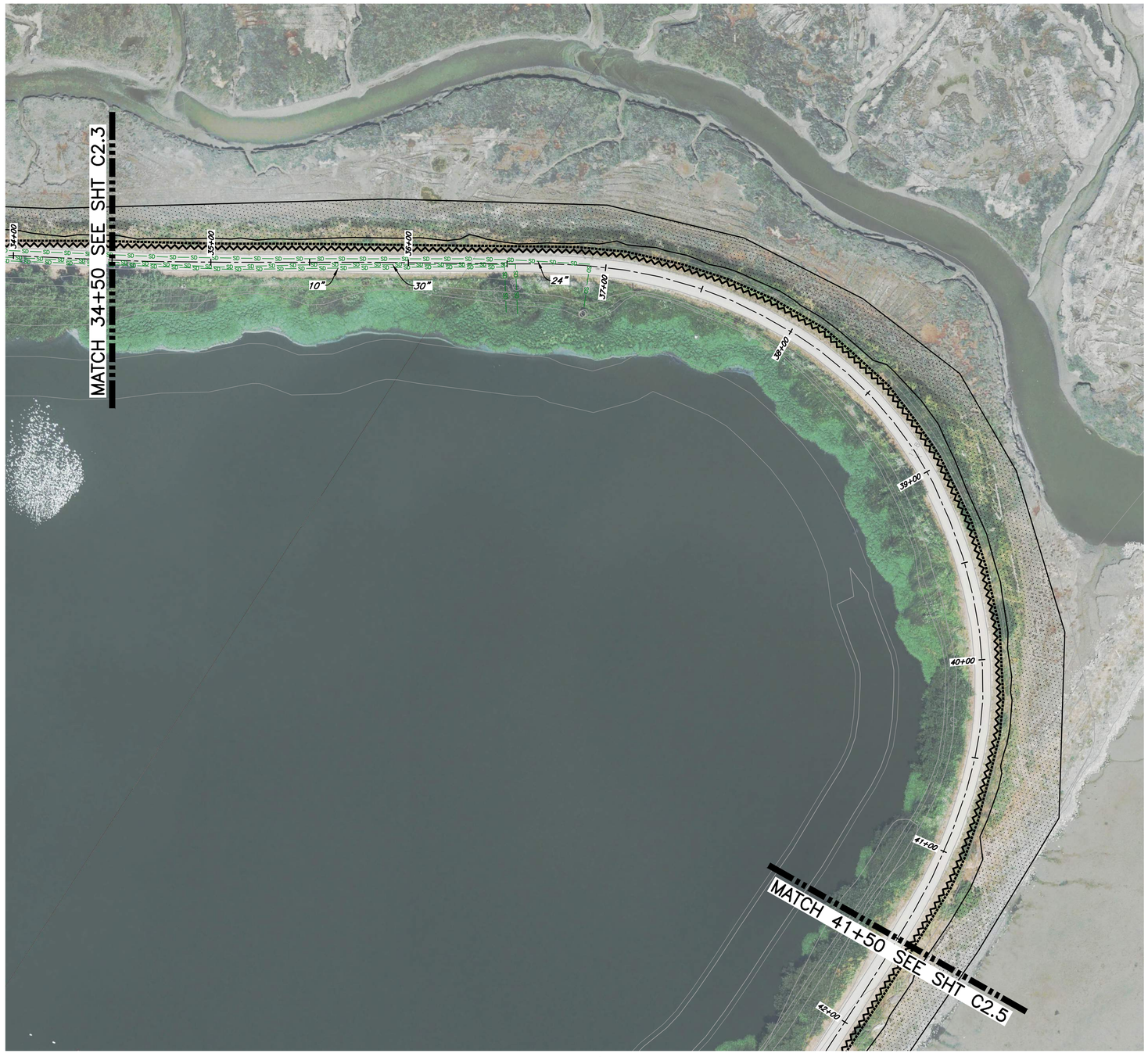
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ENLARGED PLAN

SHEET C2.3
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 8/13/2025 10:37 AM CNEWELL. PLOTTED: 8/13/2025 10:40 AM NEWELL, CHRIS
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PLAN
1"=30'

LEGEND

LINE	DESCRIPTION
	SHEET PILE WALL
	CONCRETE T-WALL
	FLOOD GATE
	RSP
	APE LINE
	3 PARAMETER WETLAND
	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM COM	COMMUNICATION
E E	ELECTRICAL
G G	GAS
W W	POTABLE WATER
SS SS	SEWER
SD SD	STORM DRAIN
UU UU	UNKNOWN UTILITY

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ARCATA, CALIFORNIA

ENLARGED PLAN

SHEET C2.4
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 8/13/2025 10:37 AM CNEWELL. PLOTTED: 8/13/2025 10:40 AM NEWELL, CHRIS
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PLAN
1"=30'

LEGEND

LINE	DESCRIPTION
	SHEET PILE WALL
	CONCRETE T-WALL
	FLOOD GATE
	RSP
	APE LINE
	3 PARAMETER WETLAND
	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM COM	COMMUNICATION
E E	ELECTRICAL
G G	GAS
W W	POTABLE WATER
SS SS	SEWER
SD SD	STORM DRAIN
UU UU	UNKNOWN UTILITY

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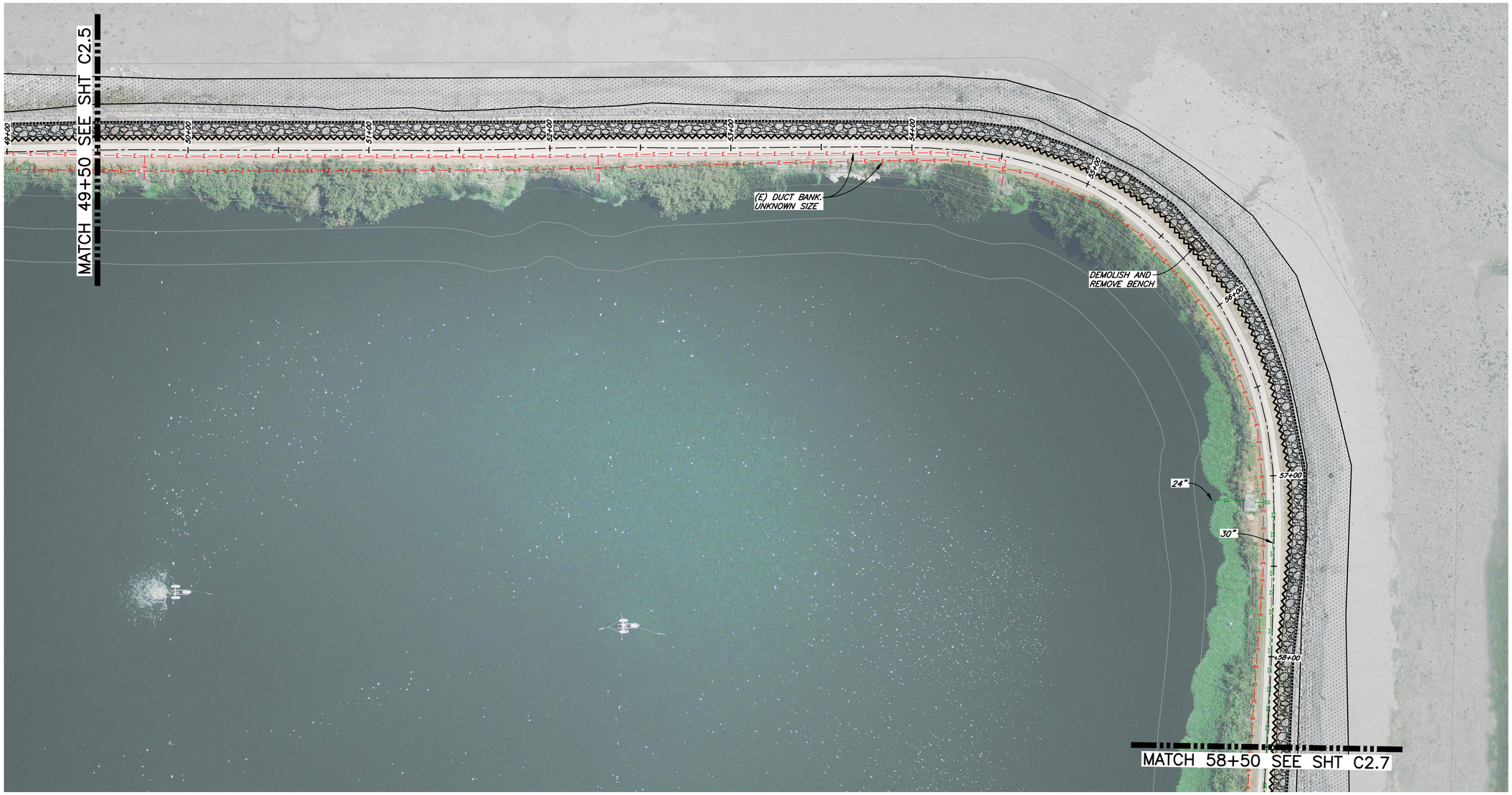
DSGN CC
DR CDN/JWF
CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

ENLARGED PLAN

SHEET C2.5
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 8/13/2025 10:37 AM CNEWELL. PLOTTED: 8/13/2025 10:40 AM NEWELL, CHRIS
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PLAN
1"=30'

LEGEND

LINE	DESCRIPTION
	SHEET PILE WALL
	CONCRETE T-WALL
	FLOOD GATE
	RSP
	APE LINE
	3 PARAMETER WETLAND
	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM	COMMUNICATION
E	ELECTRICAL
G	GAS
W	POTABLE WATER
SS	SEWER
SD	STORM DRAIN
UU	UNKNOWN UTILITY

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ARCATA, CALIFORNIA

ENLARGED PLAN

SHEET C2.6
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 8/13/2025 10:37 AM CNEWELL. PLOTTED: 8/13/2025 10:40 AM NEWELL, CHRIS
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PLAN
1"=30'

LEGEND

LINE	DESCRIPTION
	SHEET PILE WALL
	CONCRETE T-WALL
	FLOOD GATE
	RSP
	APE LINE
	3 PARAMETER WETLAND
	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM COM	COMMUNICATION
E E	ELECTRICAL
G G	GAS
W W	POTABLE WATER
SS SS	SEWER
SD SD	STORM DRAIN
UU UU	UNKNOWN UTILITY

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ENLARGED PLAN

SHEET C2.7
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 8/13/2025 10:37 AM CNEWELL, PLOTTED: 8/13/2025 10:41 AM NEWELL, CHRIS
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PLAN
1"=30'

LEGEND

LINE	DESCRIPTION
	SHEET PILE WALL
	CONCRETE T-WALL
	FLOOD GATE
	RSP
	APE LINE
	3 PARAMETER WETLAND
	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM COM	COMMUNICATION
E E	ELECTRICAL
G G	GAS
W W	POTABLE WATER
SS SS	SEWER
SD SD	STORM DRAIN
UU UU	UNKNOWN UTILITY

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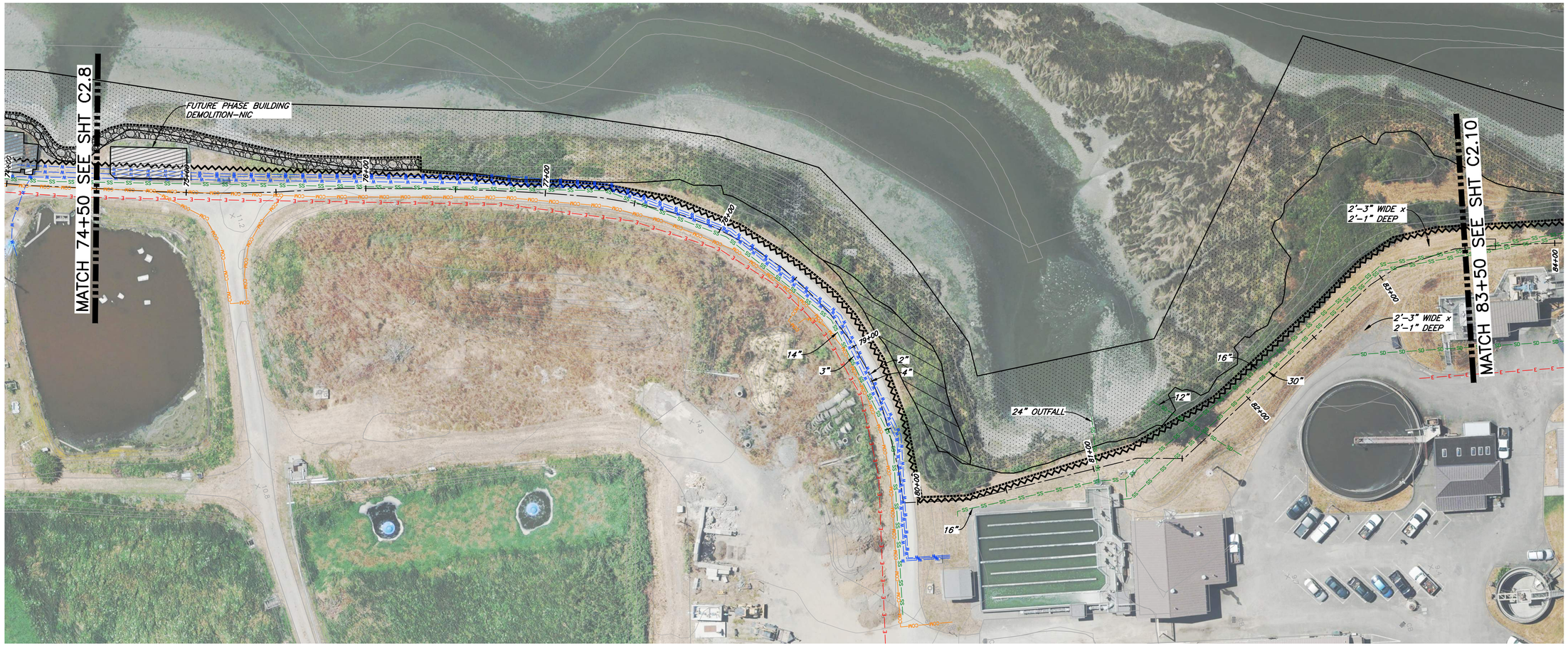
DSGN CC
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CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

ENLARGED PLAN

SHEET C2.8
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 8/13/2025 10:37 AM CNEWELL, PLOTTED: 8/13/2025 10:41 AM NEWELL, CHRIS
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PLAN

1"=30'

LEGEND

LINE	DESCRIPTION
	SHEET PILE WALL
	CONCRETE T–WALL
	FLOOD GATE
	RSP
	APE LINE
	3 PARAMETER WETLAND
	1–2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM	COMMUNICATION
E	ELECTRICAL
G	GAS
W	POTABLE WATER
SS	SEWER
SD	STORM DRAIN
UU	UNKNOWN UTILITY

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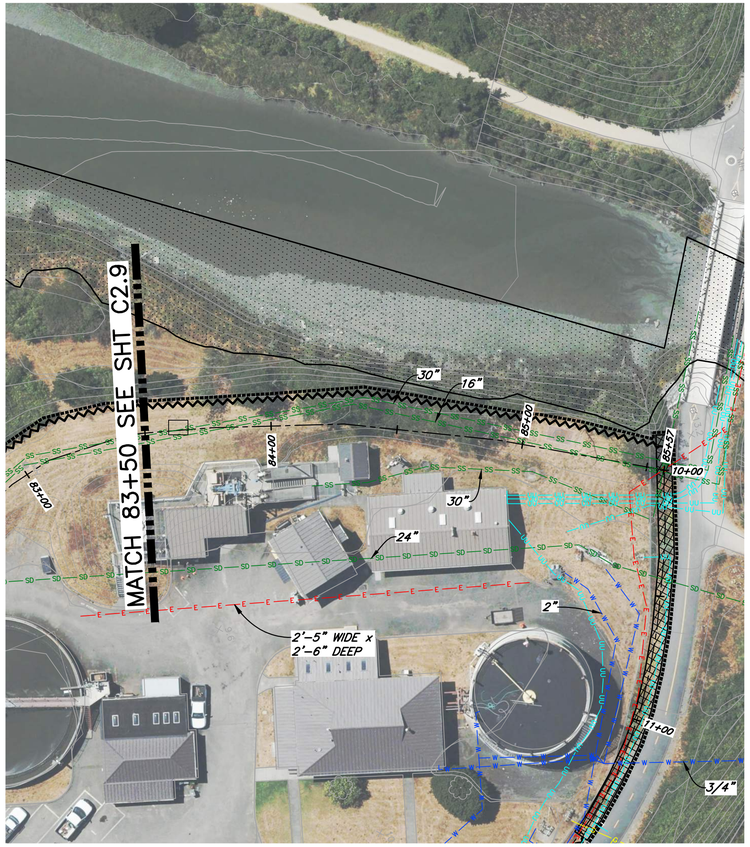
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CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

ENLARGED PLAN

SHEET C2.9
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 8/13/2025 10:37 AM CNEWELL. PLOTTED: 8/13/2025 10:41 AM NEWELL, CHRIS
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PLAN
1"=30'

LEGEND

LINE	DESCRIPTION
	SHEET PILE WALL
	CONCRETE T-WALL
	FLOOD GATE
	RSP
	APE LINE
	3 PARAMETER WETLAND
	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM COM	COMMUNICATION
E E	ELECTRICAL
G G	GAS
W W	POTABLE WATER
SS SS	SEWER
SD SD	STORM DRAIN
UU UU	UNKNOWN UTILITY

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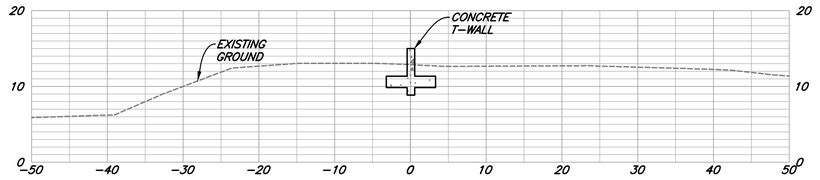
DSGN CC
DR CDN/JWF
CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

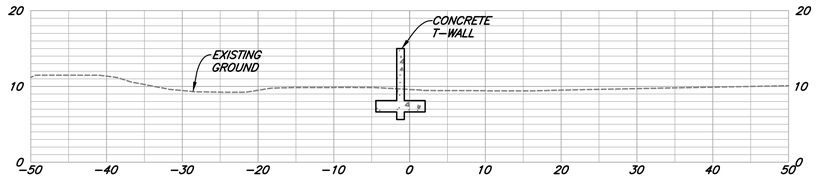
ENLARGED PLAN

SHEET C2.10
SEQ
DATE 06/2025
PROJ. NO. 023018

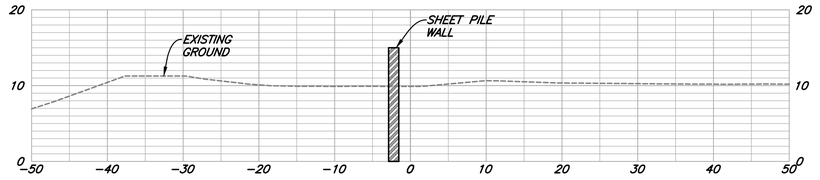
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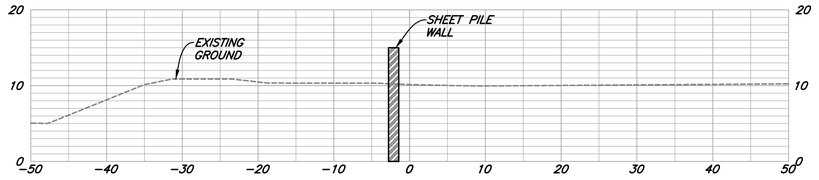
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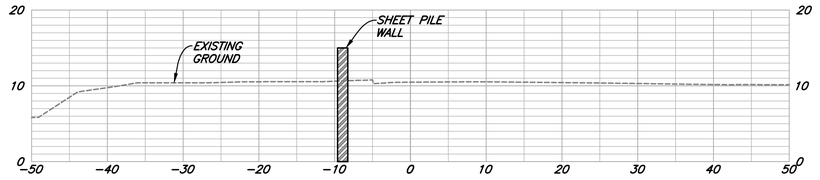
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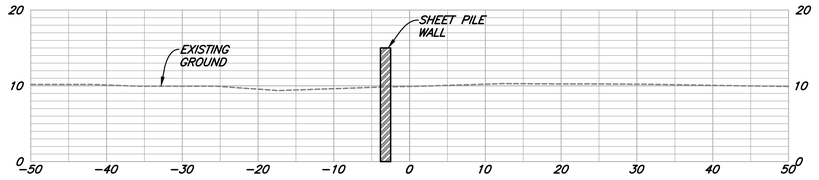
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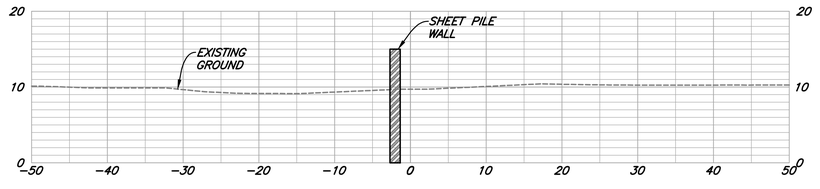
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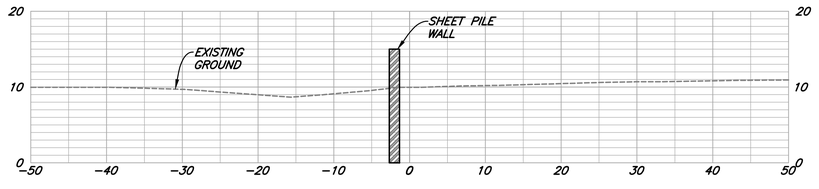
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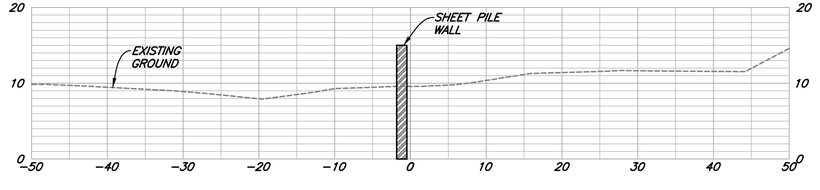
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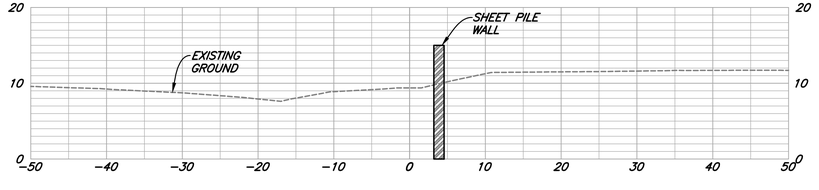
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18+00.00



19+00.00

CROSS SECTIONS

SCALE: 1"=10' H & V

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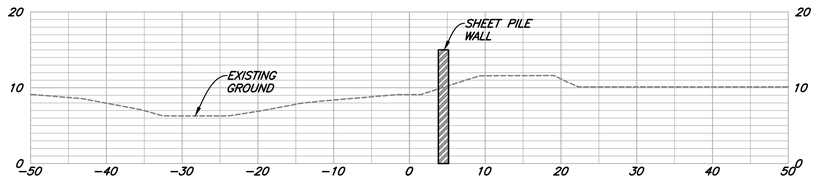
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DR CDN/JWF
CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

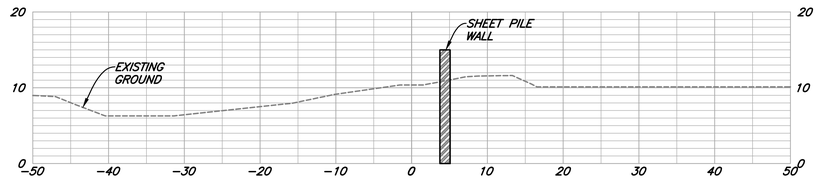
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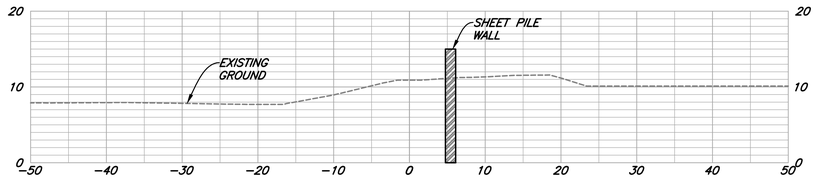
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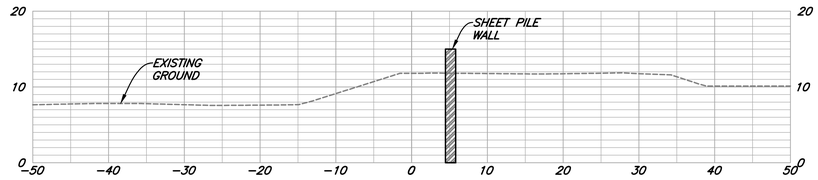
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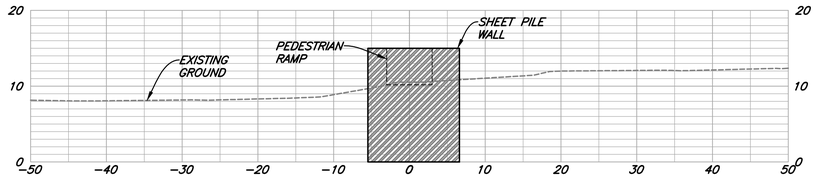
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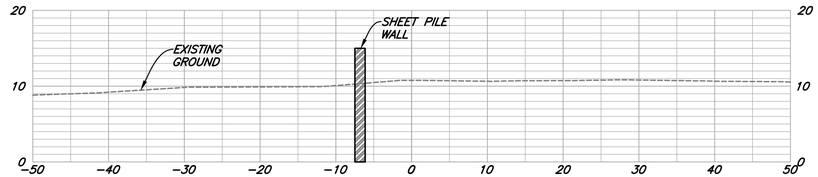
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CROSS SECTIONS

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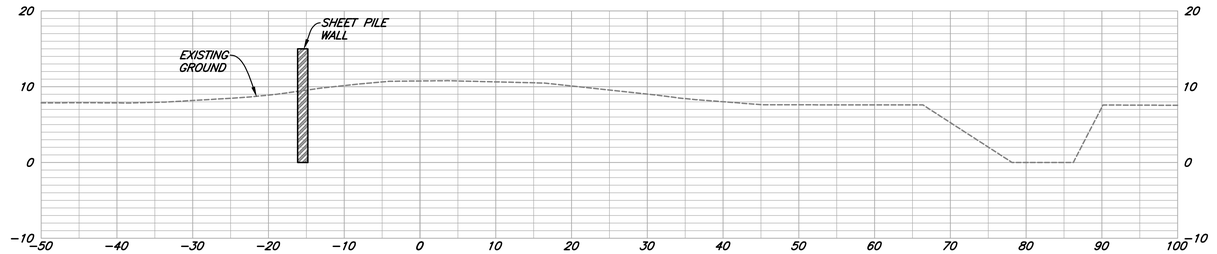
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CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

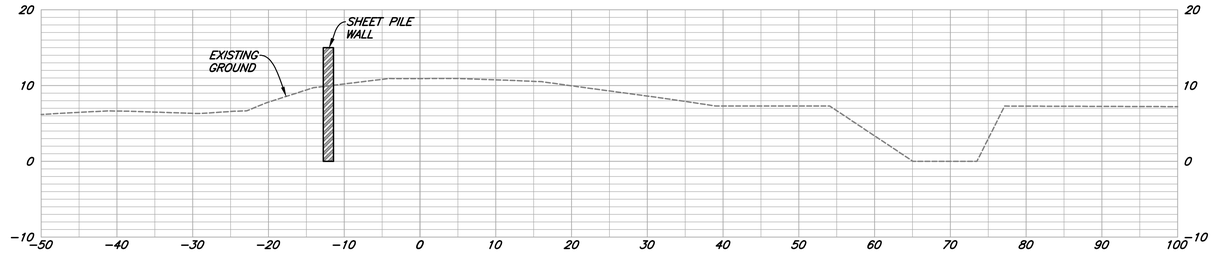
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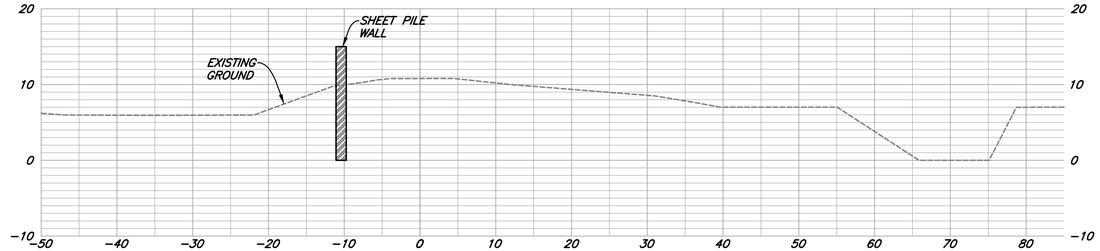
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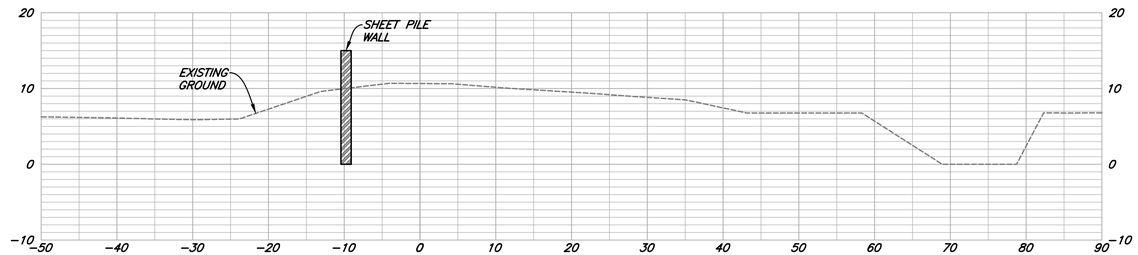
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CROSS SECTIONS

SCALE: 1"=10' H & V

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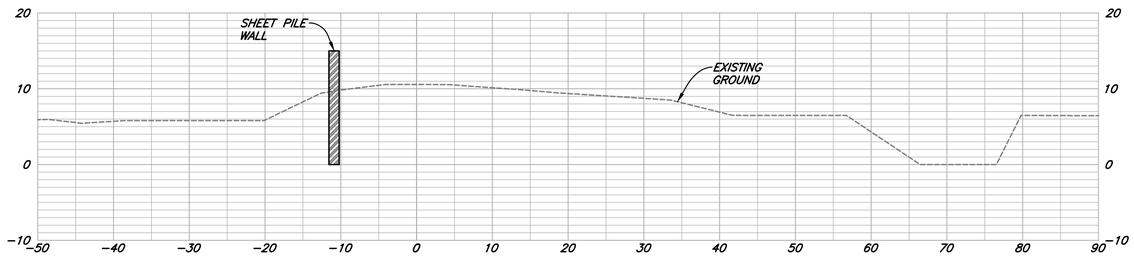
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CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

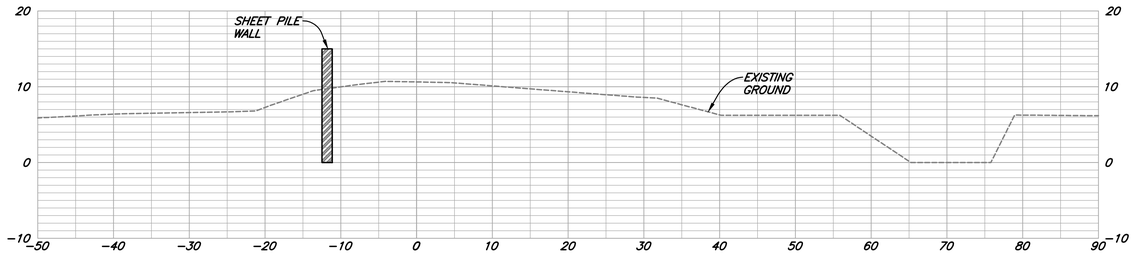
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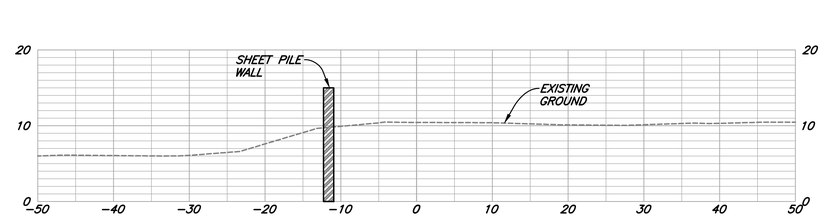
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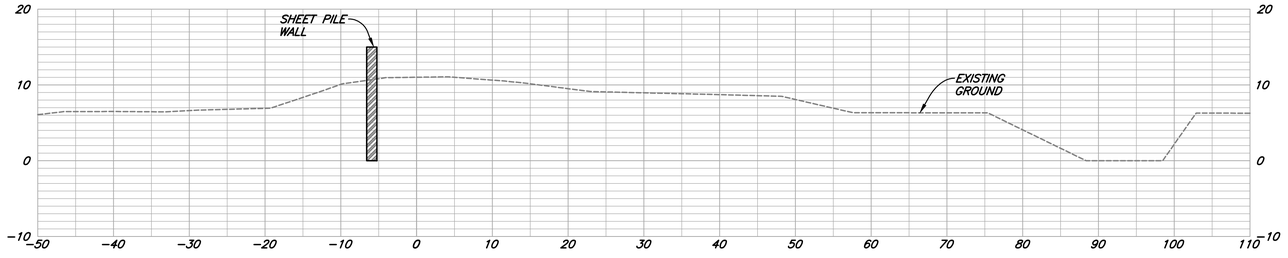
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CROSS SECTIONS

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DSGN	CC
DR	CDN/JWF
CHK	JSO
APVD	

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

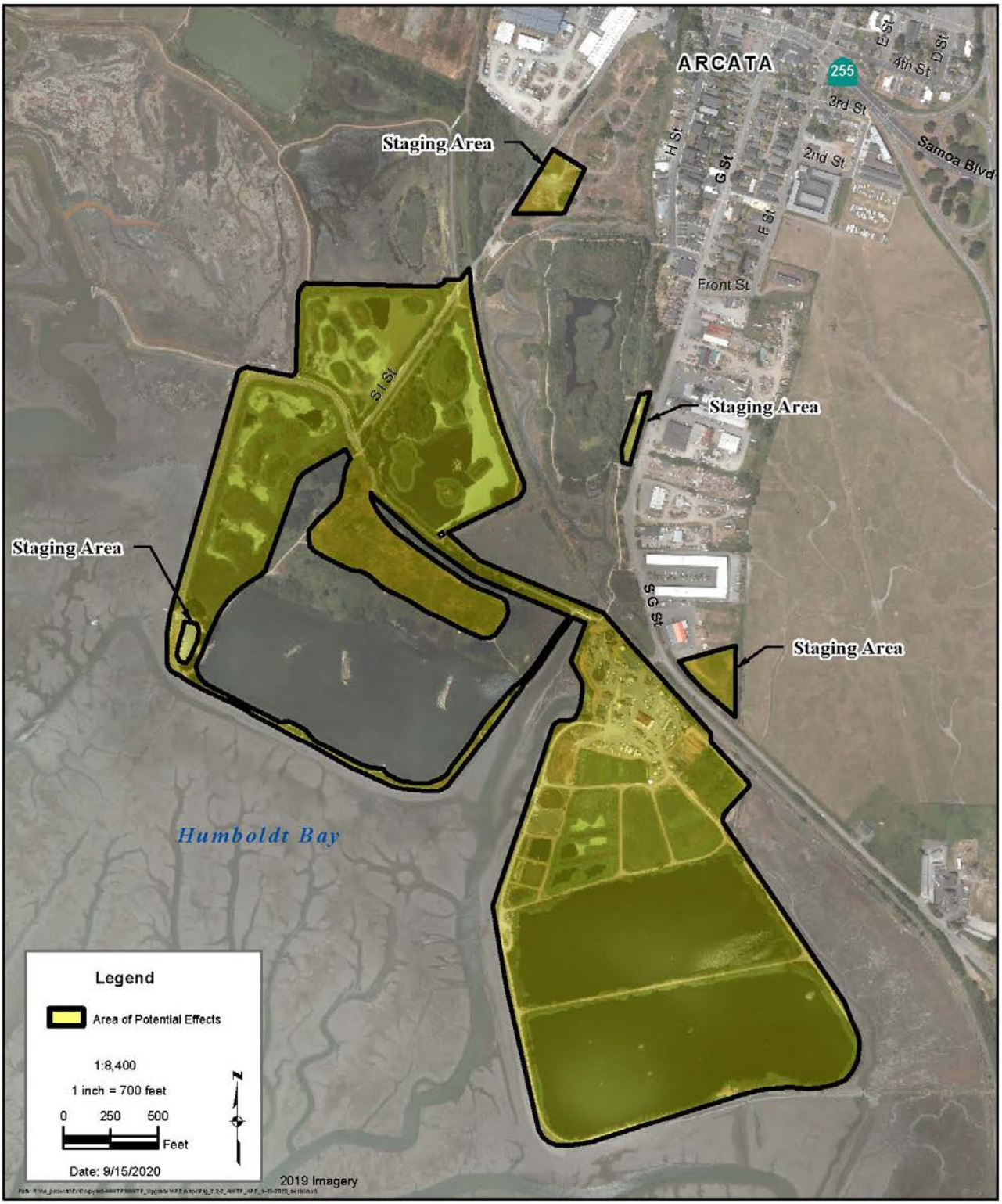
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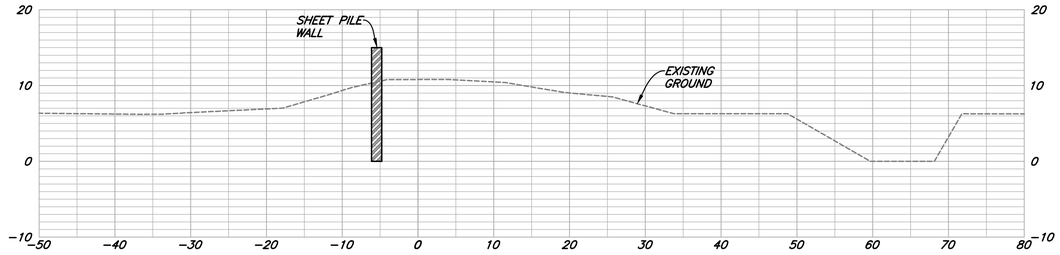
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FIGURE 3.2-2

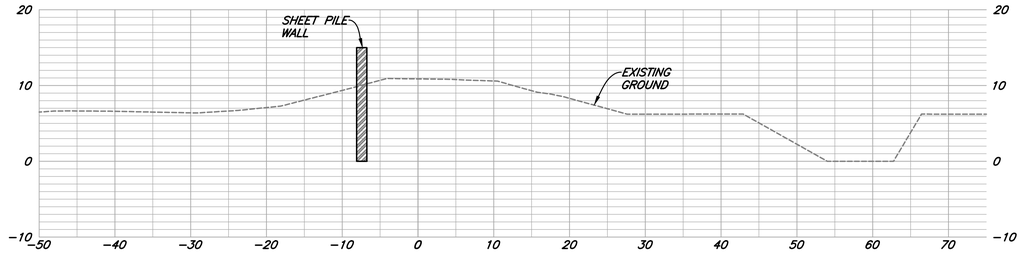
Arcata Wastewater Treatment Facility Upgrade

Area of Potential Effects

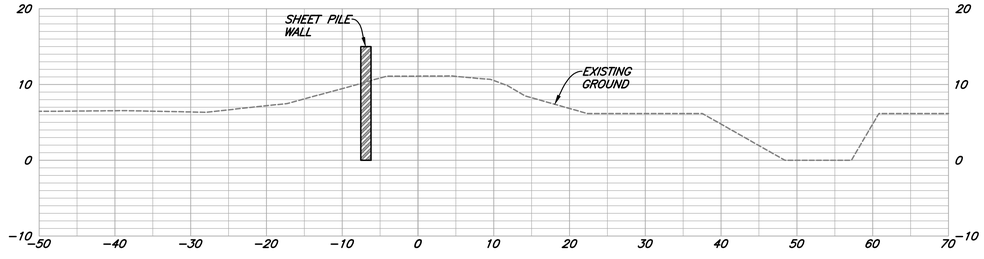




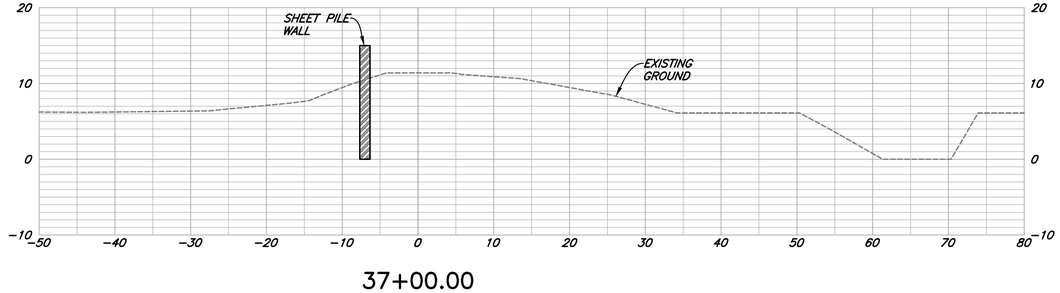
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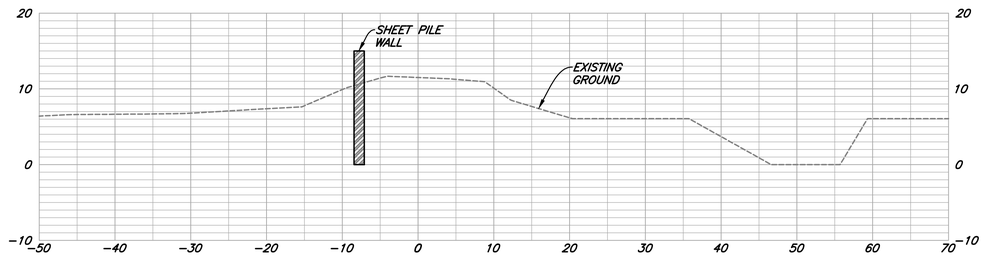
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CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

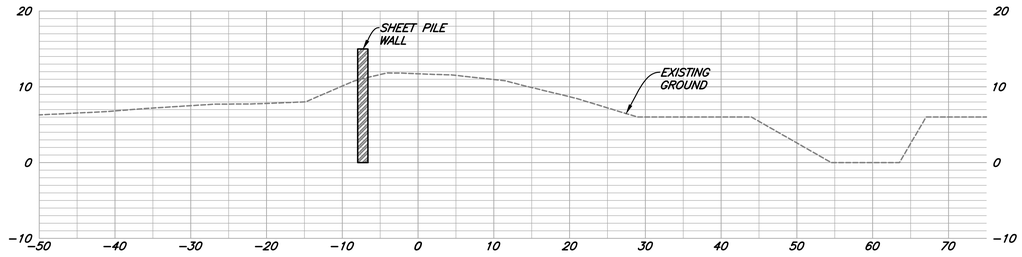
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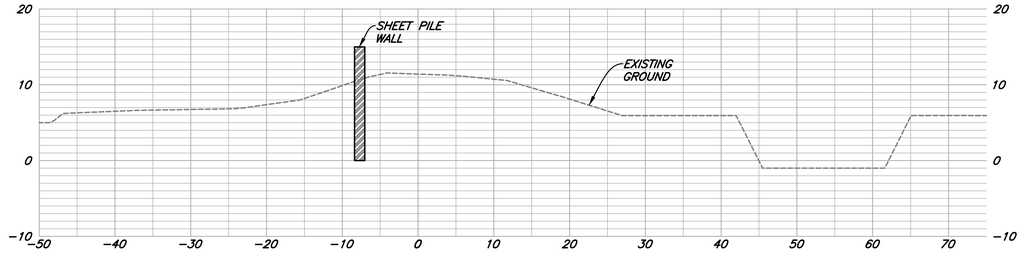
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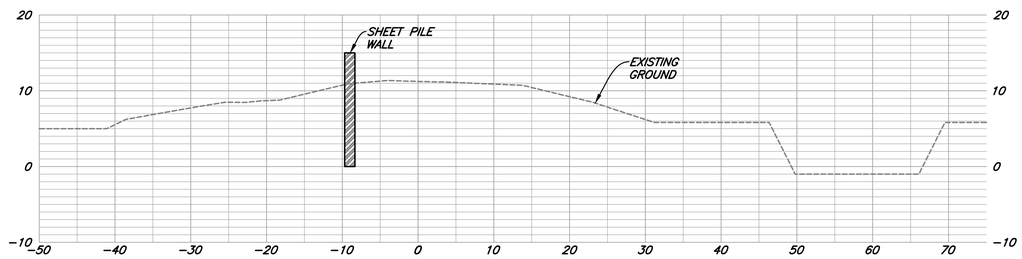
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CROSS SECTIONS

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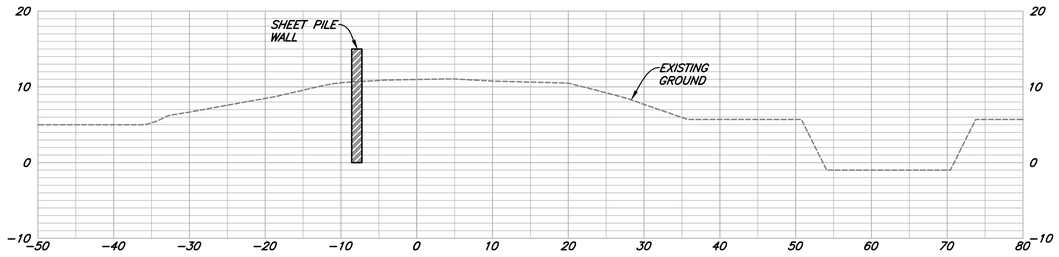
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APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

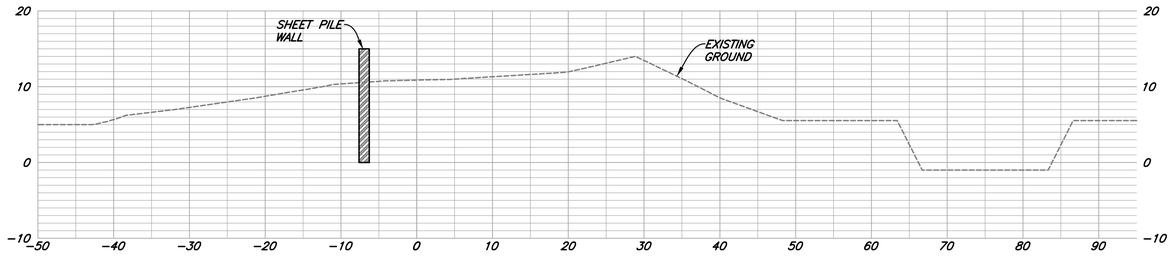
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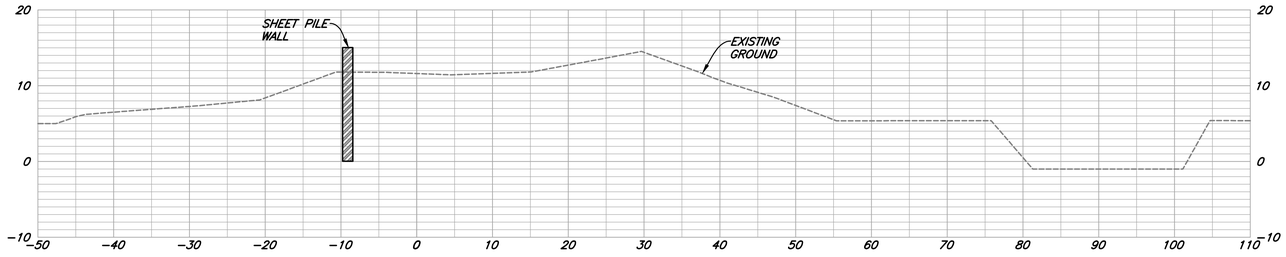
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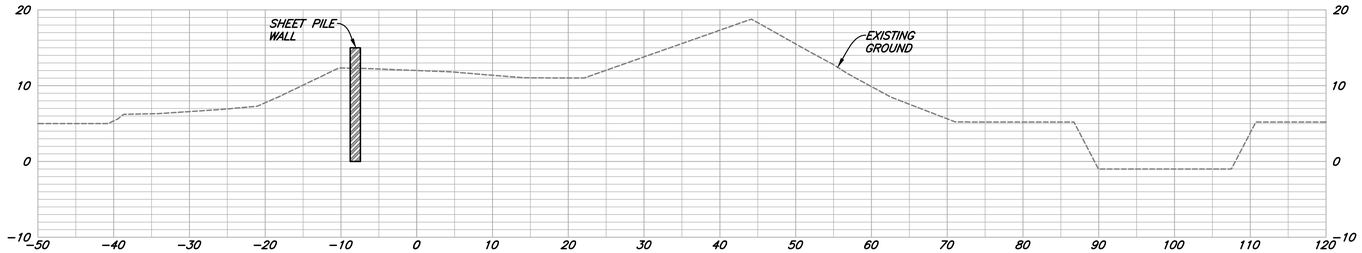
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43+00.00



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CROSS SECTIONS

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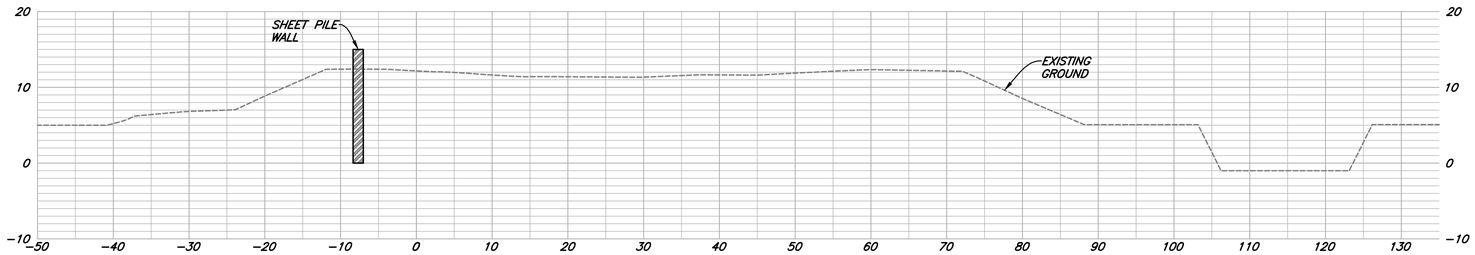
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ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

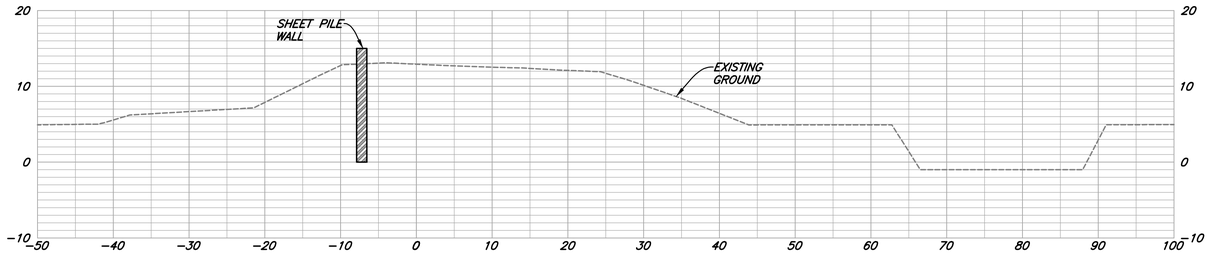
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SHEET C3.6
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 8/13/2025 10:37 AM CNEWELL. PLOTTED: 8/13/2025 10:41 AM NEWELL, CHRIS
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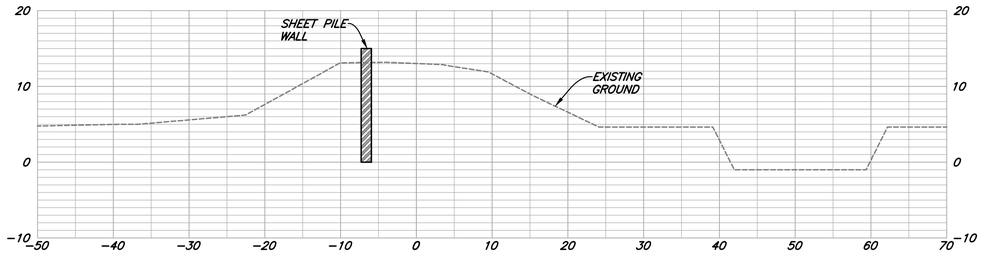


46+00.00



47+00.00

48+00.00



49+00.00

CROSS SECTIONS

SCALE: 1"=10' H & V

DISCLAIMER: THE THREE-DIMENSIONAL SURFACE WAS CREATED USING A COMBINATION OF DATA SOURCES. THE BAY SIDE MUD FLAT ELEVATION DATA IS BASED ON PUBLICLY AVAILABLE LIDAR DATA DATED 2019. THE LEVEE PRISM ELEVATION DATA IS BASED ON THE PHOTOGRAMMETRY SURFACE PROVIDED BY POINTS WEST DATED 2018. THE NORTH AND SOUTH OXIDATION PONDS WERE MODELED USING INFORMATION FORM THE ORIGINAL OXIDATION POND DESIGN DRAWINGS BY BATES & TROTTER, CONSULTING ENGINEERS DATED SEPTEMBER 1956.

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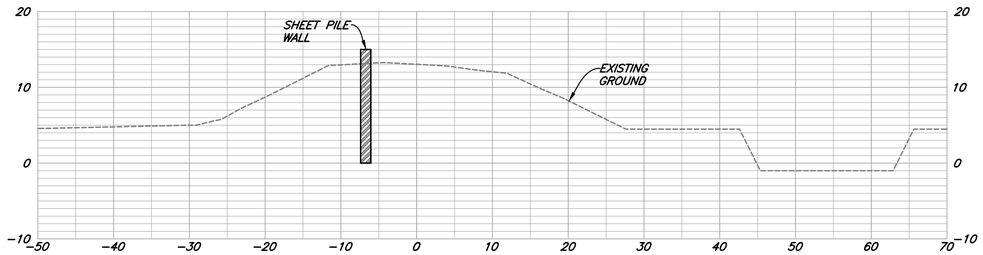
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DR CDN/JWF
CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

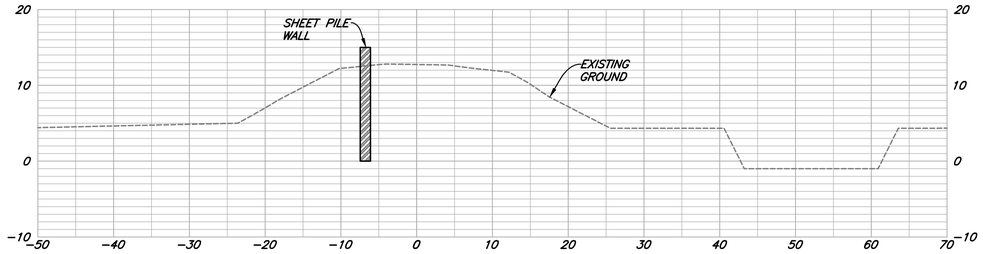
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DATE 06/2025
PROJ. NO. 023018

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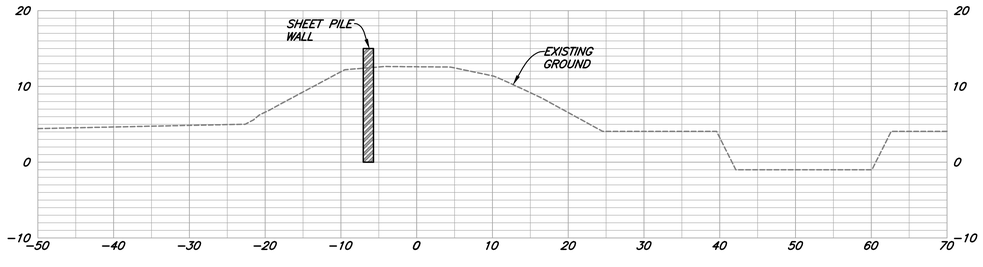


50+00.00



51+00.00

52+00.00



53+00.00

CROSS SECTIONS

SCALE: 1"=10' H & V

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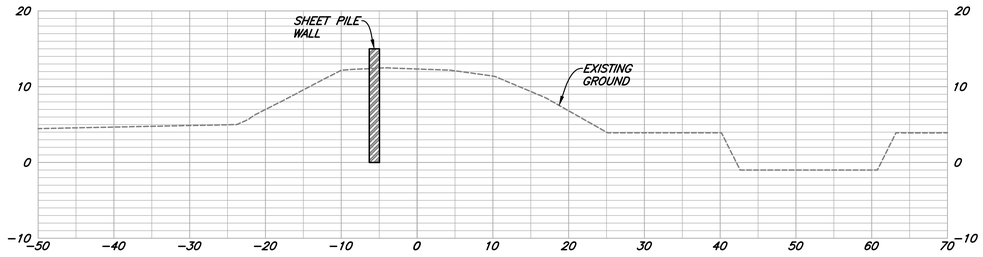
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DR CDN/JWF
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CITY OF ARCATA
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ARCATA, CALIFORNIA

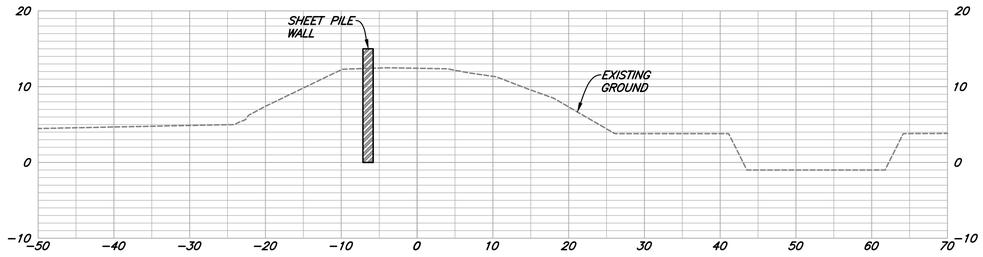
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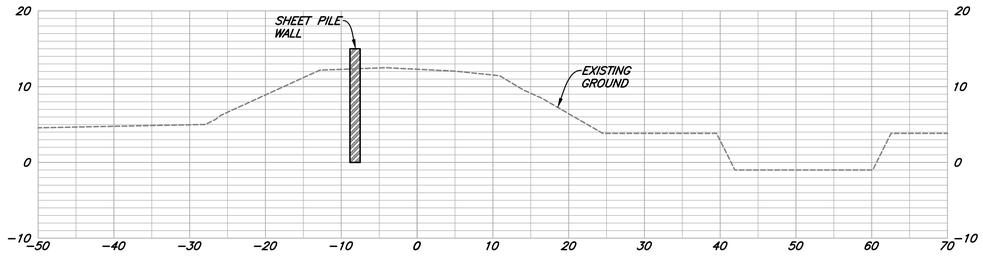
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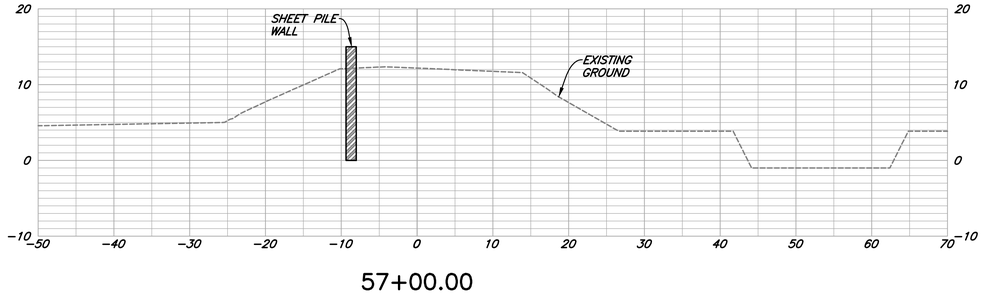
54+00.00



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CROSS SECTIONS

SCALE: 1"=10' H & V

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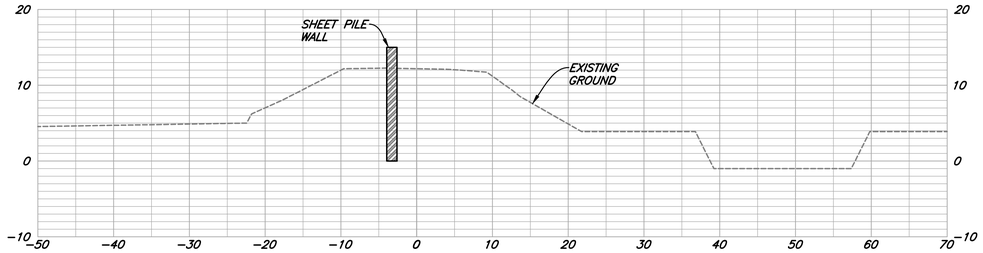
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CITY OF ARCATA
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ARCATA, CALIFORNIA

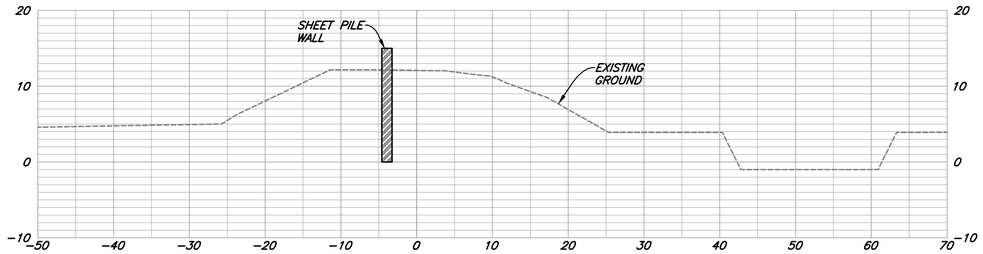
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DATE 06/2025
PROJ. NO. 023018

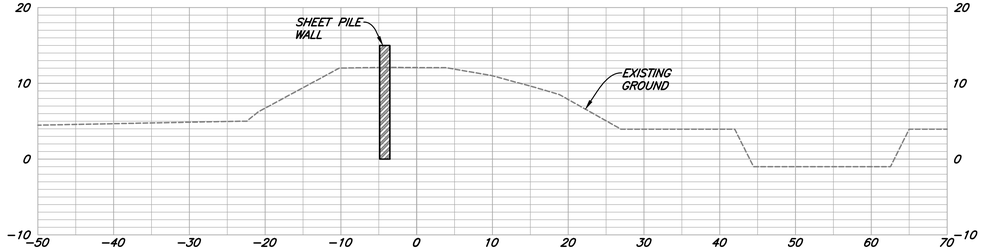
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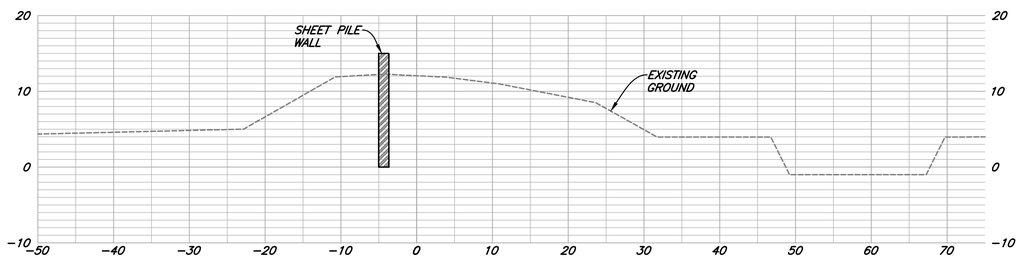
58+00.00



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CROSS SECTIONS

SCALE: 1"=10' H & V

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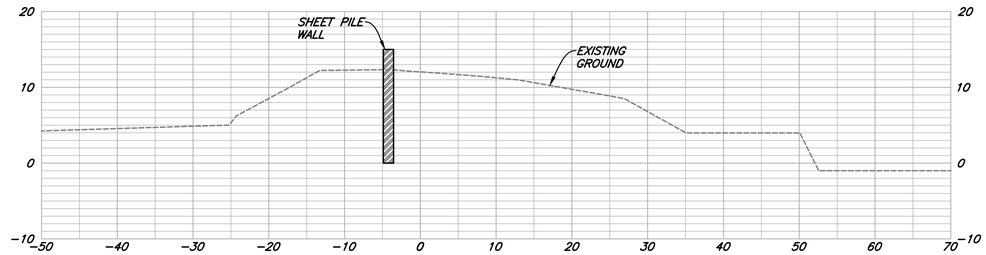
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APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

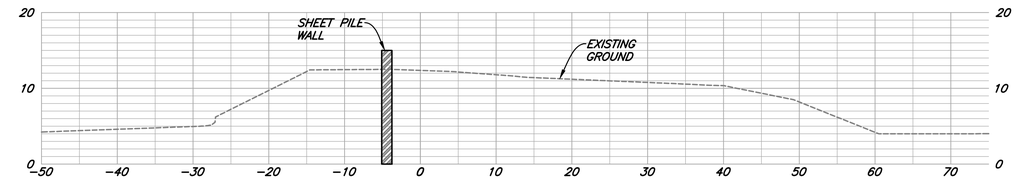
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DATE 06/2025
PROJ. NO. 023018

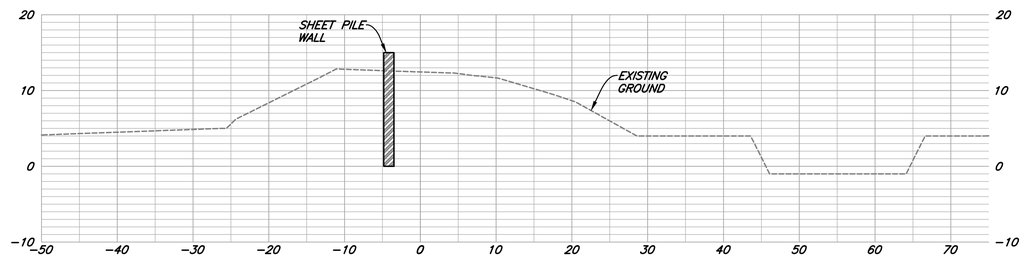
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P:\Eureka\2023\023018A-Arcata-WWTF-Levee\Dwgs\023018A-XSECT.dwg



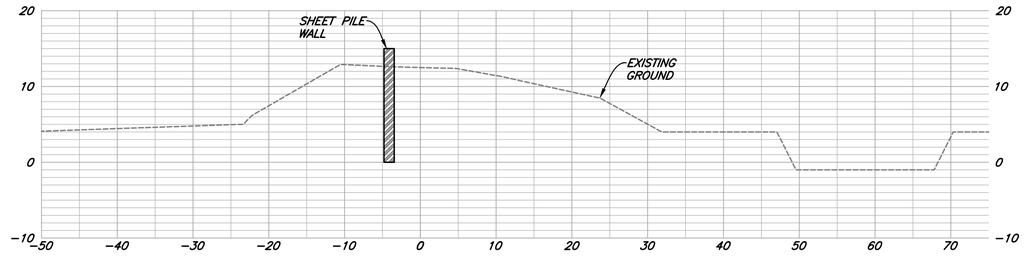
62+00.00



63+00.00



64+00.00



65+00.00

CROSS SECTIONS

SCALE: 1"=10' H & V

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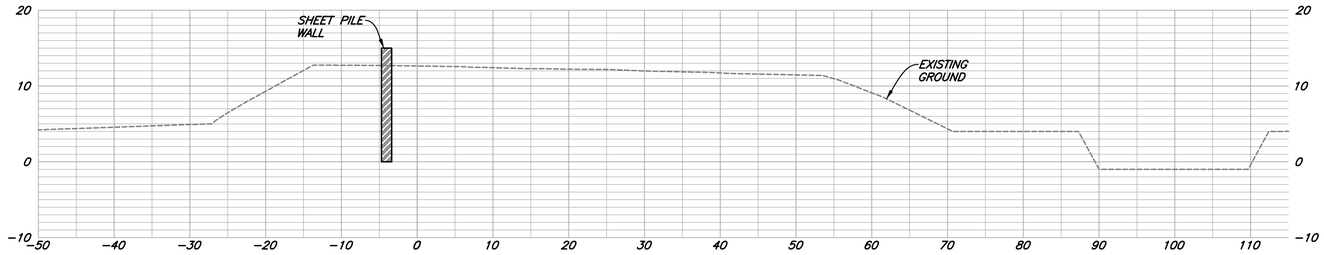
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CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

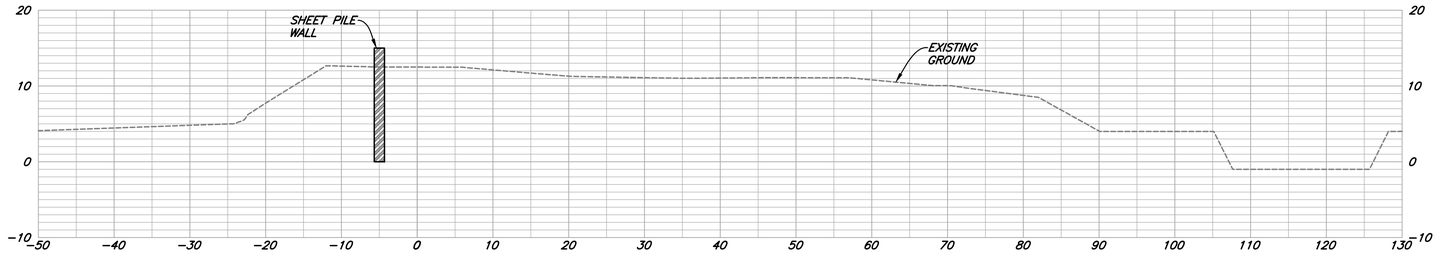
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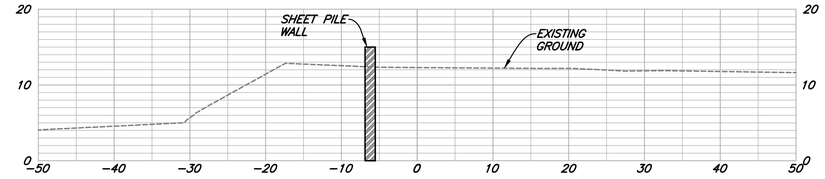
SAVED: 8/13/2025 10:37 AM CNEWELL. PLOTTED: 8/13/2025 10:41 AM NEWELL, CHRIS
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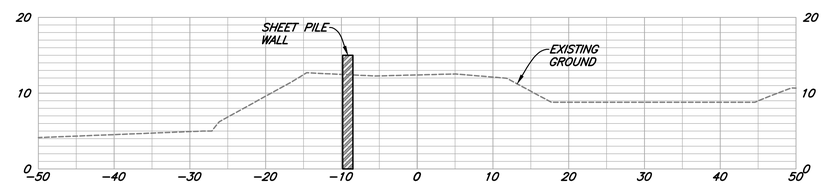
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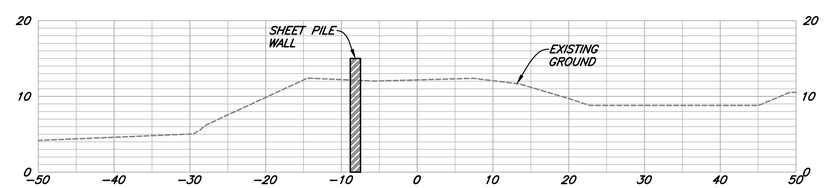
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68+00.00



69+00.00



70+00.00

CROSS SECTIONS

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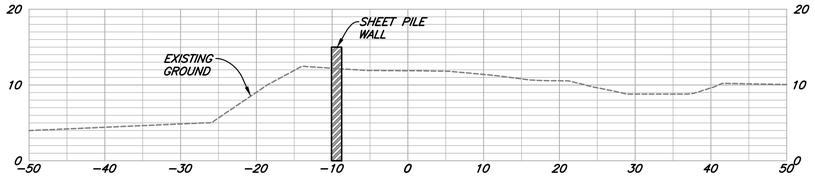
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CHK JSO
APVD

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ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

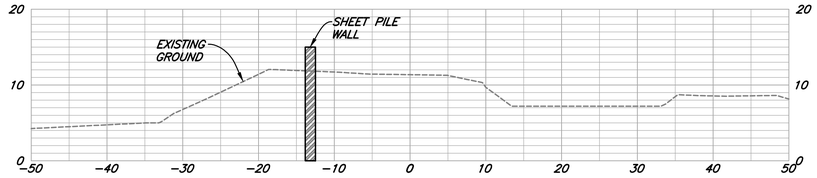
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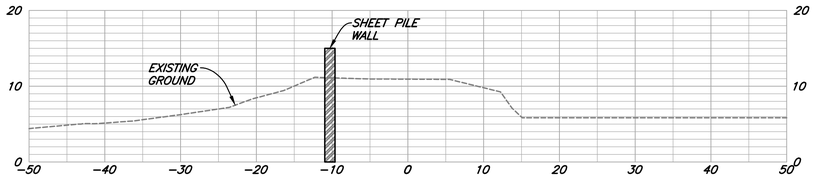
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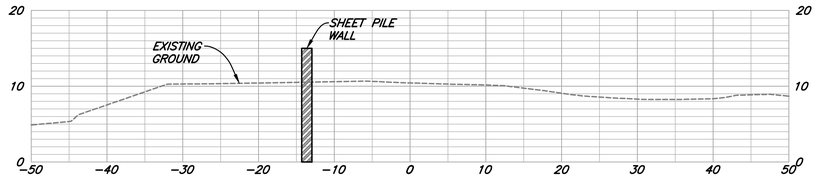
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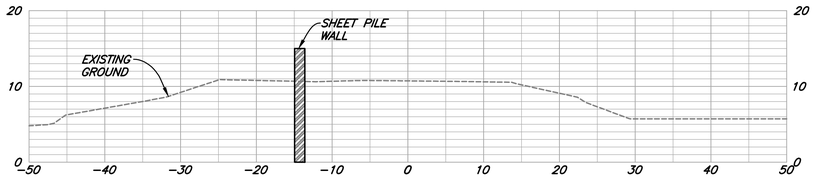
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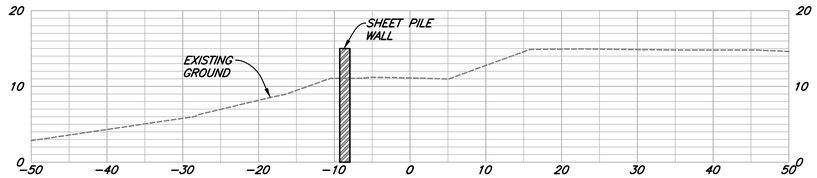
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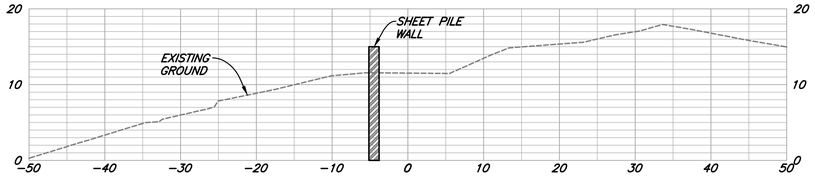
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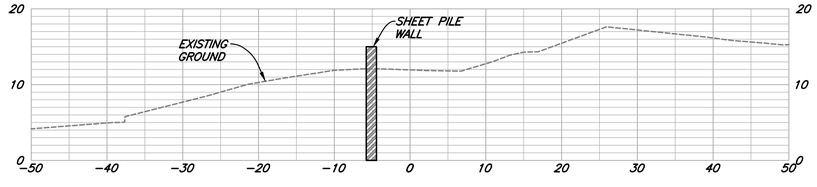
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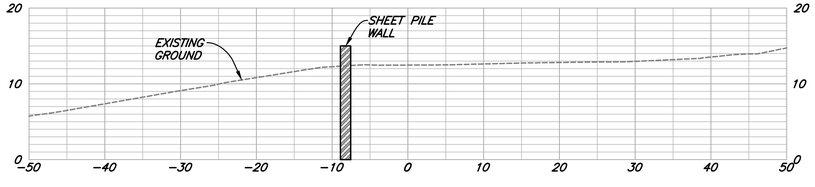
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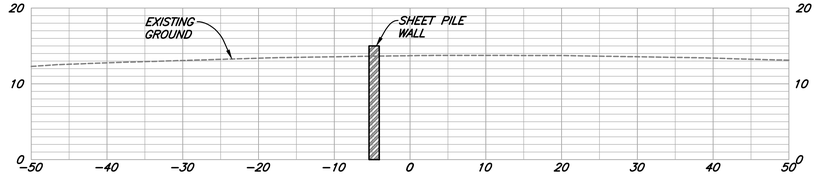
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CROSS SECTIONS

SCALE: 1"=10' H & V

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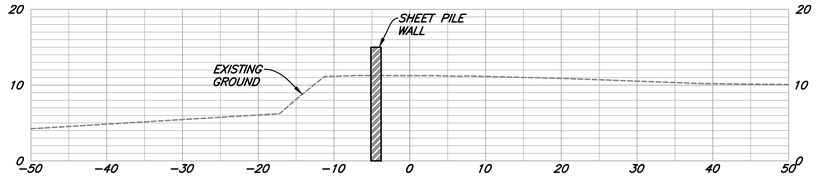
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CITY OF ARCATA
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ARCATA, CALIFORNIA

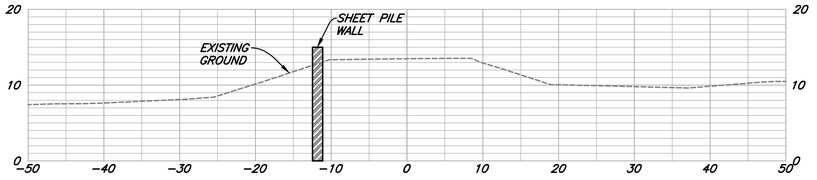
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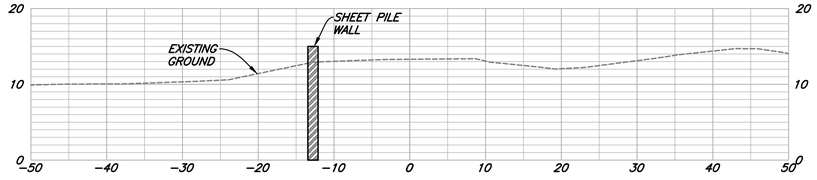
SAVED: 8/13/2025 10:37 AM CNEWELL. PLOTTED: 8/13/2025 10:41 AM NEWELL, CHRIS
P:\Eureka\2023\023018A-Arcata-WWTF-Levee\Dwgs\023018A-XSECT.dwg



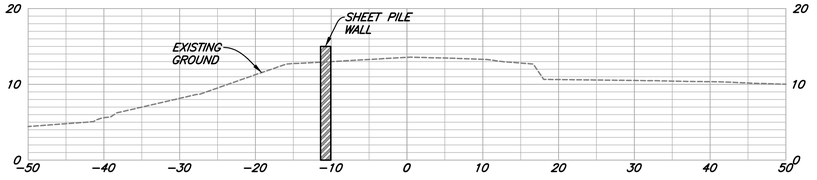
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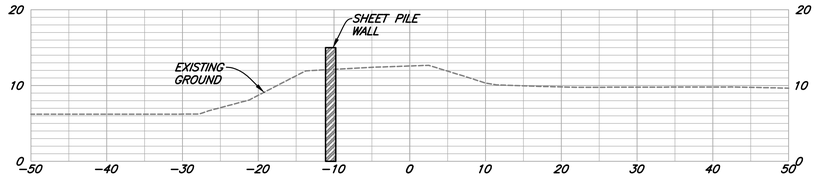
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85+00.00

CROSS SECTIONS

SCALE: 1"=10' H & V

DISCLAIMER: THE THREE-DIMENSIONAL SURFACE WAS CREATED USING A COMBINATION OF DATA SOURCES. THE BAY SIDE MUD FLAT ELEVATION DATA IS BASED ON PUBLICLY AVAILABLE LIDAR DATA DATED 2019. THE LEVEE PRISM ELEVATION DATA IS BASED ON THE PHOTOGRAMMETRY SURFACE PROVIDED BY POINTS WEST DATED 2018. THE NORTH AND SOUTH OXIDATION PONDS WERE MODELED USING INFORMATION FORM THE ORIGINAL OXIDATION POND DESIGN DRAWINGS BY BATES & TROTTER, CONSULTING ENGINEERS DATED SEPTEMBER 1956.

30% SUBMITTAL

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

812 W. WABASH AVE.
EUREKA, CA. 95501
WWW.SHN-ENGR.COM
707-441-8855

NO.	REVISION	BY	DATE

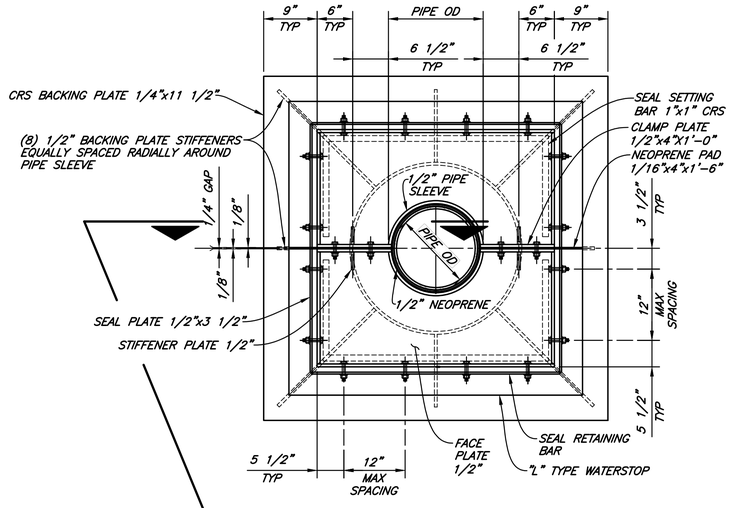
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DR CDN/JWF
CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

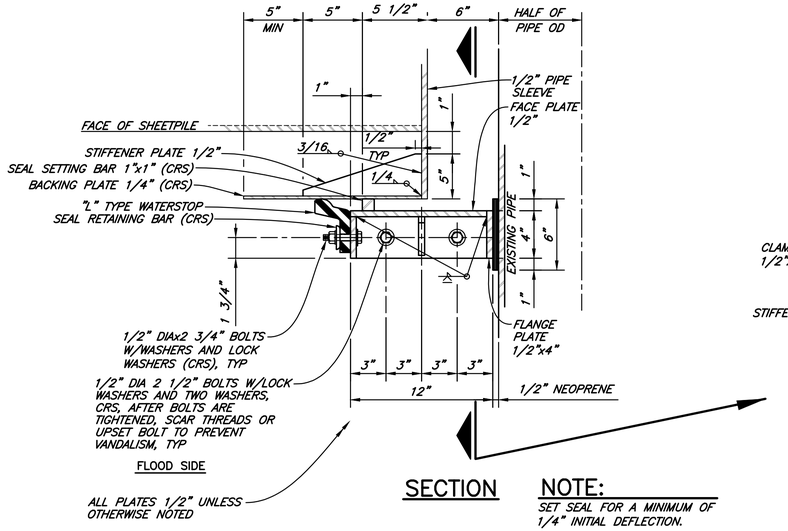
CROSS SECTIONS

SHEET C3.14
SEQ
DATE 06/2025
PROJ. NO. 023018

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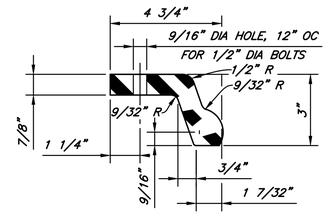


FLOOD SIDE ELEVATION

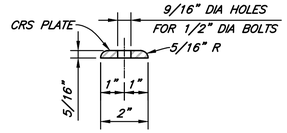


SECTION

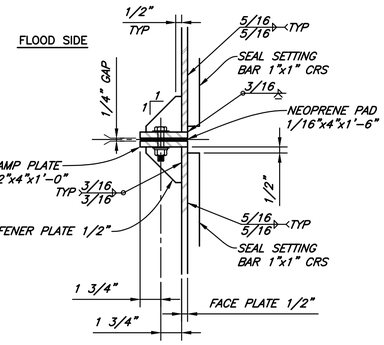
NOTE:
SET SEAL FOR A MINIMUM OF 1/4" INITIAL DEFLECTION.



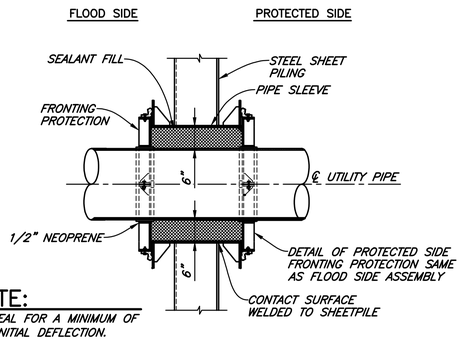
"L" TYPE WATERSTOP



SEAL RETAINING BAR



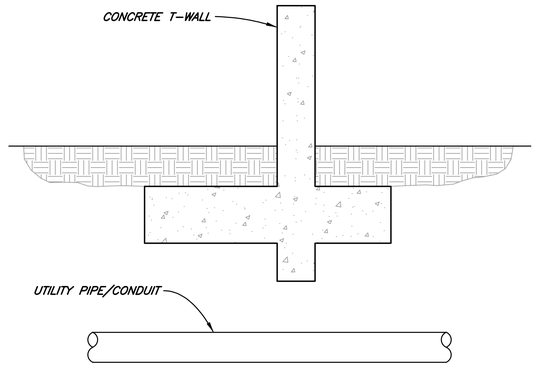
SECTION



SECTION THRU SHEETPILE WALL

NOTES:

1. THIS DETAIL IS BASED ON THE NEW WALL FACE BEING PERPENDICULAR TO THE PIPE.
2. GAS AND PETROLEUM PIPELINES MAY REQUIRE THAT A 1.5" MINIMUM CONCRETE COATING BE APPLIED BEFORE THE SLEEVE IS INSTALLED.
3. ALL FLANGE MATERIAL ATTACHED TO THE SHEETPILE SHALL BE STEEL.
4. ALL MATERIAL FOR FRONTING PROTECTION SHALL BE ALUMINUM, UNLESS OTHERWISE NOTED.
5. ALL STRUCTURAL ALUMINUM PLATES SHALL BE ASTM B 209, TYPE 6061-T6.
6. ALL CORROSION-RESISTANT STEEL (CRS) SHALL BE TYPE 316.
7. WELDS SHOWN ARE TYPICAL FOR SIMILAR JOINTS AND ALL WELDS ON WALL SIDE OF FACE PLATE SHALL BE FLUSH WITH BASE METAL.
8. AFTER THE TWO FRAMES ARE LOOSELY CLAMPED ON THE PIPE, THE TOTAL ASSEMBLY SHALL BE PUSHED AGAINST THE WALL, SETTING THE SEALS, THEN TIGHTEN CLAMP PLATES TO CLOSE THE 1/4" GAP.
9. UPON COMPLETION OF THE ASSEMBLY, APPLY AN ANAEROBIC ADHESIVE (LOCTITE THREADLOCKER 290 OR EQUAL) TO ALL NUT AND BOLT JUNCTURES.



DETAIL 2
NTS

(UTILITY CROSSING UNDER T-WALL)

DETAIL 1
NTS

(UTILITY PENETRATION THROUGH SHEET PILE)

30% SUBMITTAL

812 W. WABASH AVE.
EUREKA, CA. 95501
WWW.SHN-ENGR.COM
707-441-8855

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

NO.	DATE	REVISION	BY

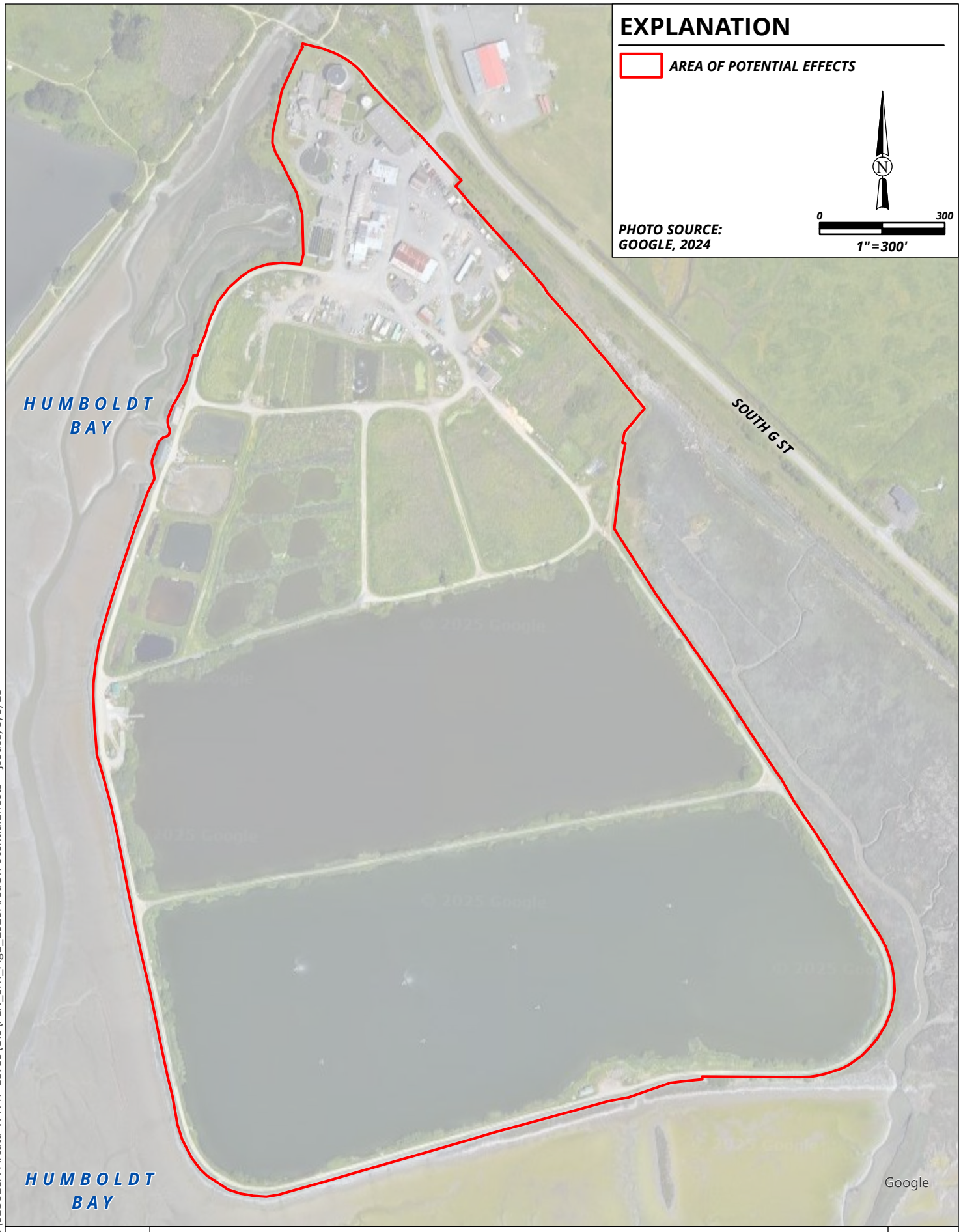
DSGN CC
DR CDN/JWF
CHK JSO
APVD

CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

DETAILS

SHEET C4.0
SEQ
DATE 06/2025
PROJ. NO. 023018

SAVED: 6/27/2025 8:55 AM CNEWELL, PLOTTED: 8/13/2025 10:41 AM NEWELL, CHRIS
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P:\Eureka\2023\023018A-Arcata-WWTF-Levee\GIS\PLN_LTR_Fig1_2025AreaOfPotentialEffects -- jsousa, 9/3/25

City of Arcata
Arcata WWTF Levee Expansion Project, Env. Study Review
Arcata, California

2025 Area of Potential Effects

September 2025 - 023018.400

Figure 1

Phone: (707) 441-8855 **Email:** info@shn-engr.com **Web:** shn-engr.com
812 W. Wabash Avenue, Eureka, CA 95501-2138

Reference: 023018.400

September 19, 2025

Steven Luu
City of Arcata
736 F Street
Arcata, California, 95521

Emailed to: sluu@cityofarcata.org
nkhatri@cityofarcata.org
esinkhorn@cityofarcata.org

Subject: Adequacy of Existing Biological and Wetland Studies for Arcata Wastewater Treatment Facility Levee Expansion Project

Steven:

This letter was prepared as part of SHN's Task 1.4 "Planning Phase 1 Scope of Work" for the City's Wastewater Treatment Facility Levee Expansion Project. The purpose of this letter is to review the existing biological and wetland documentation relative to the current levee expansion project and determine if these existing studies are adequate to complete California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) environmental documentation, or if additional studies are necessary. This letter 1) reviews the 2025 area of potential effects (APE) compared to the previous 2020 CEQA and NEPA APE, 2) reviews the 2025 project description compared to the previous 2020 CEQA and NEPA project descriptions, 3) reviews existing biological reporting, and 4) reviews existing wetland delineations.

Area of Potential Effects

SHN prepared 30% plans in August 2025. The 2025 area of potential effects (APE) associated with the 30% plans is shown in Appendix 1 and includes all areas of proposed ground disturbance associated with the levee enhancement project.

SHN reviewed the previous environmental documentation to determine if the APE has expanded at all since the previous (2020) environmental reviews. A comparison of the current 30% design plan APE (Appendix 1) with the previous 2020 CEQA APE (Appendix 2) and 2020 NEPA APE (Appendix 3) confirms the current project remains inside the original CEQA and NEPA APEs.

Project Description

SHN reviewed the current 2025 project description compared to the project descriptions in the 2020 CEQA Initial Study-Mitigated Negative Declaration (ISMND) and the 2020 NEPA Environmental Assessment (EA):

- City of Arcata. (2020a). Final Mitigated Negative Declaration and Initial Study, Arcata Wastewater Treatment Facility Upgrades Project. October 2020.
- City of Arcata. (2020b). U.S. Department of Housing and Urban Development Environmental Assessment Determinations and Compliance Findings for HUD-assisted Projects 24CFR Part 58, Arcata Wastewater Treatment Facility Upgrades Project.

Levee augmentation was included in the full scope of treatment plant improvements analyzed in the adopted 2020 ISMND; however, levee augmentation was described in limited detail, with exact height and method of construction still to be developed. The levees were described in the ISMND as being raised/augmented to a minimum of 14 feet (NAVD 88) to protect critical infrastructure within the core treatment plant area. The following construction detail was provided and analyzed in the adopted ISMND:

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

Levee augmentation was also included in the full scope of treatment plant improvements analyzed in the 2020 EA; however, levee augmentation was described in limited detail, with exact height and method of construction still to be developed. The levee augmentation was described in the EA as "raising levees to meet minimum FEMA and City requirements for construction of new/rehabilitated facilities," "raising of the levees around the treatment facility," and "raising levees surrounding the core treatment plant area…to increase the facility's ability to withstand extreme weather events."

The 2025 30% design plan set for levee augmentation is consistent with proposed work as described in the ISMND and EA project descriptions. Additional details developed through the 2025 30% design plans include a finalized proposed height of 15 feet to allow one foot of freeboard above base flood elevation of 14 feet and a finalized construction method/material of unpainted corrugated steel metal sheet pile.

The planned construction and treatment of the levee materials does not include treatments/seals on the steel sheet pile, or any pressure treated wood pilings.

Installation will involve pile-driving vertical piles deep into the soil along the perimeter of the existing levee system and will also involve using reinforced concrete where sheet piles cannot be driven due to existing utilities to form a continuous, 15-foot-high barrier. A storm gate system will be installed at the existing entrance to maintain traffic flow in and out of the facility. The existing levee system's height varies along the levee perimeter, ranging from roughly 10-14 feet; the finished levee system will be raised to a consistent 15-foot height NAVD. Where there is existing armoring of the outboard levee slope and no presence of environmentally sensitive habitat area (ESHA), engineered fill (light-rock facing) is proposed from the bottom of sheet pile to the top of existing armoring.

The existing levee footprint will not be expanded, and augmentation will involve construction on top of the existing earthen levees solely from within the treatment plant interior (no in-water work). All work will be undertaken within previously surveyed areas with no expansion of APE. The 2025 project description is consistent with the 2020 project description.

Biological Reports

SHN reviewed the following biological reports for this letter, along with the biological analysis contained in the City's 2020 ISMND:

- City of Arcata. (2020). *Biological Assessment, September 2020, City of Arcata-Wastewater Treatment Facility Upgrades Project.* September 2020.
- Stillwater Sciences. (2021). *Biological Assessment for the City of Arcata Wastewater Treatment Facility Upgrades Project, Humboldt County, California.* June 2021.
- GHD. (2023). *Technical Memorandum. Pre-construction Rare Plant Survey 2023, Arcata Waste Water Environmental Compliance.* July 17, 2023.
- Naiad Biological Consulting. (2024). *Botanical Survey Report, Arcata Waste Water Environmental Compliance, 2024 Pre-construction Rare Plant Survey.* August 17, 2024.

SHN developed a list of special-status species that have either been added to the query results or have had an update in listing status since the previous 2020 ISMND. The database query for these updates was conducted in August 2025 (Appendix 4) from the following sources:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) query of the United States Geological Survey (USGS) 7.5-minute topographic quadrangle containing the study area and immediately surrounding quads
- Biogeographical Information and Observation System's Rarefind database (BIOS; CDFW)
- California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California query for a list of all botanical species reported for study area, and surrounding USGS 7.5-minute topographic quadrangles
- Special Animals of California List (CDFW)

- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) query for threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat that may occur within the study area, and/or may be affected by, the proposed project.

Appendix 4, Table 1 presents the additional botanical species reported from the queries, their preferred habitat, and whether there is suitable habitat present within the project area/APE for the species. Appendix 4, Table 2 presents the additional animal species reported from the queries, their preferred habitat, and whether there is suitable habitat present within the project area/APE for the species. For consideration under CEQA, updates for species with a state status of Species of Special Concern (SSC), or with California Rare Plant Ranks (CRPR) 1 through 4, or with a state or federal status of Threatened, Endangered, Proposed, or Candidate, are included in the tables in Appendix 4. For consideration under NEPA, updates for species with a federal status of Threatened, Endangered, Proposed, or Candidate are included in the tables in Appendix 4.

The GHD 2023 and the Naiad Biological Consulting 2024 pre-construction rare plant surveys (as well as the 2020 CEQA document) documented a number of special status plant occurrences within the project APE, including sea-watch, Lyngbye's sedge, Humboldt Bay owl's-clover, western sand-spurrey, and Point Reyes bird's-beak. The reports noted that because these are annual plants, their exact locations may vary from season to season. They concluded and recommended the following:

1) If salt marsh species, such as Humboldt Bay owl's clover, Point Reyes salty bird's-beak, and western sand-spurrey, cannot be avoided, work should be postponed until these species have gone to seed and the seeds have been collected (consistent with CEQA Mitigation Measure BIOL-6). These salt marsh species cannot be replaced with nursery-grown plants. Collected seeds should be stored until the project is complete and then either dispersed back into the project area or into suitable habitats outside the disturbance zone.
2) If sea-watch cannot be avoided by project activities, then these plants should either be allowed to go to seed and the seeds harvested before mowing, or affected individuals should be replaced with nursery-grown container plants after the Project is concluded (consistent with CEQA Mitigation Measure BIOL-6).
3) If Lyngbye's sedge cannot be avoided by project activities, this species should be transplanted into nearby suitable habitat outside of the project footprint (consistent with CEQA Mitigation Measure BIOL-7).

The 2023 and 2024 pre-construction rare plant surveys each included a list of all botanical species observed. These lists documented that none of the additional special-status botanical species in Appendix 4 were observed. The 2023 and 2024 botanical reports found that CEQA Mitigation Measures BIOL-6 and BIOL-7 remain appropriate and adequate for the current project. No additional botanical surveys, consultations, or mitigation measures are necessary for the current CEQA/NEPA update.

The only wildlife species with updated listing status since the previous environmental reviews were California condor, Pacific marten (Coastal Distinct Population Segment), monarch butterfly, and northwestern pond turtle. The California condor, Pacific marten (Coastal Distinct Population Segment), and monarch butterfly have little to no potential to occur in the project area as there is no suitable habitat for these species; therefore, no mitigations are necessary for these additions to the query list.

SHN and the City contacted USFWS for technical assistance regarding the northwestern pond turtle, due to its change in federal status from no Federal listing to Federally Proposed Threatened in 2023. USFWS concurred that the City's proposed update to Mitigation Measure BIOL-4 is appropriate to avoid impacts to northwestern pond turtle. California Department of Fish and Wildlife was also notified of the mitigation measure update and concurred with it (Appendix 5). The revised Mitigation Measure BIOL-4 is as follows, with additions underlined (and no deletions):

> **"Mitigation Measure BIOL-4: Northern Red-Legged Frog & Western Pond Turtle**
>
> Prior to Project mobilization or Project-related ground disturbance, conduct a Worker Environmental Awareness Training (WEAT) presented by a qualified biologist to all construction personnel. The WEAT shall include the identification and natural history of Northern Red-legged Frog and Northwestern Pond Turtle. If any Northern red-legged frogs or northwestern pond turtles are encountered during construction activities, activities in the vicinity shall cease until appropriate corrective measures have been implemented or it has been determined by a qualified biologist that the species will not be harmed. This includes a CDFW-approved biologist relocating these species to an appropriate habitat adjacent to the work area. Any listed reptile or amphibian species that are trapped, injured, or killed, shall be reported immediately to CDFW."

The revised Mitigation Measure BIOL-4 should be incorporated into the City's Addendum to the 2020 CEQA ISMND and into the City's updated NEPA documentation. No additional wildlife surveys, consultations, or mitigation measures are necessary for the current CEQA/NEPA update.

No additional biological reports, consultations, or additional mitigation measures are needed for the current project.

Wetland Delineations

The following wetland delineations were reviewed for this letter:

- Stillwater Sciences. (2020). *Preliminary Delineation of Waters and Wetlands for the City of Arcata Wastewater Treatment Plant Improvement Project.*

- Vollmar Natural Lands Consulting. (2024). *Aquatic Resources Delineation Report: City of Arcata Wastewater Treatment Plant.*
- SHN. (2025). *Wetland Delineation Update Letter*.

The 2020 Stillwater Sciences delineation and the 2024 Vollmar delineation each provided wetland delineation data and mapping of wetlands within the 2025 APE. However, data discrepancies, incomplete mapping, and features mapped that did not appear to conform with conditions on the ground warranted review and updating of the wetland delineation within the entire 2025 APE including the areas delineated by Stillwater and Vollmar. The 2025 SHN delineation provided a complete wetland delineation of the entire 2025 APE, and the 2025 30% levee design plans incorporated the 2025 SHN delineation results.

The 2025 30% design plans show that the current levee expansion project would have minor, temporary wetland impacts and no permanent wetland impacts. Regarding temporary wetland impacts, on design plan sheets C2.6, C2.7, C2.8, and C2.9, the project would have temporary impacts to a narrow band (approximately 1,433 square feet) of estuarine intertidal persistent emergent, regularly flooded wetland (Cowardin classification E2EM1N) as a result of extending the existing rock slope protection (RSP) up to meet the proposed sheet piling (Appendix 6). No compensatory mitigation, monitoring, or reporting is anticipated to be required associated with this proposed impact because the wetland area to be impacted is currently exposed RSP with minimal habitat value, no in-water work is necessary, and the impact within the delineated wetland would be limited to removing the upper elevation of existing RSP and geotextile fabric (for keying in additional RSP) and then adding additional elevation of RSP and geotextile fabric above the delineated wetland. However, CEQA Mitigation Measure BIOL-8 remains applicable and adequate to address the project's potential wetland impacts.

No additional wetland delineation or wetland-related mitigation measures are needed for the current project.

Please do not hesitate to call me at 707-441-8855 if you have any questions or concerns.

Sincerely,
SHN

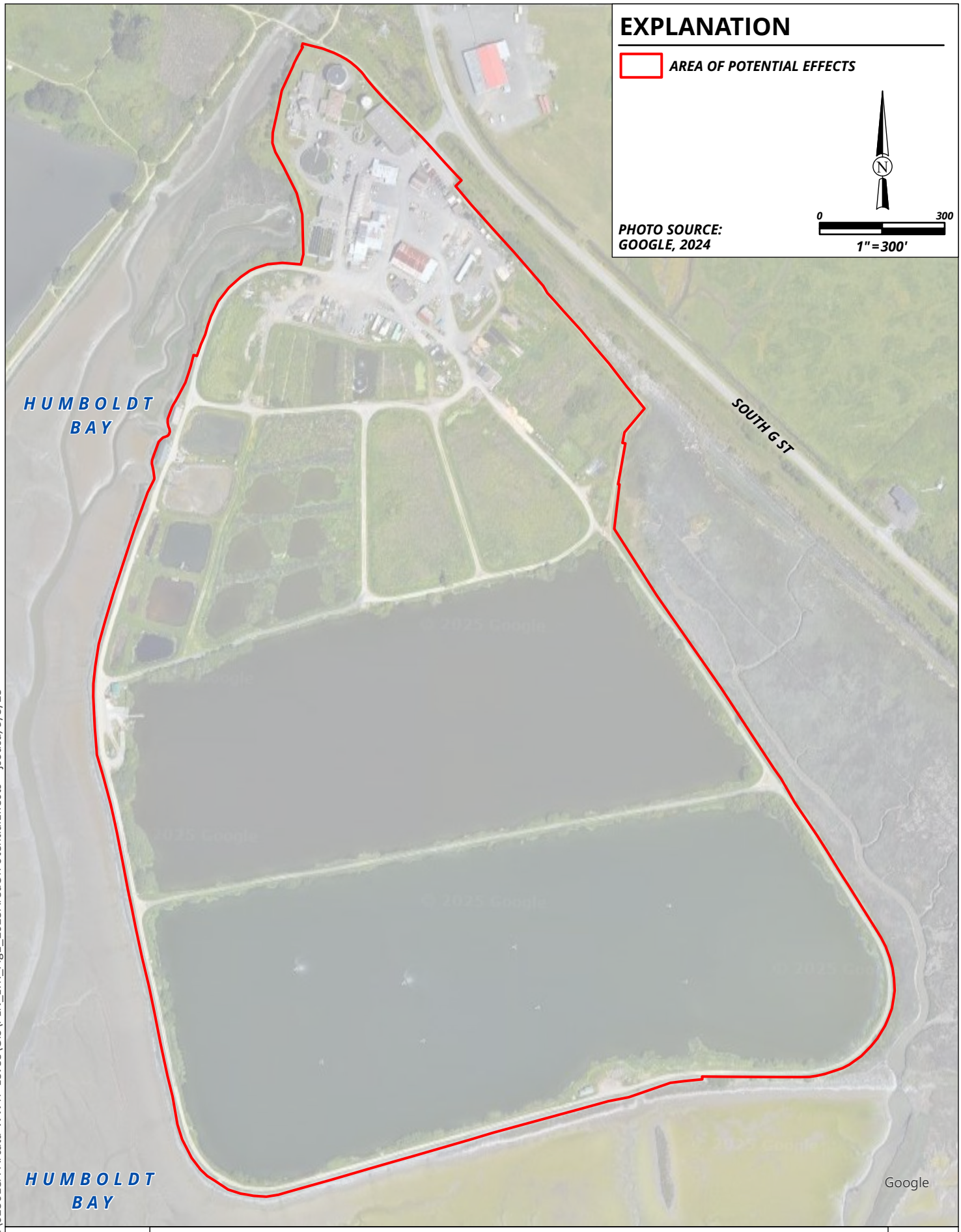


Stein Coriell, AICP
Senior Planner

SEC:lam
Appendices:
1. 2025 Area of Potential Effects
2. 2020 CEQA Area of Potential Effects
3. 2020 NEPA Area of Potential Effects
4. 2025 Special Status Species Lists
5. 2025 USFWS and CDFW Coordination
6. 2025 Proposed Temporary Wetland Impacts

2025 Area of Potential Effects

1



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City of Arcata
Arcata WWTF Levee Expansion Project, Env. Study Review
Arcata, California

2025 Area of Potential Effects

September 2025 - 023018.400

Figure 1

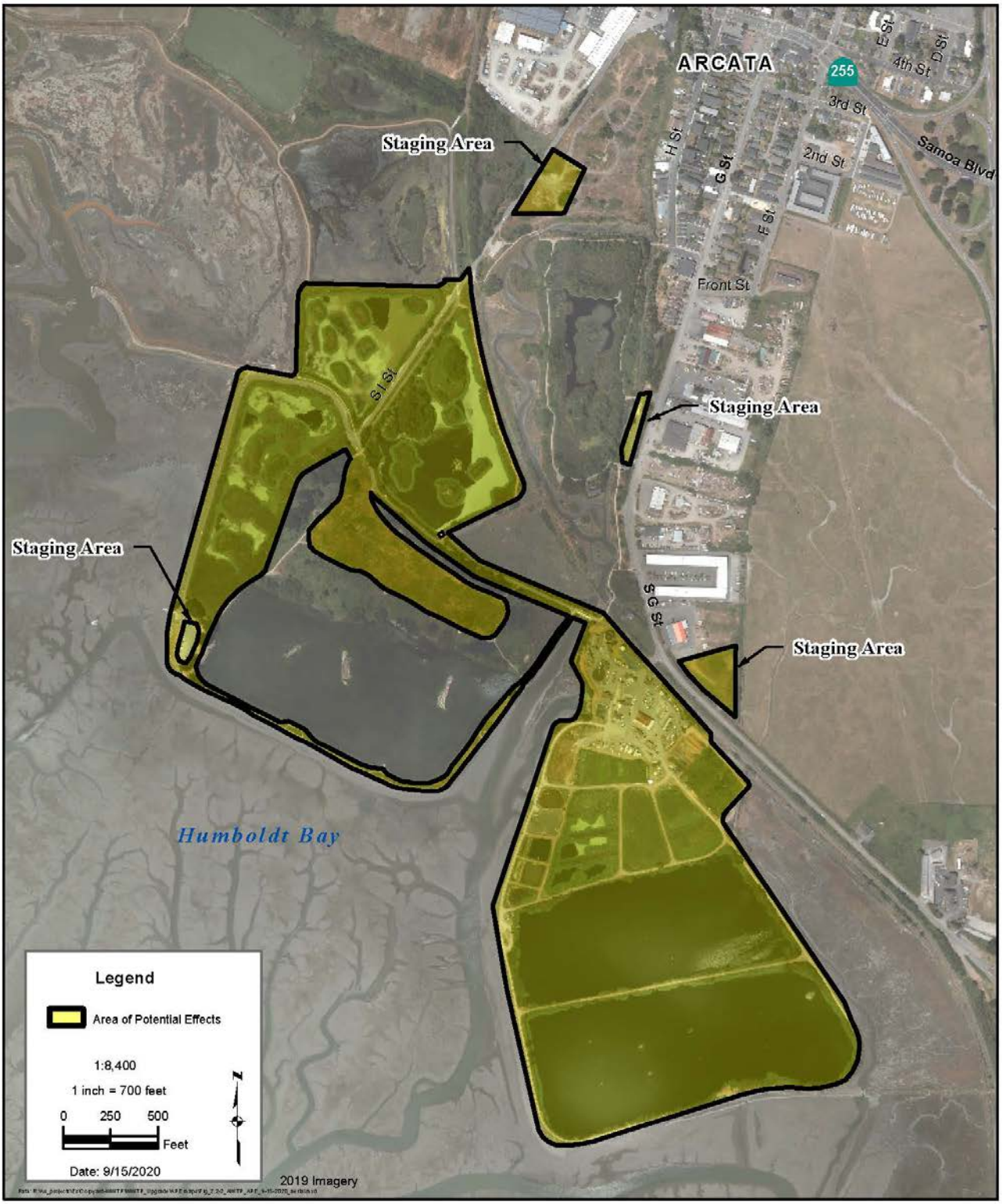
2020 CEQA Area of Potential Effects

2

FIGURE 3.2-2

Arcata Wastewater Treatment Facility Upgrade

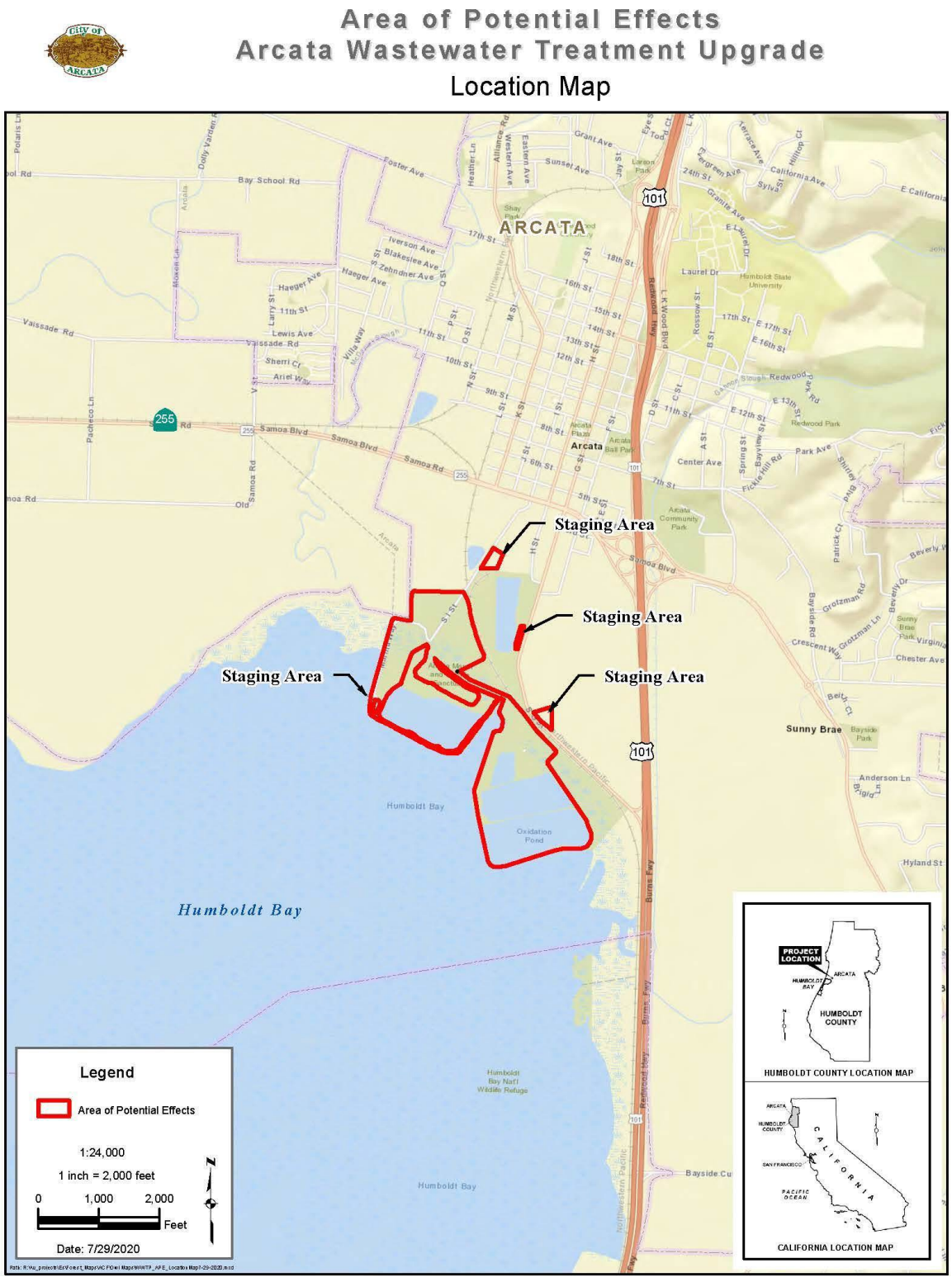
Area of Potential Effects



2020 NEPA Area of Potential Effects

3

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



2025 Special Status Species Lists

4

Table 1. Additional Special-status Plant Species Reported by Database Query Since 2020.

PLANTS					
Common Name	**Scientific Name**	**State Status**	**Federal Status**	**Habitat**	**Potential of Occurrence**
Coastal marsh milk vetch	*Astragalus pycnostachyus var. pycnostachyus*	CRPR[a] 1B.2	None	Coastal dunes, marshes & swamps, coastal scrub. Mesic sites in dunes or along streams or coastal salt marshes. 0-155 m.	Suitable habitat is available for this species within the project area. Not observed during 2023 or 2024 botanical surveys.
Marsh pea	*Lathyrus palustris*	CRPR 2B.2	None	Bogs & fens, lower montane conifer forest, marsh & swamp, north coast conifer forest, coastal prairie, coastal scrub. Moist coastal areas. 2-140 m.	Suitable habitat is available for this species within the project area. Not observed during 2023 or 2024 botanical surveys.
Harlequin lotus	*Hosackia gracilis*	CRPR 4.2	None	Broadleaf upland forest, coast bluff scrub, coast prairie, coast scrub, closed-cone conifer forest, meadow, seep, marsh & swamp, N. coast conifer forest, valley & foothill grassland. Wetlands and roadsides. 0-700 m.	Suitable habitat is available for this species within the project area. Not observed during 2023 or 2024 botanical surveys.
Small spike rush	*Eleocharis parvula*	CRPR 4.3	None	Marsh & swamp, salt marsh, wetland In coastal salt marshes. 1-3020 m	Suitable habitat is available for this species within the project area. Not observed during 2023 or 2024 botanical surveys.

a. CRPR – California Rare Plant Rank

Table 2. Additional Special-status Animal Species and Updated Status Listing Reported by Database Query Since 2020.

Common Name	Scientific Name	California Status	Federal Status	Habitat Description	Suitable Habitat in Project Area?
ANIMALS					
Northwestern pond turtle	*Actinemys marmorata*	SSC[a]	Proposed Threatened	Ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	Suitable habitat is available for this species within the project area.
California condor	*Gymnogyps californianus*	Endangered	Endangered	Large, undisturbed areas of desert, prairie, and forested habitats. Nests on rocky cliffs or large trees with adequate platforms.	There is no suitable habitat available for this species in the project area.
Pacific marten, Coastal Distinct Population Segment	*Martes caurina*	Endangered	Threatened	Inhabits dense deciduous, mixed, or (especially) coniferous upland and lowland forest. May use rocky alpine areas. Occupy holes in live trees or stumps, burrows, abandoned squirrel nests.	There is no suitable habitat available for this species in the project area.
Monarch butterfly	*Danaus plexippus*	None	Proposed Threatened	Overwinter in California at sites along the Pacific Coast, roosting in Eucalyptus, Monterey pines, and Monterey cypress trees.	Possible migration stopover. There is no suitable habitat available for breeding or overwintering for this species in the project area.

a. SSC - Species of Special Concern

2025 USFWS and CDFW Coordination

5

From:	Van Hattem, Michael@Wildlife
To:	Stein Coriell
Cc:	Gretchen O"Brien; Steven Luu; Emily Sinkhorn; Netra Khatri
Subject:	RE: Arcata Levee revised measure for NWPT and NRLF
Date:	Monday, September 15, 2025 7:59:03 AM
Attachments:	image001.png image002.png

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Sounds good, works for me. THX
m

From: Stein Coriell <scoriell@shn-engr.com>
Sent: Monday, September 15, 2025 7:57 AM
To: Van Hattem, Michael@Wildlife <Michael.VanHattem@wildlife.ca.gov>
Cc: Gretchen O'Brien <gobrien@shn-engr.com>; Steven Luu <sluu@cityofarcata.org>; Emily Sinkhorn <esinkhorn@cityofarcata.org>; Netra Khatri <nkhatri@cityofarcata.org>
Subject: RE: Arcata Levee revised measure for NWPT and NRLF

WARNING: This message is from an external source. Verify the sender and exercise caution when clicking links or opening attachments.

Hi Michael,
This is regarding the City's WWTF/levee project which was previously analyzed in an ISMND:
https://ceqanet.lci.ca.gov/2020100483/2
The levee portion is shown in the attached figure.

Stein Coriell, AICP
Senior Planner

Civil Engineering, Environmental Services,
Geosciences, Planning & Permitting, Surveying
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From: Van Hattem, Michael@Wildlife <Michael.VanHattem@wildlife.ca.gov>
Sent: Friday, September 12, 2025 7:52 AM
To: Stein Coriell <scoriell@shn-engr.com>

Cc: Gretchen O'Brien <gobrien@shn-engr.com>; Steven Luu <sluu@cityofarcata.org>; Emily Sinkhorn <esinkhorn@cityofarcata.org>; Netra Khatri <nkhatri@cityofarcata.org>
Subject: RE: Arcata Levee revised measure for NWPT and NRLF

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning all,
Technically speaking none of the reptiles or amphibians potentially present are "listed" but the measure seems fine. I'm not sure what the project is, share a map or pics please. THX
m

Michael G. van Hattem | Senior Environmental Scientist Supervisor | Coastal Conservation Humboldt/Del Norte – CDFW Eureka Field Office | 707-499-9457 | Michael.vanHattem@Wildlife.ca.gov

The Mission of the Department of Fish and Wildlife is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public.

From: Stein Coriell <scoriell@shn-engr.com>
Sent: Thursday, September 11, 2025 3:25 PM
To: Van Hattem, Michael@Wildlife <Michael.VanHattem@wildlife.ca.gov>
Cc: Gretchen O'Brien <gobrien@shn-engr.com>; Steven Luu <sluu@cityofarcata.org>; Emily Sinkhorn <esinkhorn@cityofarcata.org>; Netra Khatri <nkhatri@cityofarcata.org>
Subject: FW: Arcata Levee revised measure for NWPT and NRLF

You don't often get email from scoriell@shn-engr.com. Learn why this is important

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Hi Michael,
SHN is assisting the City of Arcata with environmental updates for its WWTF Levee Enhancement Project, and we wanted to copy CDFW regarding a change to CEQA Mitigation Measure Biol-4 which regards Northern Red-legged Frog and Northwestern Pond Turtle, following technical assistance with Brad Nissen at USFWS. See below for the modified measure.

Stein Coriell, AICP
Senior Planner

Civil Engineering, Environmental Services,
Geosciences, Planning & Permitting, Surveying
www.shn-engr.com
812 W. Wabash Ave., Eureka, CA 95501
(707) 441-8855 w

From: Nissen, Bradley D <bradley_nissen@fws.gov>
Sent: Wednesday, September 10, 2025 11:39 AM
To: Gretchen O'Brien <gobrien@shn-engr.com>
Cc: Stein Coriell <scoriell@shn-engr.com>; Steven Luu <sluu@cityofarcata.org>; Emily Sinkhorn <esinkhorn@cityofarcata.org>; Netra Khatri <nkhatri@cityofarcata.org>
Subject: Re: [EXTERNAL] Arcata Levee revised measure for NWPT and NRLF

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Hi Gretchen,

This looks good to me, I would suggest also making sure CDFW is aware of the changes. Thanks for taking care of this so quickly!

Best,
Brad

~~~~~~

Brad Nissen

Fish & Wildlife Biologist
Ecological Services | US Fish & Wildlife Service
Arcata FWO
707-825-5117

From: Gretchen O'Brien <gobrien@shn-engr.com>
Sent: Wednesday, September 10, 2025 10:23 AM
To: Nissen, Bradley D <bradley_nissen@fws.gov>
Cc: Stein Coriell <scoriell@shn-engr.com>; Steven Luu <sluu@cityofarcata.org>; Emily Sinkhorn <esinkhorn@cityofarcata.org>; Netra Khatri <nkhatri@cityofarcata.org>
Subject: [EXTERNAL] Arcata Levee revised measure for NWPT and NRLF
~~~~~~

Brad,
The CEQA Mitigation Measure Biol-4 has been revised with additions underlined (no deletions), based on our conversation regarding northwestern pond turtle at the Arcata Levee project site. Could you please provide technical assistance with refining this draft, if necessary, to result in NLAA for NW pond turtle or other appropriate determination language considering the current listing status?

Mitigation Measure Biol-4: Northern Red-Legged Frog & Western Pond Turtle
Prior to Project mobilization or Project-related ground disturbance, conduct a Worker Environmental Awareness Training (WEAT) presented by a qualified biologist to all construction personnel. The WEAT shall include the identification and natural history of Northern Red-legged Frog and Northwestern Pond Turtle. If any Northern red-legged frogs or northwestern pond turtles are encountered during construction activities, activities in the vicinity shall cease until appropriate corrective measures have been implemented or it has been determined by a qualified biologist that the species will not be harmed. This includes a CDFW-approved biologist relocating these species to an appropriate habitat adjacent to the work area. Any listed reptile or amphibian species that are trapped, injured, or killed, shall be reported immediately to CDFW.

Thank you,
Gretchen

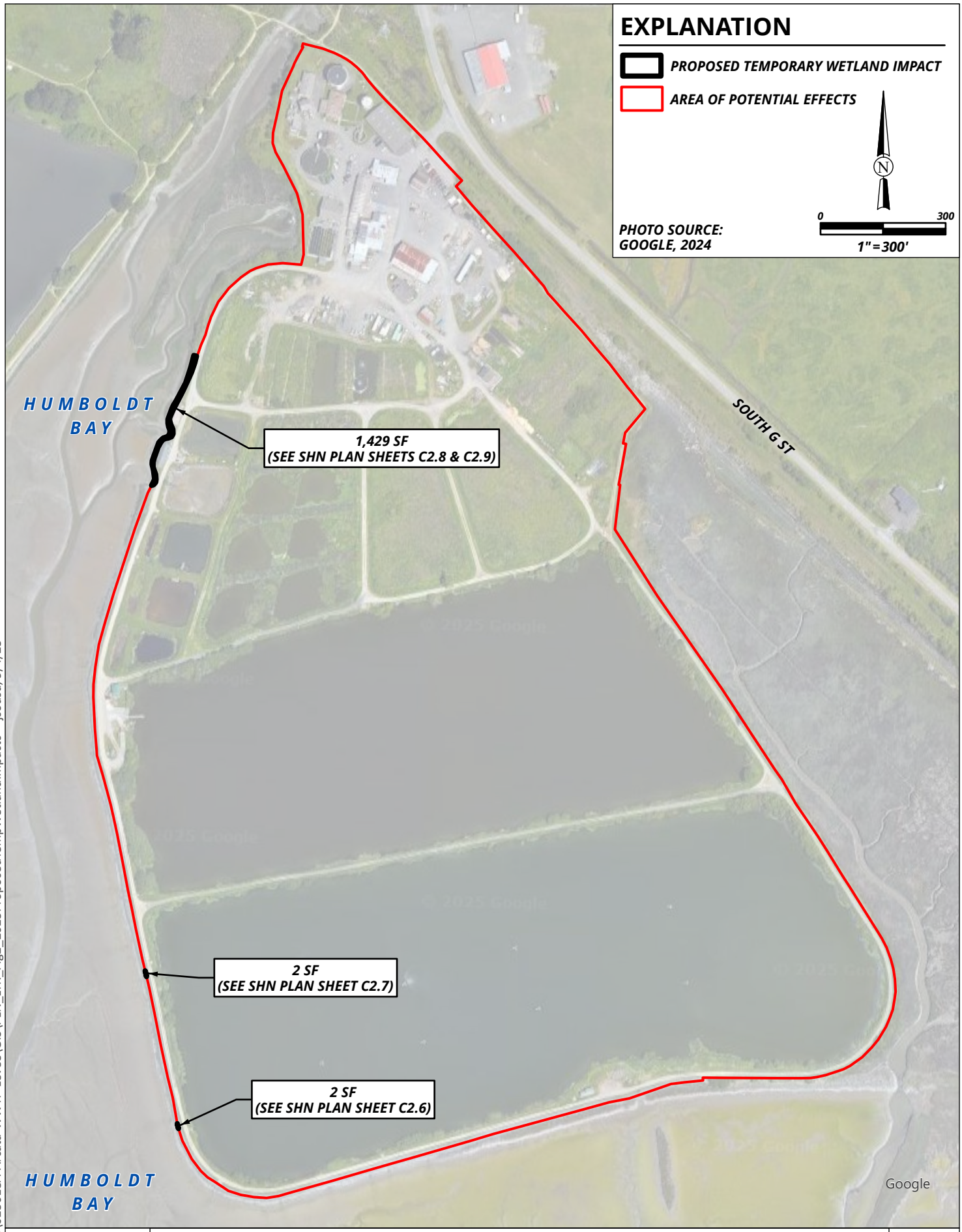
Gretchen O'Brien, CWB®
Senior Wildlife Biologist
Biology Services Manager

Civil Engineering, Environmental Services,
Geosciences, Planning & Biology, and Surveying

shn-engr.com (707) 441-8855

2025 Proposed Temporary Wetland Impacts

6



City of Arcata
Arcata WWTF Levee Expansion Project, Env. Study Review
Arcata, California

2025 Proposed Temporary Wetland Impacts
September 2025 - 023018.400

Figure 2

P:\Eureka\2023\023018A-Arcata-WWTF-Levee\GIS\PLN_LTR_Fig2_2025ProposedTempWetlandImpacts -- jsousa, 9/4/25

ADDENDUM #1
to the
Cultural Resource Assessment report
for the City of Arcata
Wastewater Treatment Facilities Improvement Project,
Arcata, Humboldt County, California

Submitted To:
City of Arcata
Arcata City Hall
736 F Street
Arcata, CA 95521

Prepared For:
City of Arcata
Arcata City Hall
736 F Street
Arcata, CA 95521

Prepared by:
DZC Archaeology & Cultural Resource Management
Dimitra Zalarvis-Chase, M.A., RPA

August 2025

USGS 7.5-Minute Series Arcata South Quadrangle;
Township 6 North, Range 1 West, Section 32; Township 5 North, Range 1 East, Unsectioned;
123-acre study area

Keywords:
City of Arcata, Arcata Wastewater Treatment Facilities Improvements, Arcata Marsh Wildlife Sanctuary, State Water Resources Control Board, North Coast Regional Water Quality Control Board, National Pollutant Discharge Elimination System permit, Arcata and Mad River Railroad/Union Wharf and Plank Walk Company

STATEMENT OF CONFIDENTIALITY

This document is suitable for public distribution. This report does not identify the locations of confidential resources.

LIMITATIONS STATEMENT

This report has been prepared based on certain key assumptions made by DZC Archaeology & Cultural Resource Consulting, LLC (DZC) that substantially affect the conclusions and recommendations of this report. These assumptions, although thought to be reasonable and appropriate, may not prove to be true in the future. The conclusions and recommendations of DZC are conditioned upon these assumptions.

These assumptions include confidential information provided by the Native American Heritage commission on September 10, 2019, by the Northwest Information Center on July 19, 2019, and by direct observation of site conditions and other information that is generally applicable as of August 29, 2025. The conclusions and recommendations herein are therefore applicable only to that timeframe. Information obtained from these sources in this timeframe is assumed to be correct and complete. DZC will not assume any liability for findings or lack of findings based upon misrepresentation of information presented to the project team or for items not visible, made available, accessible, or present at the site at the time of the Project site survey.

TABLE OF CONTENTS

Introduction....1
Analysis of the APE & 30% Design Plan....1
Determinations of Eligibility....1
Summary Conclusions....2
References....2

Attachement 1- Original Project Figures (2019)
Attachement 2 - 30% Design Plan (2025)
Attachement 3 – Archaeologial Survey Coverage Figure (2019)
Attachement 4 SHPO Correspondance (2020)

INTRODUCTION

The City of Arcata Wastewater Treatment Facilities (AWTF) Improvements Project aims to improve local water management facilities by addressing National Pollutant Discharge Elimination System (NPDES) requirements for wastewater treatment in Arcata, California (City of Arcata 2019). The goals of the project are to address sea level rise and long-term community requirements through improvements to current and future infrastructure at the AWTF.

The City of Arcata retained DZC Archaeology & Cultural Resource Consulting (DZC), LLC, to conduct a cultural resource investigation of the AWTF Improvements Project in support of compliance with local, State, and Federal regulations regarding cultural resources, Native American/Tribal resources, and historic properties. The survey and cultural resource inventory report were completed in 2019. Based on the preliminary engineering information, DZC recommended a Finding of No Impacts to historical, archaeological, or tribal cultural resources, as defined by the California Environmental Quality Act (CEQA), and a Finding of No Effects, as defined by the National Environmental Policy Act (NEPA).

In August of 2025, the alternatives analysis was finalized resulting in a 30% engineering design plan. The City requested DZC to review the finalized plan to ensure compliance with previous findings and determinations and confirm said findings in an updated addendum.

Therefore, this document addresses the review of the 30% engineering plan issued in August of 2025 against the 2019 cultural resource investigation findings and conclusions and the 2020 consultation with the State Historic Preservation Officer (SHPO).

This document reaffirms the adequacy of the prior archaeological coverage, the evaluation status of the build-environment complex, the former recommendation of a Finding of No Impacts to historical, archaeological, or tribal cultural resources, as defined by CEQA, and the former Finding of No Effects, as defined by NEPA.

ANLAYSIS OF THE APE ALTERNATIVE & 30% DESIGN PLAN

The 123-acre (ac) Area of Potential Effects is situated in Humboldt County, California, along the northern shoreline of Humboldt Bay (Attachment 1, Figure 1). The legal location of the project area is Township 6 North, Range 1 East, Section 32; Township 5 North, Range 1 East, Unsectioned; Humboldt Base Meridian, of the United States Geological Survey (USGS) Arcata South 7.5-Minute Series (1959) Quadrangle (Attachment 1, Figure 2).

This study reviewed the original parcels addressed in the Phase I Cultural Resources Inventory conducted in 2019 which included portions of Humboldt County Accessor's Parcel Numbers (APN) 503-241-010, 503-232-013, 503-251-012, 503-211-026, 503-241-016, 503-251-009, 503-241-011, 503-241-013, 503-211-005, 503-241-012, and one unnumbered parcel in 2019.

A comparison of the 30% design plan Project limits (Attachment 2, Figures 1-14) with the 2019 study limits confirms the current plans remain inside the original APE. Please refer to Attachment 2, Sheet C.10 of the design plan for the finalized Project disturbance limits.

Additionally, the finalized plans are contained within all prior archaeological survey efforts conducted in 2019 (Attachment 3, Figure 1). Therefore, additional archaeological survey is not required.

DETERMINATION OF ELIGIBILITY

In 2006, the California Department of Transportation conducted a cultural resource study of 4.5 miles for the proposed Eureka-Arcata Corridor Exchange (Northwest Information Center Report Number S-038304). In this report, Tim Keefe (Senior Environmental Planner-Archaeologist & Supervisor of Cultural Resources Program at Caltrans in District 1) determined that the Arcata Wastewater Treatment plant was found Ineligible for inclusion in the National Register at that time. Follow up coordination between the City and the State Historic Preservation Officer confirmed that this determination remained valid in 2020 (Attachment 4).

SUMMARY CONCLUSION

In 2019, a cultural resource investigation was completed to identify, inventory, evaluate, and protect cultural resources from potential impacts and effects resulting from Project activities. The study and its conclusions were compared with the 30% design plan produced in 2025.

With the implementation of the Management Consideration noted in Section 8 of the original report (Attachment 2), the Project remains in compliance Section 9.53 (Historic Resource Preservation) of the Arcata Land Use Code.

Additionally, this review maintains the recommendation of a **Finding of No Impacts** to historic resources, unique archaeological resources, or Tribal Cultural Resources as defined by PRC § 5024.1, Title 14 CCR, Section 482, and a **Finding of No Effects** to Historic Properties as defined by 36 CFR 800.16 (i).

REFERNCES

Keefe, Timothy. 2006. Historic Property Survey Report for the Proposed Eureka-Arcata Corridor Projects on California State Highway 101 at Post Mile 79.9/86.3 in Humboldt County, California (S-038304). On file, Northwest Information Center, California Historic Resources Information. System, Sonoma State University, Rohnert Park, California.

Zalarvis-Chase, Dimitra., Sydney Kerkhove-Peltier, Jaques Kerkhove-Peltier, & Kelly Hollreiser. 2019. Cultural Resource Assessment Report for the City of Arcata Wastewater Treatment Facilities Improvement Project, Arcata, Humboldt County, California. On file with the City of Arcata.

Project Figures (2019)

Figure A-1 Project Vicinity

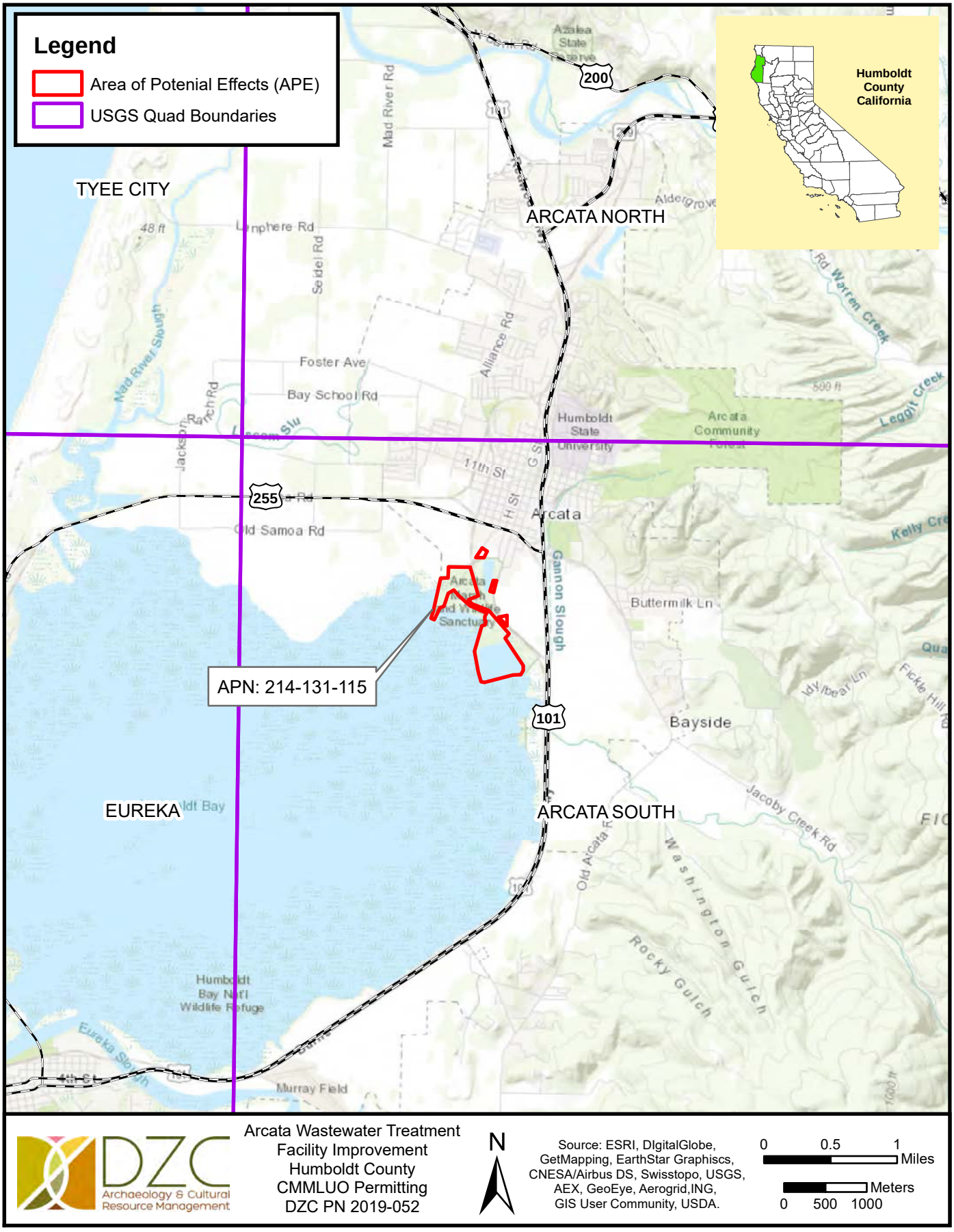
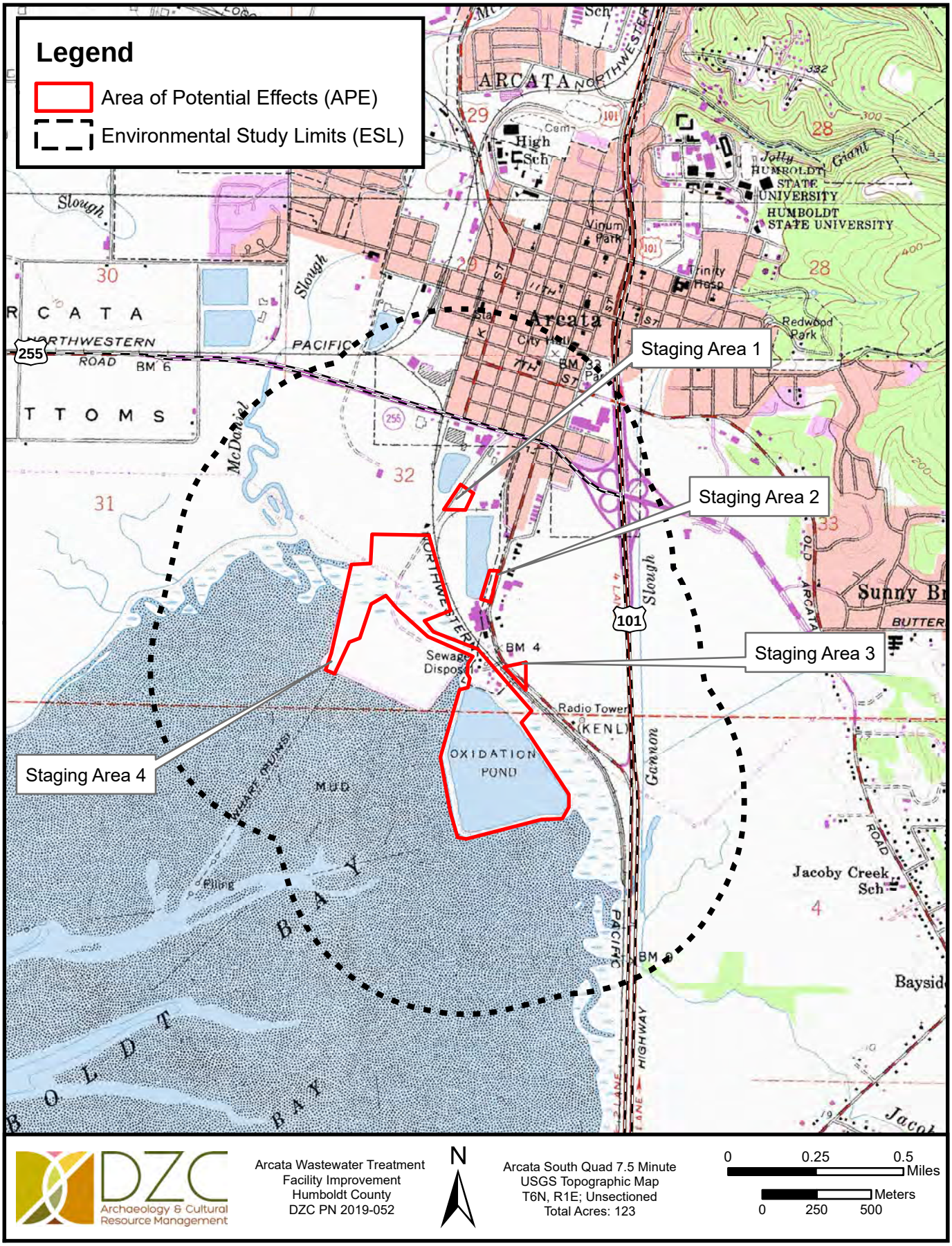


Figure A-2 Project Location & ESL



DZC Archaeology & Cultural Resource Management

Arcata Wastewater Treatment
Facility Improvement
Humboldt County
DZC PN 2019-052

N

Arcata South Quad 7.5 Minute
USGS Topographic Map
T6N, R1E; Unsectioned
Total Acres: 123

0 0.25 0.5 Miles

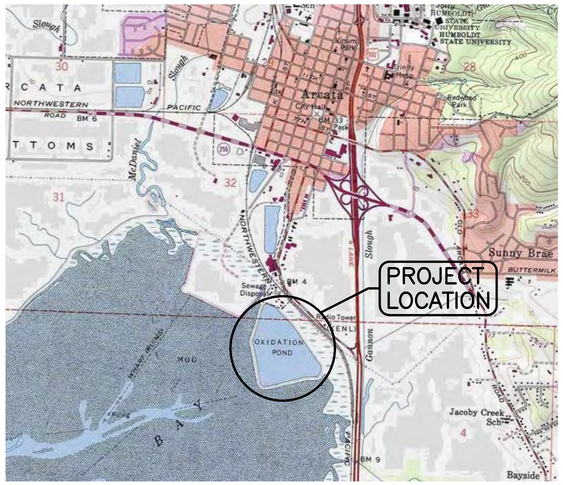
0 250 500 Meters

Attachment 2

30% Design Plan Set 2025

CITY OF ARCATA

ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA



VICINITY MAP
NTS

PREPARED BY:

JUNE 2025

INDEX OF SHEETS	
SHEET	TITLE
G0.0	COVER
G1.0	SURVEY SOURCE DATA
G2.0	GENERAL NOTES AND ABBREVIATIONS
C1.0	PROJECT OVERVIEW
C1.1	TYPICAL SECTIONS
C1.2	TYPICAL SECTIONS
C2.0	SHEET LAYOUT
C2.1	ENLARGED PLAN
C2.2	ENLARGED PLAN
C2.3	ENLARGED PLAN
C2.4	ENLARGED PLAN
C2.5	ENLARGED PLAN
C2.6	ENLARGED PLAN
C2.7	ENLARGED PLAN
C2.8	ENLARGED PLAN
C2.9	ENLARGED PLAN
C2.10	ENLARGED PLAN
C3.0	CROSS SECTIONS
C3.1	CROSS SECTIONS
C3.2	CROSS SECTIONS
C3.3	CROSS SECTIONS
C3.4	CROSS SECTIONS
C3.5	CROSS SECTIONS
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C3.9	CROSS SECTIONS
C3.10	CROSS SECTIONS
C3.11	CROSS SECTIONS
C3.12	CROSS SECTIONS
C3.13	CROSS SECTIONS
C3.14	CROSS SECTIONS
C4.0	DETAILS



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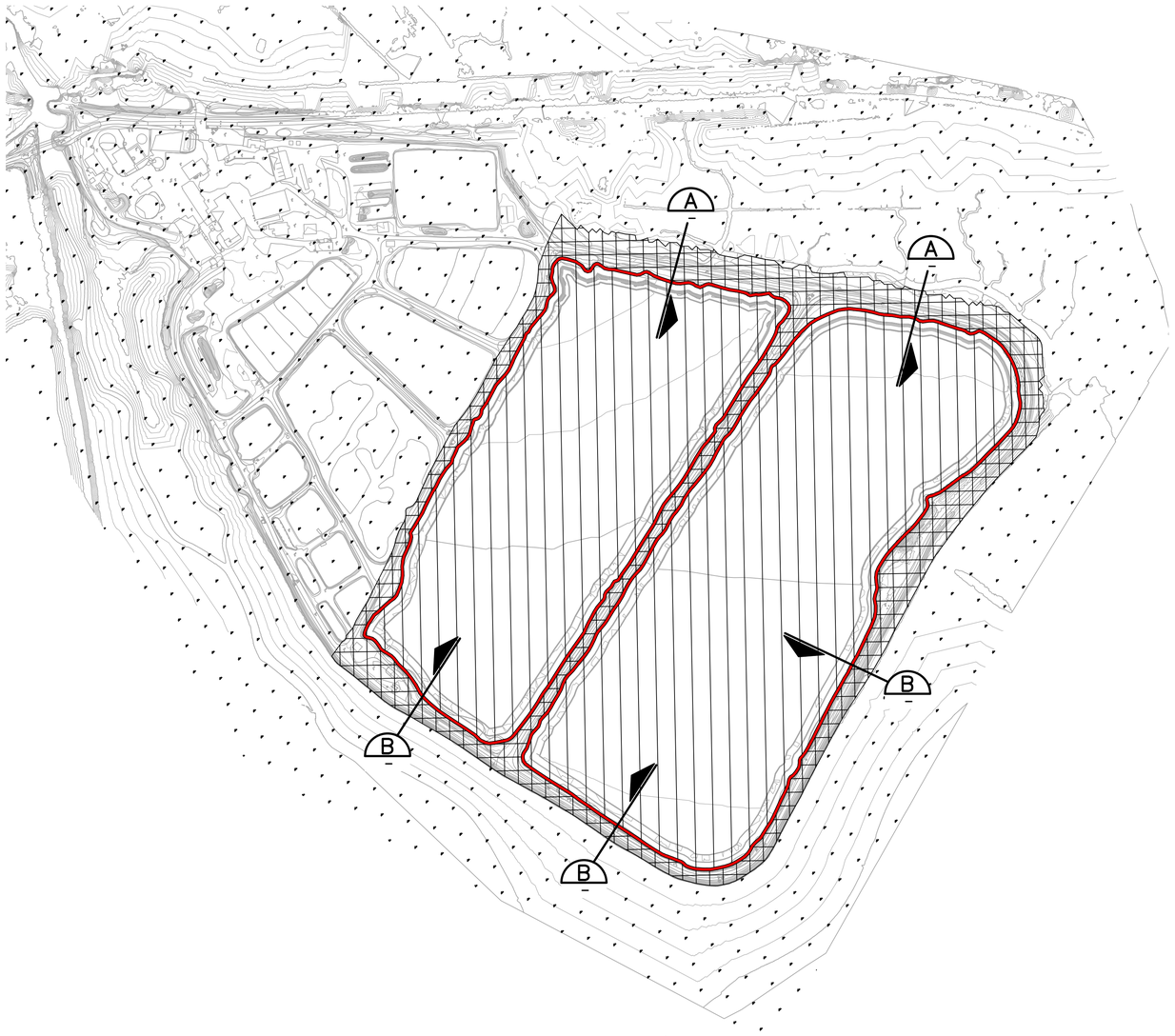
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CHK JSO
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COVER

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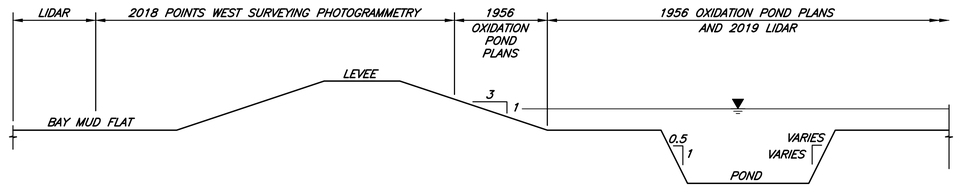


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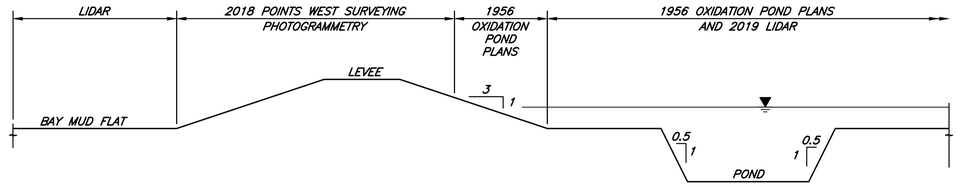
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LEGEND

- LIDAR
- 2018 POINTS WEST SURVEYING PHOTOGRAMMETRY
- 1956 OXIDATION POND PLANS
- 1956 OXIDATION POND PLANS AND 2019 LIDAR



SURVEY SECTION A
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SURVEY SECTION B
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SURVEY SOURCE DATA

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PROJ. NO. 023018	DATE 06/2025	SEQ	SHEET C1.0	CITY OF ARCATA ARCATA WWTF LEVEE ENHANCEMENTS ARCATA, CALIFORNIA PROJECT OVERVIEW	DSGN CC DR CDN/JWF CHK JSO APVD	NO.	DATE / REVISION / BY

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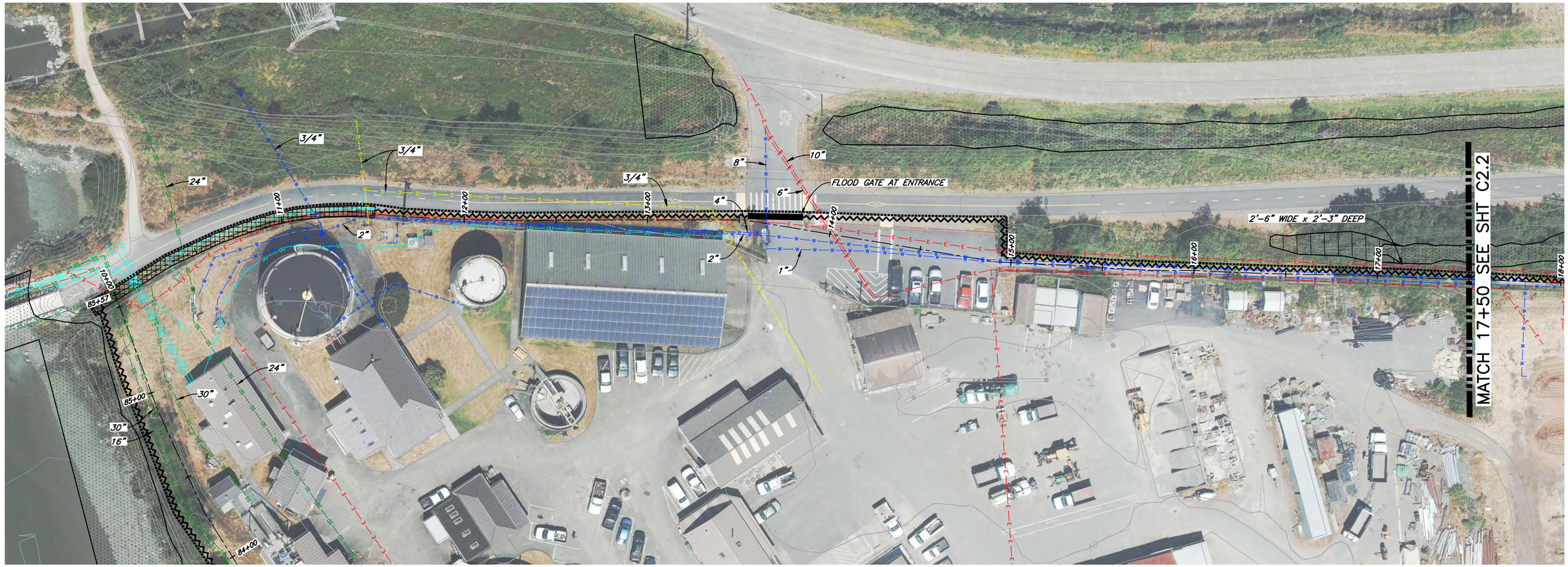
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CITY OF ARCATA
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SHEET LAYOUT

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LEGEND

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	CONCRETE T-WALL
	FLOOD GATE
	RSP
	APE LINE
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	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM COM	COMMUNICATION
E E	ELECTRICAL
G G	GAS
W W	POTABLE WATER
SS SS	SEWER
SD SD	STORM DRAIN
UU UU	UNKNOWN UTILITY

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ENLARGED PLAN

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PLAN
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LEGEND

LINE	DESCRIPTION
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	CONCRETE T-WALL
	FLOOD GATE
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	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM COM	COMMUNICATION
E E	ELECTRICAL
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W W	POTABLE WATER
SS SS	SEWER
SD SD	STORM DRAIN
UU UU	UNKNOWN UTILITY

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	CONCRETE T-WALL
	FLOOD GATE
	RSP
	APE LINE
	3 PARAMETER WETLAND
	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM COM	COMMUNICATION
E E	ELECTRICAL
G G	GAS
W W	POTABLE WATER
SS SS	SEWER
SD SD	STORM DRAIN
UU UU	UNKNOWN UTILITY

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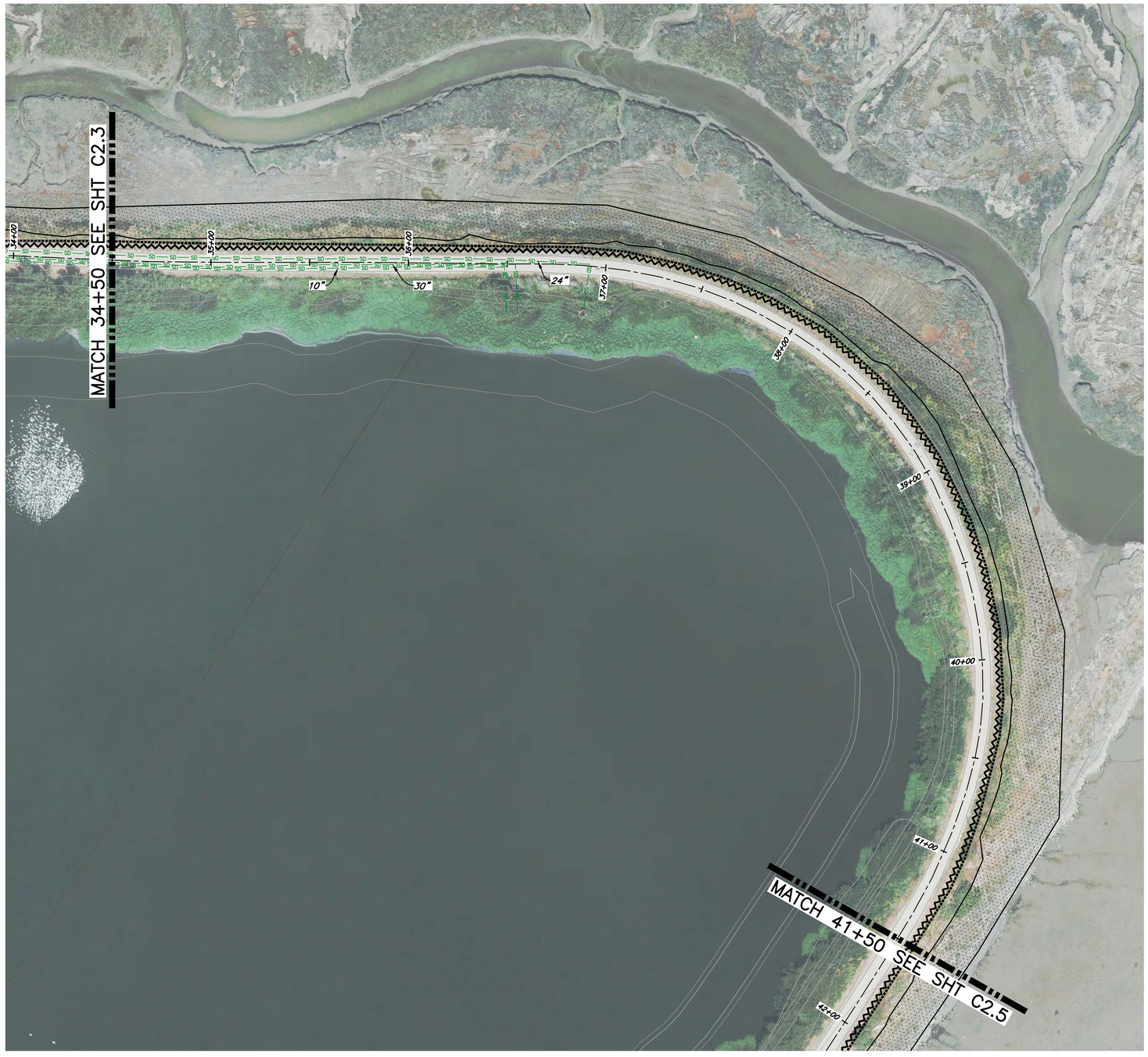
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CITY OF ARCATA
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ARCATA, CALIFORNIA

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PLAN
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LEGEND

LINE	DESCRIPTION
	SHEET PILE WALL
	CONCRETE T-WALL
	FLOOD GATE
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	APE LINE
	3 PARAMETER WETLAND
	1-2 PARAMETER WETLAND
	DEMOLISH STRUCTURE
COM COM	COMMUNICATION
E E	ELECTRICAL
G G	GAS
W W	POTABLE WATER
SS SS	SEWER
SD SD	STORM DRAIN
UU UU	UNKNOWN UTILITY

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CITY OF ARCATA
ARCATA WWTF LEVEE ENHANCEMENTS
ARCATA, CALIFORNIA

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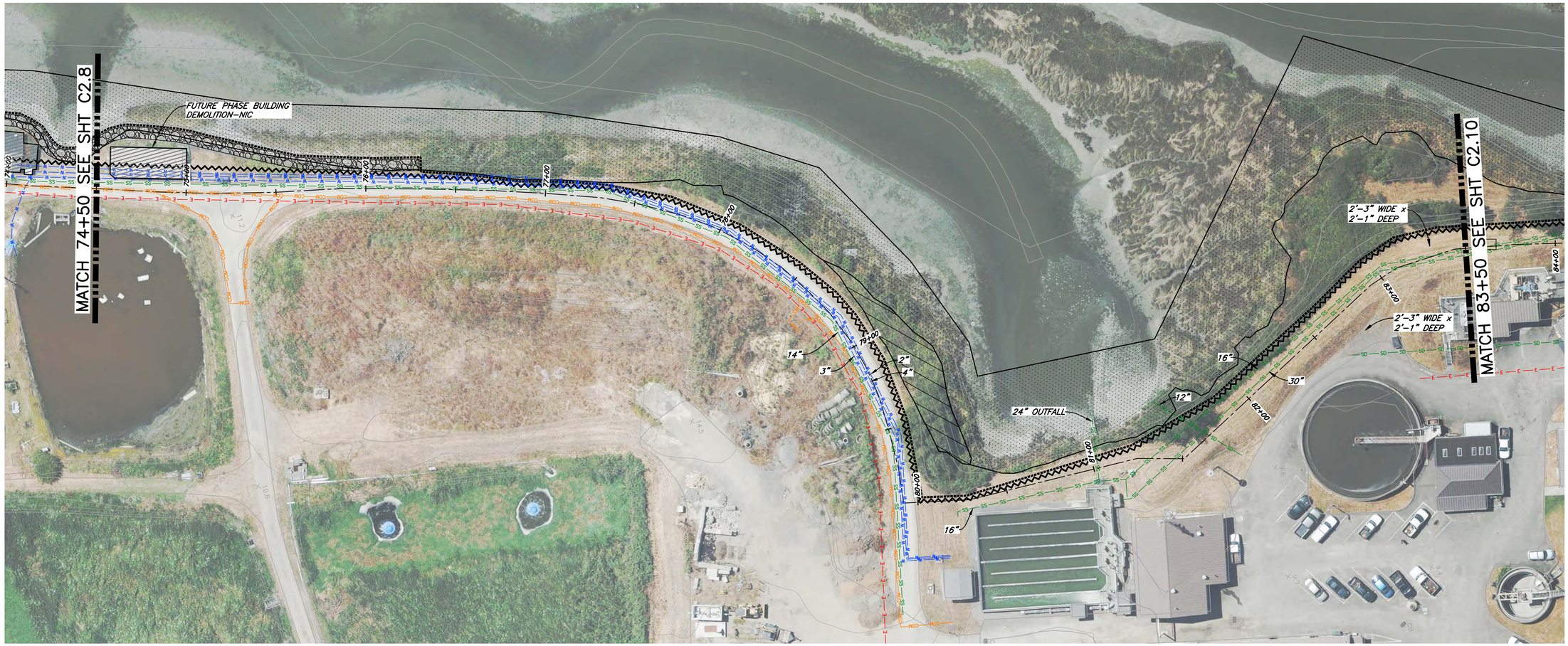
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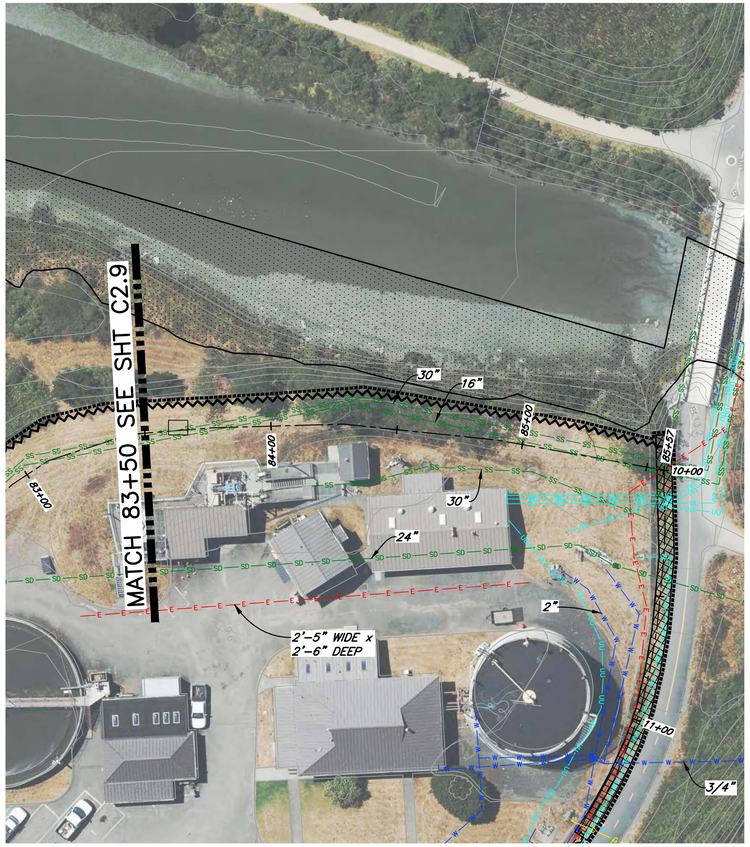
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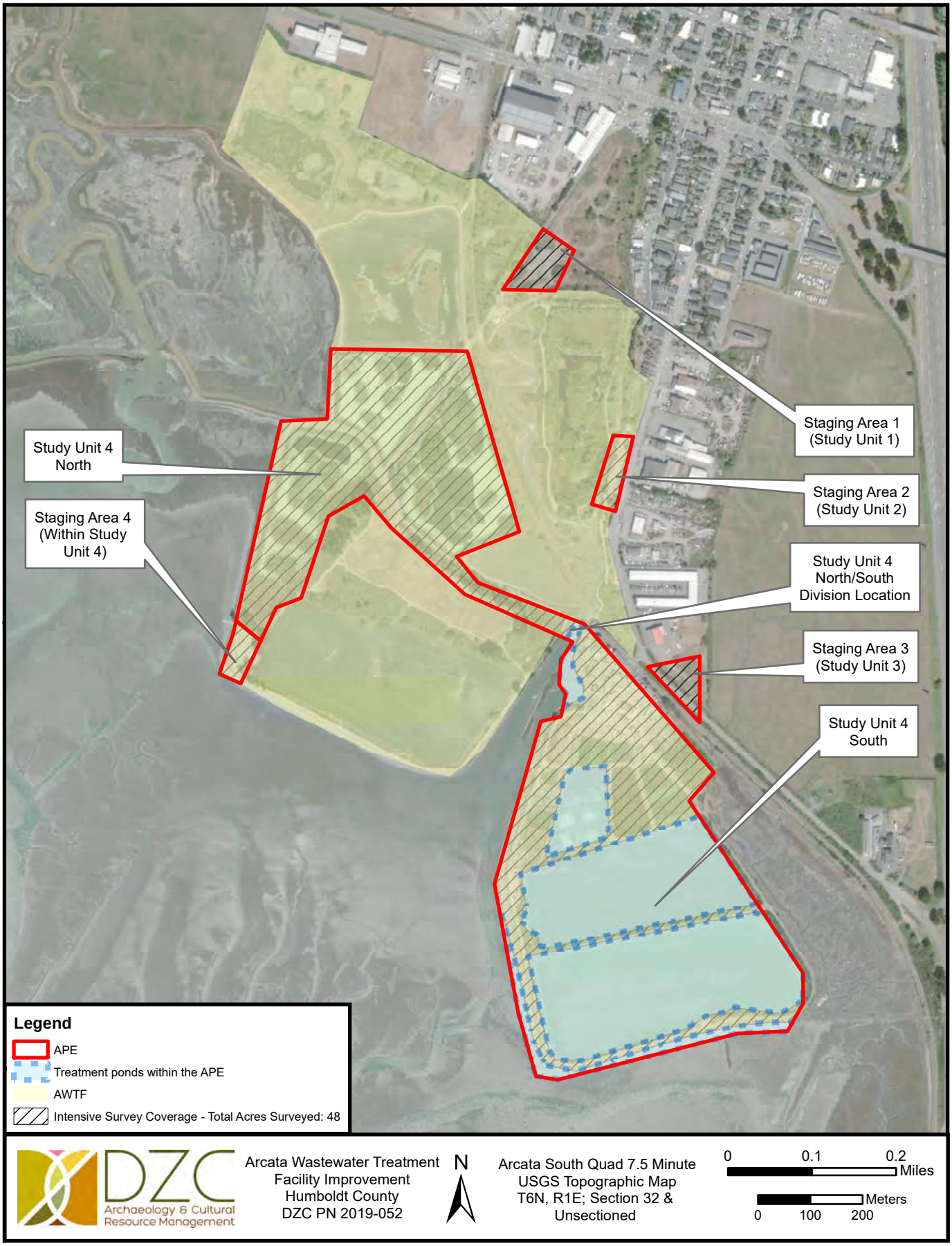
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Archaeological Survey Coverage Map (2019)

Figure A-3 Archaeological Survey Coverage



Non-Confidential

State Historic Preservation Officer Clearance.

July 28, 2020

State of California • Natural Resources Agency
Gavin Newsom, *Governor*

DEPARTMENT OF PARKS AND RECREATION
OFFICE OF HISTORIC PRESERVATION
Lisa Ann L. Mangat, *Director*

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

July 28, 2020
[VIA EMAIL]

Refer to HUD_2020_0723_001

Mr. David Loya
Community Development Director
City of Arcata
736 F Street
Arcata, CA 95521

Re: City of Arcata Wastewater Treatment Facility Improvements Project, Arcata, CA

Dear Mr. Loya:

The California State Historic Preservation Officer received the consultation submittal for the above referenced undertaking for our review and comment pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800. The regulations and advisory materials are located at www.achp.gov.

Pursuant to 36 CFR §800.4(d) we do not object to the City of Arcata's finding that no historic properties will be affected by the proposed wastewater treatment facility improvements project. However, the City may have additional Section 106 responsibilities under certain circumstances set forth at 36 CFR Part 800. For example, in the event that historic properties are discovered during implementation of the undertaking, your agency is required to consult further pursuant to §800.13(b).

We appreciate the City of Arcata's consideration of historic properties in the project planning process. If you have questions please contact Shannon Lauchner Pries, Historian II, with the Local Government & Environmental Compliance Unit at (916)445-7013 or by email at shannon.pries@parks.ca.gov .

Note that we are only sending this letter in electronic format. Please confirm receipt of this letter. If you would like a hard copy mailed to you, respond to this email to request a hard copy be mailed.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

City of ARCATA
736 F Street
Arcata CA 95521

City Manager	Environmental Services	Police	Recreation
707-822-5953	707-822-8184	707-822-2428	707-822-7091
Community Development	*Finance*	*Engineering*	*Transportation*
707-822-5955	707-822-5951	707-825-2128	707-822-3775

July 21, 2020

Julianne Polanco
State Historic Preservation Officer
julianne.polanco@parks.ca.gov

Via Email and Certified US Mail
7016 1970 0000 0123 0571

Jenan Saunders
Deputy State Historic Preservation Officer
jenan.saunders@parks.ca.gov

CA Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001

Dear Ms. Polanco and Ms. Saunders,

The City of Arcata plans to undertake site improvements to the City's pre-existing wastewater treatment facility located at 601 South "G" Street Arcata in Humboldt County, California. The improvements will use CDBG grant funds through the California Department of Housing and Community Development, which in turn receives pass-through funds from Housing and Urban Development, a Federal Agency. These grant funds will fund the purchase and installation of new UV-disinfection equipment to replace the existing treatment system's use of chlorine disinfection. This funding source triggers a National Environmental Protection Act (NEPA) review of the full scope of the proposed improvements, including Section 106 requirements and State Historic Preservation Officer (SHPO) consultation. The City is in the process of completing its NEPA review and would appreciate a timely response to this referral, as there will be schedule implications if the project does not move forward as quickly as possible.

Pursuant to the City's Standard Agreement No. 17-CDBG-12017, Section 40, and Section 104(g) of the Housing and Community Development Act of 1974 [42 U.S.C. 53014(g)], the City has assumed the Housing and Community Development Department's environmental responsibilities. Specifically, the City's Community Development Director was authorized, via Resolution No. 178-27, to sign any environmental documentation required for this grant under NEPA. The Standard Agreement and Resolution are available upon request, and can be viewed at www.cityofarcata.org/201/Economic-Development-Projects.

In anticipation of this consultation, the City hired DZC Archaeology & Cultural Resource Consulting, LLC to conduct a Phase I Cultural Resources Inventory of the Area of Potential Effect. The report involved both historical research and two field surveys, undertaken in October and November of 2019. The Project Site and larger Area of Potential Effect primarily lie within disturbed baylands that were historically marsh until white settlement, when the lands immediately surrounding the northern edge of Humboldt Bay were diked for cattle grazing.

- The site and all lands south of Samoa Boulevard constitute historic bay land and there is currently no known history of tribal settlement.
- The mapped alignment of a California Historical Landmark No.842 (The Arcata and Mad River Railroad/Union Wharf and Plank Walk Company) is present within the Area of Potential Effect. Portions of this landmark within the Area of Potential Effect are limited to a historically mapped alignment; the remaining physical elements are located outside and immediately adjacent to the Area of Potential Effect.
- The wastewater facility was determined ineligible for the National Register of Historic Places in 2006.
- No other structures lie within the Area of Potential Effect.

The report recommended a *Finding of No Impacts* to historical, archaeological, or tribal cultural resources, as defined by CEQA, and a Finding of No Effects, as defined by NEPA. The report did note that regardless of no known significant affected resources, it is best practice to avoid cultural resources whenever possible, and recommended inadvertent discovery protocol in case any resources were found during improvement activities. The City has pre-existing inadvertent discovery protocol in place that will apply to the project.

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

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

The City of Arcata requests concurrence from the SHPO that this project has No Potential To Cause Effects on Historic Properties. If you have any questions please do not hesitate to call me at 707-825-2045 or email at dloya@cityofarcata.org.

Sincerely,

DAVID LOYA

David Loya
Community Development Director

Enclosures:

- Attachment A: Formal Tribal Consultation Letter dated July 9, 2020
- Attachment B: THPO Responses to City Consultation Letter

ATTACHMENT A

City of ARCATA

736 F Street Arcata, California 95521

City Council 822-5953 | City Manager 822-5953 | Public Works 822-5957 | Police 822-2428
Community Development 822-5955 | Environmental Services 822-8184 | A&MRTS 822-3775
Finance 822-5951 | Recreation Division 822-7091 | FAX 822-8018

July 9, 2020

Blue Lake Rancheria
PO Box 428
Blue Lake, CA 95525-0428
Attn: Janet Eidsness & Jacob Pounds

FROM: Mark Andre, City of Arcata

RE: Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of determination that a Project Application is Complete or Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to Public Resources Code § 21080.3.1 (hereafter PRC).

Dear Blue Lake THPOs:

The City of Arcata has decided to undertake the following project: Wastewater Treatment Facilities Improvement Project

Pursuant to PRC § 21080.3.1 (d), please find a description of the proposed project below; two maps showing the project location and Area of Potential Effect are enclosed; and the project point of contact is Mark Andre.

Also included with this consultation are the following documents:

1. A Cultural Resources Report for the project, prepared by DZC Archaeology and Cultural Resource Management, in November 2019
2. Part 1 of Geotechnical Exploration and Geologic Hazards Report, prepared by LACO Associates, which includes geologic cross sections
3. An Engineering Geologic and Hydrogeologic Exploration, prepared by LACO Associates, which includes information related to the soils and boring locations

Hard copies of the above documents (1-3) may be sent upon request.

Description of Proposed Project

The City of Arcata proposes to construct upgrades to the existing Arcata Wastewater Treatment Facility (Treatment Facility, or Facility) to update aging infrastructure and comply with the requirements of Regional Water Quality Control Board (RWQCB) Order No. 1-2019-0006. Ongoing preventative maintenance has kept the original treatment plant in operation but there has been little replacement of equipment or structures since original construction.

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

Proposed upgrades include oxidation pond and wetland treatment system improvements, construction of a parallel oxidation ditch treatment system/secondary clarification, construction of an Ultraviolet (UV) disinfection system upstream of discharge to the Enhancement Marshes, and an updated Facility configuration allowing for discharges below 6 MGD to enter the newly created Brackish Marsh following treatment through the enhancement marshes to provide overall improvements to effluent quality discharged to Humboldt Bay/McDaniel slough.

The upgraded disinfection system will include a new UV System equipment which will be purchased with Community Development Block Grant (CDBG) funds, which requires this environmental assessment. The installation of the 9.8 MGD capacity UV disinfection system will replace the existing break point chlorination disinfection system utilizing chlorine gas (CL2) and sulfur dioxide (SO2). This will reduce the number of violations for dichlorobromomethane, a chlorine disinfection by-product. This byproduct has historically been one of the major environmental concerns with Arcata's treated effluent. The UV will also allow the City to dramatically reduce Cl2 and SO2 storage and usage and hopefully will be able to be entirely removed in phase 2.

The full scope of the upgrades will be undertaken in two separate phases, and will include the following elements:

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

Phase 1 includes:

- Excavation and contouring for improved water quality and maintenance at the outlet of the Hauser Enhancement Marsh.
- Laying new discharge pipe to the new Outfall 003 in the brackish marsh from the existing Hauser pump station.
- Replacing aged equipment (screw pumps, bar screen and grit chamber reconstruction/rehabilitation) in the existing headworks structure foot print.

- Installation of a 9.8 MGD ultra-violet UV disinfection system into one half of the existing chlorine contact basin (CCB), eliminating the use of chlorine gas and sulfur dioxide for disinfection except in an emergency disinfection scenarios (flows > 9.8 MGD) or if emergency electrical power was interrupted.
- Replacement of existing clarifier no.2 rotating center armature/skimmer, various flow configuration improvements throughout the system for automation and creating a higher quality effluent.
- Placement of up to 24 new 12.5 Hp mixer aerators to improve treatment within the oxidation pond 2.
- Replacement/upgrading of aboveground vertical pumping stations within the plant and at Hauser Marsh pump station with submersible variable speed pumping systems.
- Installation of new SCADA and plant control and monitoring system for all AWTF operations to be constructed within the existing centralized control room.
- Construction of new building for the placement of new electrical services, PGE connection and switch gear including a diesel powered emergency generator rated at 0.75 MW and removal of an existing natural gas powered 150 KW generator.
- Placement of structural fill up to 1.5’ deep to elevate the existing 16’ wide roadway between The Hauser Treatment Marsh and Gearheart Treatment Marsh to minimum height of 8.0’.
- Adding additional photovoltaic panels to existing facility roofs.
- Raise levees to meet minimum FEMA and City requirements for construction of new/rehabilitated facilities.

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

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

- Construction of the new oxidation ditch.
- Construction of two new secondary clarifiers and pumping for the return activated sludge (RAS) and the waste activated sludge (WAS).
- If determined necessary, following ongoing Phase 1 performance, an alkalinity feed system may be constructed within the existing developed AWTF.
- The large footprint of the preferred design will require relocation of some of the AWTF facilities ties within the project area.

Excavation depths of various project elements vary but are limited to eight (8) feet, with the exception of the piles necessary to secure the headworks improvements, clarifier center mount and electrical building Maximum depth 85’ with 3’ diameter drilled piers.

The majority of ground-disturbing activity will involve laying new discharge pipe and electrical conduit; both activities will only require ground disturbance of up to four (4) feet. All ground-disturbing activity in the APE will occur south of Samoa Boulevard, which loosely demarcates

the historic perimeter of Humboldt Bay. **Refer to the LACO Geohazards Report for more information on soils in the project area.**

Additionally, the following table may be helpful in evaluating different elements of the project, though construction depths will be draft until the final design of the project is complete:

1.1 Project Description

A list of improvement components, along with anticipated dimension, foundation elevations, loads, and occupancy categories is presented in Table 1. The location of these improvements are shown on Site Plan, Figure 2.

Table 1. Improvement Component Locations

Improvement Component	Anticipated Plan Dimensions (feet)	Anticipated Foundation Depth (feet)	Anticipated Foundation Loads (ksf)	Occupancy Category
Headworks	22 x 52	3.3	2.5	3
Headworks	17 x 15	1.9	2	3
Oxidation ditch	65 x 260	1.5	2	3
Secondary Clarifier (2)	75 (diameter)	-3.8	2	3
UV Disinfection channel and canopy	14 x 58	6	2	3
Thickener – at grade portion	20 x 25	8	1.5	3
Thickener – below grade portion	22 x 15	5	1.5	3
Chemical storage facility	20 x 50	8	1.5	3
New Electrical Building	24 x 37	8	1.5	3
New Generator	5 x 12	8	1.5	3
New transformer	5 x 5	8	1.5	3
New ML Flow Split Structure	29 x 22	6.3	2	3
New RAS Pump Station	26 x 40	-3.8	1.5	3
New WAS Pump Station	18 x 18	8	1.5	3

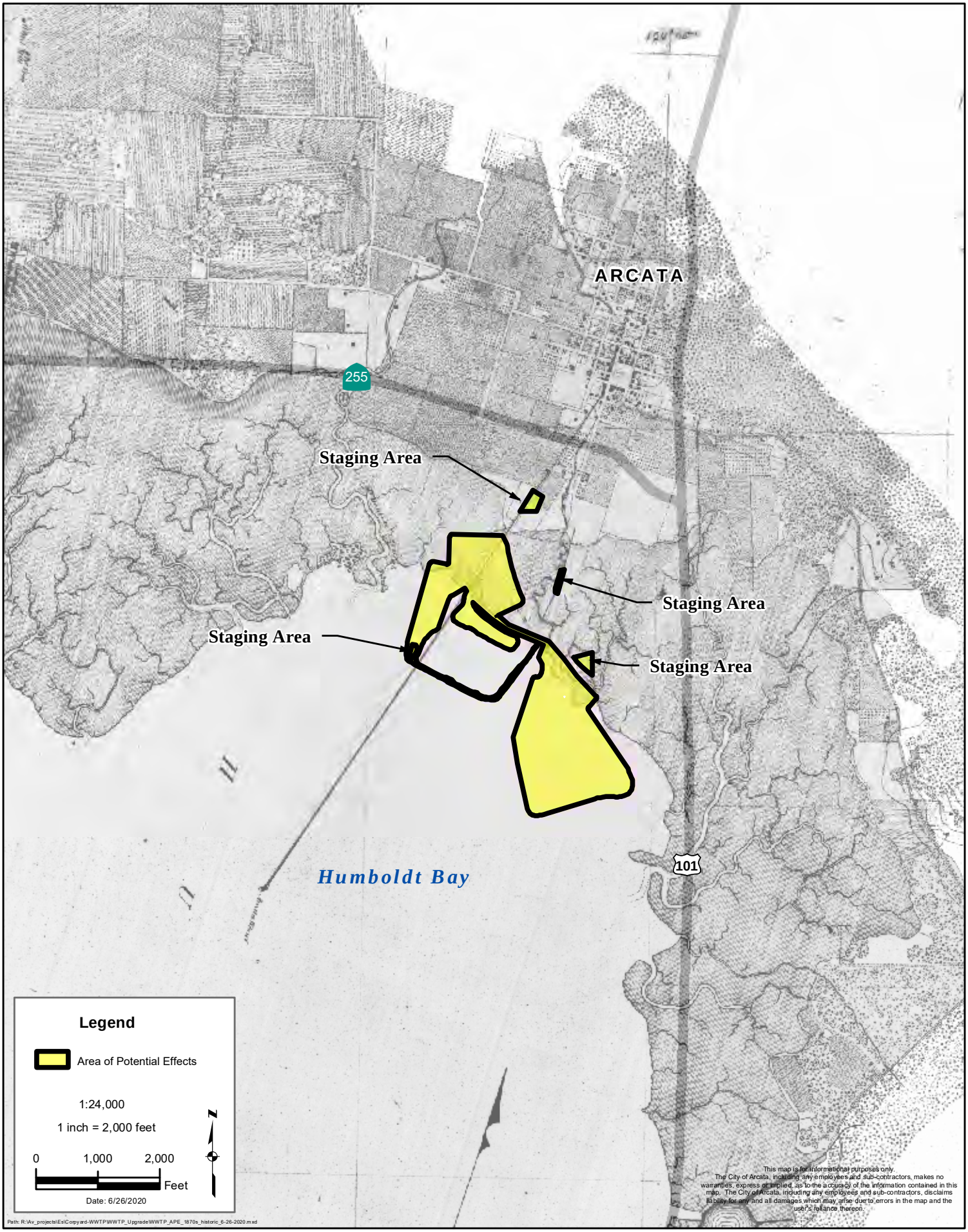
Pursuant to PRC § 21080.3.1 (b), you have 30 days from the receipt of this letter to request consultation, in writing, with the City of Arcata.

Very Respectfully,

Mark Andre, Director Environmental Services
City of Arcata
707-822-8184
mandre@cityofarcata.org

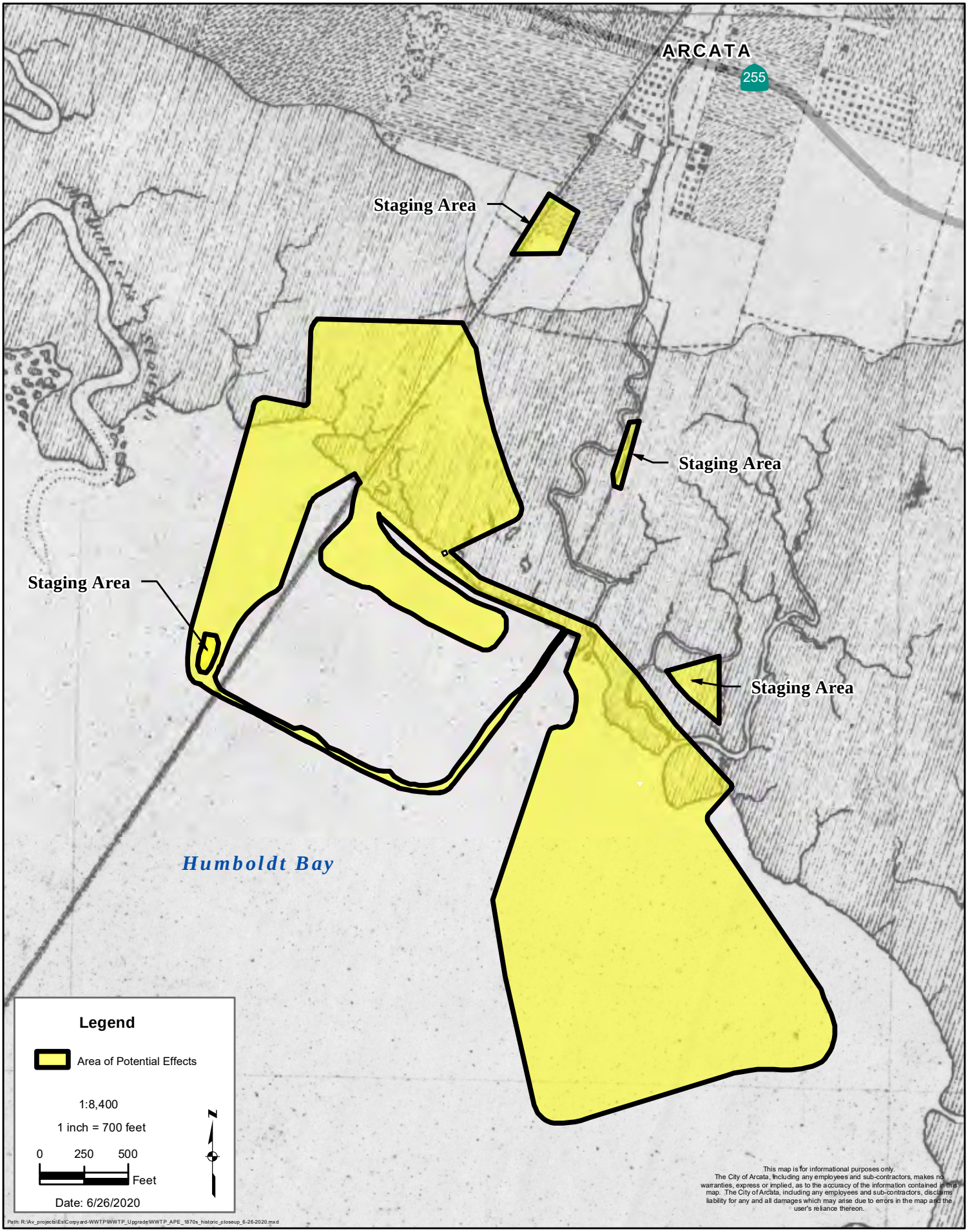
ATTACHMENT A

Area of Potential Effects & 1870 US Coast Survey
Arcata Wastewater Treatment Upgrade



ATTACHMENT A

Area of Potential Effects & 1870 US Coast Survey
Arcata Wastewater Treatment Upgrade



7. Mitigation Monitoring and Reporting Program (Updated 10.16.25)

Mitigation Measure Biol-1: Section 7 Consultation (Note: This measure is from the McDaniel Slough EIR for Outfall 003).

Through the Section 7 process, consult with the USFWS and NMFS regarding federally listed species. Adhere to minimization measures that are developed as part of this process, to ensure that no adverse impacts occur.
• Construction activities occurring within the watercourse would occur following recommendations from qualified CDFG biologists.
• In-stream work will be done during the dry season at low tide with a fish biologist on-site during in-stream operations to monitor for the presence of anadromous fish and other wildlife species.
• Consult with the USFWS regarding Tidewater Goby.
• Consult with the NOAA Fisheries regarding salmonids.

Timing of/Implementation for Compliance: Consultation to occur prior to issuance of Army Corps section 404 permit. Timing and implementation for adherence to minimization measures will be specified during Section 7 consultation process after minimization measures have been finalized.

Person/Agency Responsible for Monitoring: City of Arcata Environmental Services, qualified biologist (as necessary)

Monitoring Frequency: 404 Issuance prior to construction

Evidence of Compliance: Signed Section 404 permit by the Army Corps of Engineers

Mitigation Measure Biol-2: Aquatic Species at Outfall 003
Potential impacts 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 aquatic 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. will survey the area and relocate any fish species before commencement of construction activities; 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.

Timing of/Implementation for Compliance:
1) prior to and during construction
2) prior to construction
3) prior to construction
4) during and after construction

Person/Agency Responsible for Monitoring:
1) City of Arcata Environmental Services
2) City of Arcata Environmental Services
3) City of Arcata Environmental Services
4) Construction project Qualified Stormwater Practitioner and City of Arcata Environmental Services

Monitoring Frequency:
1) On-going throughout construction
2) Daily until work area has been isolated
3) Once
4) Ongoing during construction

Evidence of Compliance:
1) photo documentation
2) construction inspector notes
3) biologist fish relocation report
4) photo documentation and QSP reports

Mitigation Measure Biol-3: Northern Red-Legged Frog
All construction in waterways and wetlands with standing water, shall be outside of the Northern red-legged frog breeding season (Nov-Apr).

Timing of/Implementation for Compliance: During construction, contractor shall adhere to requirement
Person/Agency Responsible for Monitoring: City of Arcata Environmental Services
Monitoring Frequency: Scheduling prior to construction, implementation during construction
Evidence of Compliance: Construction inspector notes

Mitigation Measure Biol-4: Northern Red-Legged Frog & Western Pond Turtle
Prior to Project mobilization or Project-related ground disturbance, conduct a Worker Environmental Awareness Training (WEAT) presented by a qualified biologist to all construction personnel. The WEAT shall include the identification and natural history of Northern Red-legged Frog and Northwestern Pond Turtle. If any Northern red-legged frogs or western pond turtles are encountered during construction activities, activities in the vicinity shall cease until appropriate corrective measures have been implemented or it has been determined by a qualified biologist that the species will not be harmed. This includes CDFW-approved biologist relocating these species to an appropriate habitat adjacent to the work area. Any listed

reptile or amphibian species that are trapped, injured, or killed, shall be reported immediately to CDFW.

Timing of/Implementation for Compliance: During construction. Construction crews and construction inspector shall be trained in appropriate species recognition and protocols and adhere to protocols during construction activities
Person/Agency Responsible for Monitoring: City of Arcata Environmental Services
Monitoring Frequency: Ongoing, during construction activities
Evidence of Compliance: Construction inspector notes

Mitigation Measure Biol-5: Conduct Nest Survey and Establish Buffers
If vegetation removal or disturbance cannot be confined to periods outside of the nesting season (generally March-August), a qualified biologist shall conduct pre-construction surveys, within the vicinity of the Proposed Project (construction buffer area) to check for nesting activity of native birds. The construction buffer area is 50 feet beyond disturbance areas for native birds and 500 feet for raptors and special-status bird species. The biologist shall conduct a minimum one day preconstruction survey within the 7-day period prior to vegetation removal and ground-disturbing activities. If ground disturbance and vegetation removal work lapses for seven days or longer during the breeding season, a qualified biologist shall conduct a supplemental avian pre-construction survey before project work is reinitiated. If active nests are detected within the construction footprint or within the construction buffer established by the Project biologist, the biologist shall flag a buffer around each nest. Construction activities shall avoid nest sites until the biologist determines that the young have fledged, or nesting activity has ceased. If nests are documented outside of the construction (disturbance) footprint, but within the construction buffer, nest buffers would be implemented as needed. In general, the buffer size for common species would be determined on a case-by-case basis in consultation with the CDFW. Buffer sizes would take into account factors such as (1) noise and human disturbance levels at the construction site at the time of the survey and the noise and disturbance expected during the construction activity; (2) distance and amount of vegetation or other screening between the construction site and the nest; and (3) sensitivity of individual nesting species and behaviors of the nesting birds. If active nests are detected during the pre-construction surveys, the qualified biologist shall monitor all nests at least once per week to determine whether birds are being disturbed. Activities that might, in the opinion of the qualified biologist, disturb nesting activities (e.g., excessive noise), shall be prohibited within the buffer zone until such a determination is made. If signs of disturbance or distress are observed, the qualified biologist shall immediately implement adaptive measures to reduce disturbance. These measures may include, but are not limited to, increasing buffer size, 99 halting disruptive construction activities in the vicinity of the nest until fledging is confirmed, placement of visual screens or sound dampening structures between the nest and construction activity, reducing speed limits, replacing and updating noisy equipment, queuing trucks to distribute idling noise, locating vehicle access points and loading and shipping facilities away from noise sensitive receptors, reducing the number of noisy construction activities occurring simultaneously, and/or reorienting and/or relocating construction equipment to minimize noise at noise-sensitive receptors.

Timing of/Implementation for Compliance: Within 7 days prior to construction, qualified biologist shall conduct surveys as specified should vegetation removal or disturbance be scheduled during avian nesting season
Person/Agency Responsible for Monitoring: City of Arcata Environmental Services, qualified

biologist

Monitoring Frequency: once prior to construction, on-going nest monitoring until mitigation measure has been fulfilled
Evidence of Compliance: Written avian survey documentation

Mitigation Measure Biol-6: Salt Marsh Plant Species
If construction occurs within suitable habitat during the blooming season of any of the sensitive annual salt marsh species (Humboldt Bay owl's-clover [Castilleja ambigua var. humboldtiensis], sea-watch [Angelica lucida], Point Reyes bird's-beak [Chloropyron maritimum ssp. Palustre], western sand-spurrey [Spergularia canadensis var. occidentalis]), the area shall be surveyed at appropriately timed surveys (early/late season) by a qualified biologist prior to construction using CA Fish and Wildlife Department's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities.. If any species are present within the vicinity, they shall be flagged for avoidance. If avoidance is infeasible, construction will occur after seeds have been set. Seeds from the affected individuals shall be collected and planted in appropriate locations the following year during the phenologically appropriate time.

Timing of/Implementation for Compliance: Prior to construction, during appropriate blooming period as determined by qualified biologist. Should sensitive species be present and avoidance unnecessary, seeds shall be collected after they have been set and prior to construction activities
Person/Agency Responsible for Monitoring: City of Arcata Environmental Services, qualified biologist
Monitoring Frequency: Once prior to construction. Should species be present, on-going during construction until seeds have set
Evidence of Compliance: Written documentation prepared by qualified biologist

Mitigation Measure Biol-7: Non-Salt Marsh Plant Species
Prior to vegetation removal, vegetated areas shall be surveyed for Lyngbye's sedge (Carex lyngbyei), Siskiyou checkerbloom (Sidalcea malviflora ssp. patula), coast checkerbloom (Sidalcea oregana ssp. eximia), western lily (Lilium occidentale) and alpine marsh violet (Viola palustris) by a qualified biologist using CA Fish and Wildlife Department's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. If these species are found to be present and impacted by construction, they shall be transplanted and/or compensatory planting shall occur in a suitable habitat such that there is no net loss of these species. Transplants and/or new plantings shall be monitored for five years to ensure survival.

Timing of/Implementation for Compliance: Prior to construction, during appropriate blooming period as determined by qualified biologist.
Person/Agency Responsible for Monitoring: City of Arcata Environmental Services, qualified biologist
Monitoring Frequency: Prior to construction. Should transplanting be required, annual monitoring for five years
Evidence of Compliance: Written documentation prepared by qualified biologist

Mitigation Measure Biol-8: Compensatory Mitigation for Wetlands Impacts
As specifically determined during preparation of construction bid documents, the City shall identify specific wetlands to be directly impacted by construction activities and compensate for these permanent wetland impacts through restoration, rehabilitation, and/or creation of wetland at a ratio of no less than 1:1. A Wetlands Mitigation and Monitoring Plan shall be prepared prior to project construction in coordination with the North Coast Regional Water Quality Control Board, US Army Corps of Engineers, and California Coastal Commission. Compensation for wetlands shall occur so there is no net loss of wetland habitat at ratios to be determined in consultation with the permitting authorities. Wetland mitigation monitoring will be conducted for a minimum of five years to ensure successful establishment. Specific monitoring and remediation procedures will be developed in coordination with permitting authorities to ensure that the plan meets regulatory agency requirements. The Wetlands Mitigation and Monitoring Plan shall be acceptable to the permitting authorities and include the following elements: proposed mitigation ratios; description and size of the restoration or 100 compensatory area; site preparation and design; success criteria; monitoring schedule; and remedial measures. The Plan shall be implemented by the City.

Timing of/Implementation for Compliance: Impacted wetlands to be identified on final design plan set, prior to construction. Compensatory mitigation shall take place within 1 year following construction completion
Person/Agency Responsible for Monitoring: City of Arcata Environmental Services
Monitoring Frequency: Identification of impacted wetlands to occur once prior to construction, compensatory mitigation monitoring to occur annually for five years
Evidence of Compliance: construction plan set, wetland mitigation written and photo documentation, annual wetland mitigation monitoring reports

Mitigation Measure CU-1 If human remains are discovered during project construction, work within the discovery location plus nearby areas reasonably suspected to overlie human remains, will cease (Public Resources Code, Section 7050.5). The Humboldt County Coroner will be contacted by the Project Archaeologist to determine if the cause of death must be investigated. If the Coroner determines that the remains are of Native American origin, it is necessary to comply with state laws regarding the disposition of Native American burials, which fall within the jurisdiction of the California NAHC (Public Resources Code, Section 5097). In this case, the Coroner will contact NAHC. The descendants or most likely descendants (MLD) of the deceased will be contacted, and work will not resume until they have made a recommendation to the landowner or person responsible for excavation work with direction regarding appropriate means of treatment and disposition, with appropriate dignity, of the human remains and any associated grave goods, as provided in Public Resources Code, Section 5097.98. Mitigation Measure CU-1 would reduce the impact on cultural resources to a less-than-significant level by assuring proper protocols are in place for inadvertent discovery of potential cultural resources disturbed during construction.
Timing for/Implementation for Compliance: During construction
Person/Agency Responsible for Monitoring: City of Arcata Environmental Services, workers on-site
Monitoring Frequency: ongoing during construction
Evidence of Compliance: visual inspection