Pajaro River at Watsonville Project
Reach 6

Santa Cruz County, California

Final Supplemental Environmental Assessment #2

June 2025

US Army Corps of Engineers ®
San Francisco District

PAJARO REGIONAL FLOOD MANAGEMENT AGENCY

DEPARTMENT OF THE ARMY
SAN FRANCISCO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
450 GOLDEN GATE AVE.
SAN FRANCISCO, CA 94102

FINDING OF NO SIGNIFICANT IMPACT
Pajaro River at Watsonville, California
Reach 6 Flood Risk Management Project
Monterey and Santa Cruz Counties, California

The U.S. Army Corps of Engineers, San Francisco District (USACE) has conducted an environmental analysis in accordance with the National Environmental Policy Act of 1969, as amended (NEPA). The Supplemental Environmental Assessment (EA) #2 dated May 2025 for the Pajaro River at Watsonville, California, Reach 6 Flood Risk Management Project addresses the construction and operation of interior drainage features for the authorized flood risk management project in the city of Watsonville.

The Supplemental EA (Supplemental EA #2), incorporated herein by reference, evaluated additional features that were not identified during the original NEPA analysis. This document elaborates on the existing environmental conditions in the project area as described in the original integrated Pajaro River Flood Risk Management Project General Reevaluation Report and Environmental Assessment (GRR/EA), dated February 2019 and revised December 2019, as well as an initial Supplemental EA for Reach 6 (Supplemental EA #1), prepared in April 2024. This Supplemental EA (Supplemental EA #2) evaluates the anticipated environmental effects of the proposed project features and identifies measures to avoid or reduce any adverse environmental effects to a less-than-significant level where practicable. The authorized project for Reach 6 includes constructing new setback levees along Corralitos Creek. The project components evaluated in Supplemental EA #2 include the construction of 7 gravity culverts along the length of the levee and a 24 cfs pump station with an associated pump discharge pipe near the downstream end of Reach 6. These features collectively address interior drainage issues that were not appropriately addressed in Supplemental EA #1.

For the proposed project features, the potential effects were evaluated, as appropriate. For some resources, the design refinements did not alter the environmental effects from the evaluation in the GRR/EA and therefore were not evaluated in detail in Supplemental EA #2. A summary of resources evaluated in detail in Supplemental EA #2 and the potential effects of the design refinements are listed in Table 1:

Table 1: Summary of Potential Effects of the Recommended Plan

	Insignificant effects	Insignificant effects as a result of mitigation	Resource unaffected by action
Hydrology, Hydraulics, Groundwater, and Geomorphology	☐	☒	☐
Water Quality	☐	☒	☐

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. Mitigation for resources identified as having “Insignificant effects as a result of mitigation” areas is detailed for each resource as titled below in Chapter 3, and is summarized as follows:

Hydrology, Hydraulics, Groundwater, and Geomorphology – Best Management Practices (BMPs) such as silt trapping and silt fencing will be implemented when excavation is occurring near the active channel to ensure no impacts to the creek would occur. Further detail on these BMPs is included in Section 3.2.2 of Supplemental EA #2.

Water Quality – BMPs for construction would be implemented under a spill control plan and a Storm Water Pollution Prevention Plan prepared with guidance from the Central Coast Regional Water Quality Control Board. Further detail on these BMPs is included in Section 3.2.2 of Supplemental EA #2.

COMPENSATORY MITIGATION NOT REQUIRED

No compensatory mitigation is required as part of the recommended plan.

PUBLIC REVIEW

Public review of the draft Supplemental EA #2 was completed on 16 May 2025. All comments submitted during the public review period have been addressed, as appropriate, in the final supplemental EA and FONSI.

OTHER ENVIRONMENTAL AND CULTURAL COMPLIANCE REQUIREMENTS:

ENDANGERED SPECIES ACT

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (FWS) issued a biological opinion, dated 24 February 2023, that determined that the recommended plan will not jeopardize the continued existence of the following federally listed species or adversely modify designated critical habitat: California reg-legged frog (*Rana aurora draytonii*). The recommended plan is not likely to adversely affect the Least Bell's vireo (*Vireo bellii pusillus*), and Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). All terms and conditions, conservation measures, and reasonable and prudent alternatives and measures resulting from these consultations shall be implemented in order to minimize take of endangered species and avoid jeopardizing the species.

Pursuant to section 7 of the Endangered Species Act of 1973, as amended, the U.S. Army Corps of Engineers determined that the recommended plan may affect but is not likely to adversely affect the following federally listed species or their designated critical habitat: South Central California Coast steelhead (*Oncorhynchus mykiss*). The National Marine Fisheries Service (NMFS) concurred with USACE's determination on 17 February 2023. A detailed account of endangered species act consultation for this project can be found in Section 3.2.4 of the Pajaro River at Watsonville, California Reach 6 Flood Risk Management Project Supplemental Environmental Assessment #1.

FISH AND WILDLIFE COORDINATION ACT

As required by the Fish and Wildlife Coordination Act, the recommendations of the Secretary of the Interior, through the USFWS, have been sought throughout the planning process. USFWS provided a letter report, dated 29 September 2017, in lieu of a Coordination Act Report, for inclusion with the Draft GRR/EA (see Appendix E-2). The letter in part reads: "In accordance with and as stated in the FWCA, the Service provides the following comments in order to ensure that

'wildlife conservation shall receive equal consideration and be coordinated with other features of water-resource development programs through the effectual and harmonious planning, development, maintenance, and coordination of wildlife conservation and rehabilitation…'" USFWS letter report recommendations are enumerated, together with USACE responses, in Section 5.2.1 of the GRR/EA.

NATIONAL HISTORIC PRESERVATION ACT

In compliance with section 106 of the National Historic Preservation Act of 1966, as amended, the U.S. Army Corps of Engineers the California State Historic Preservation Officer, PRFMA, and the Amah Mutsun Tribal Band entered into a Programmatic Agreement (PA), dated 8 July, 2019 and extended for an additional five years on April 14, 2024. USACE completed Identification and Evaluation (Stipulation III) of historic properties, and Determination of Effects (Stipulation IV) as required by the PA for the Reach 6 phase of the Project on June 2, 2024.

USACE consulted with the California State Historic Preservation Office and the following Native American Tribes for the Reach 6 Area of Potential Effect, Identification and Evaluation efforts, and the Determination of Effect: the Esselen Tribe of Monterey County, the Amah Mutsun Tribal Band of Mission San Juan Bautista, the Coastanoan Rumsen Carmel Tribe, the Costanoan Ohlone Rumsen-Mutsen Tribe, the Salinan Tribe of Monterey and San Luis Obispo Counties, the Xolon-Salinan Tribe, Ohlone/Coastanoan-Esselen Nation, Muwekma Oh lone Indian Tribe of the San Francisco Bay Area, the Amah Mutsun Tribal Band, and the Indian Canyon Mutsun Band of Costanoan.

All consulting Tribes were invited to participate in cultural resource surveys in December 2023, and USACE received a response and held a meeting with the Amah Mutsun Tribal Band in April 2024. USACE is regularly consulting with the Amah Mutsun Tribal Band to ensure Tribal Ecological Knowledge (TEK) is incorporated into planning studies for all subsequent phases of the project. Currently there are no tribal resources or concerns identified in Reach 6.

Therefore, a finding of No Historic Properties Affected as provided in 36 CFR part 800.4(d)(1) is determined for Reach 6. However, a Worker Environmental Awareness Program (WEAP) training focused on cultural resources is recommended for the entire Project before any phase of construction commences. This training will be conducted by a USACE Secretary of the Interior-qualified archaeologist prior to any ground disturbing Project activity. In the event that historic resources are uncovered, work would be halted immediately and a USACE archeologist would be notified, who would in turn notify SHPO and Tribes. The work would not be continued until the area is inspected by a USACE archeologist and other appropriate parties. If they determine that the resources require further consultation, USACE will notify SHPO and Tribes to determine next steps, including when construction could recommence.

CLEAN WATER ACT SECTION 404(B)(1) COMPLIANCE

Pursuant to the Clean Water Act of 1972, as amended, the discharge of dredged or fill material associated with the recommended plan has been found to be compliant with section 404(b)(1) Guidelines (40 CFR 230). The Clean Water Act Section 404(b)(1) Guidelines evaluation is found in Appendix C of the Supplemental EA #2.

CLEAN WATER ACT SECTION 401 COMPLIANCE

A water quality certification pursuant to section 401 of the Clean Water Act was obtained from the Central Coast Regional Water Quality Control Board on 21 May 2025. All conditions of the water quality certification will be implemented in order to minimize adverse impacts to water quality.

FINDINGS

Technical, environmental, and economic criteria used in the formulation of alternative plans were those specified in the Water Resources Council's 1983 Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies. All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on this report, the reviews by other Federal, State and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not cause significant adverse effects on the quality of the human environment; therefore, preparation of an Environmental Impact Statement is not required.

6/2/25
_____
Date

_____
Timothy W. Shebesta
Lieutenant Colonel, U.S. Army
District Commander and Engineer

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Acronyms

ACE	Annual Chance of Exceedance
APE	Area of Potential Effect
BO	Biological Opinion
BA	Biological Assessment
BMP	Best Management Practices
CFR	Code of Federal Regulations
DWR	California Department of Water Resources
EA	Environmental Assessment
EFH	Essential Fish Habitat
ESA	Endangered Species Act (Federal)
FCA	Flood Control Act
FONSI	Finding of No Significant Impact
FRM	Flood Risk Management
FY	Fiscal Year
GRR	General Reevaluation Report
GRR/EA	Integrated General Reevaluation Report and Environmental Assessment
HEC-RAS	Hydrologic Engineering Center - River Analysis System
HTRW	Hazardous, Toxic, and Radioactive Waste
H:V	Horizontal:Vertical
LERRD	Lands, Easements, Rights-of-Way and Disposal sites
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NFS	Non-federal Sponsor
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
NWIC	Northwest Information Center
O&M	Operation and Maintenance
OMRR&R	Operation, Maintenance Repair, Replacement, and Rehabilitation
PA	Programmatic Agreement
PL	Public Law
PPA	Project Partnership Agreement
SHPO	State Historic Preservation Officer
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
WRDA	Water Resources Development Act

1. Introduction

This Supplemental EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. § 4321 *et seq*.), and the United States Army Corps of Engineers Procedures for Implementing NEPA (33 C.F.R. part 230).

1.1 Proposed Action

The U.S. Army Corps of Engineers (USACE), San Francisco District's Pajaro River Flood Risk Management Project (Pajaro Project), is a single-purpose flood risk management project along the Pajaro River and its tributaries in Santa Cruz and Monterey Counties, California. The lead agency is the USACE. The Pajaro Regional Flood Management Agency (PRFMA) has assumed the role as the non-federal sponsor (NFS). In response to ongoing flood management needs, PRFMA was established in 2021 to manage projects to reduce flood risk to the Pajaro River Valley in Santa Cruz and Monterey counties.

USACE prepared an integrated General Reevaluation Report and Environmental Assessment (GRR/EA) dated February 2019 and revised December 2019 to develop and evaluate flood risk management alternatives (USACE, 2019). The study culminated in a Director's Report, a decision document from the USACE Director of Civil Works, which confirmed that the Recommended Plan presented in the GRR/EA was compliant with the authorization from the Flood Control Act of 1966 and approved the project for design and construction. The proposed project includes construction of levee improvements along the Pajaro River and Salsipuedes and Corralitos Creeks. These levee improvements include a series of measures including new levees, setback levees, floodwalls, pump stations, and other associated features. These features combined will provide critical 100-year flood protection to communities in Santa Cruz and Monterey Counties.

In June 2024, USACE completed a supplemental EA and FONSI on the Reach 6 levee project along Corralitos Creek. This initial supplemental EA (Supplemental EA #1) addressed design refinements to the Reach 6 levee project, including staging areas, haul routes, borrow sites, floodplain expansion, and the associated vegetation impacts (USACE 2024). The Original 2019 GRR/EA and June 2024 Supplemental EA (Supplemental EA #1) documents can be found at: https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Current-Projects/Pajaro-River-Watsonville/

During the design process, an interior drainage analysis to inform design of through-levee drainage features, including culverts and a pump station, was completed in October of 2024. The study suggested the incorporation of features designed to alleviate ponding of rainfall-runoff along the landside toe of the newly constructed levee improvements. The recommended features include the construction of six gravity culverts along the length of the levee and a 24 cfs pump station with an associated pump discharge pipe near the downstream end of Reach 6.

This document is a supplemental Environmental Assessment (Supplement #2), and its purpose is to evaluate and disclose the potential environmental effects associated with the construction and operation of these interior drainage features.

1.2 Project Location

The Pajaro River watershed is located on the central coast of California approximately 75 miles south of San Francisco and includes portions of Santa Clara, San Benito, Santa Cruz, and Monterey Counties (Figure 1). The watershed, which is approximately 88 miles long and 30 miles wide, drains an area of approximately 1,300 square miles of the Central California Coastal Ranges, emptying into the Pacific Ocean six river miles southwest of the city of Watsonville.

The Pajaro River at Watsonville Project area is located within the lower Pajaro River watershed in an area known as the Pajaro River Valley. The watershed within the project area encompasses an area of approximately 10,000 acres, which includes the stream channels, active floodplains, and terraces along the Pajaro River and Salsipuedes and Corralitos Creeks. The project area includes widespread agricultural lands devoted to high-value crops (e.g., strawberries, raspberries, and lettuce) and extensive residential, commercial, and industrial structures within the valley.

The first phase of the Pajaro River at Watsonville Project is the Reach 6 levee project. Reach 6 is located along Corralitos Creek, with the downstream limit at the intersection of Corralitos Creek and Highway 152 and the upstream limit at the intersection of Corralitos Creek and Green Valley Road. Reach 6 is located within unincorporated Santa Cruz County, near the City of Watsonville. The Reach 6 interior drainage Project is proposed to be located throughout Reach 6. The Pump Station would be constructed on the north bank of Corralitos Creek near the downstream end of Reach 6, just upstream of Highway 152. Figure 2 shows the location for the proposed project features. These features are described in Table 1.

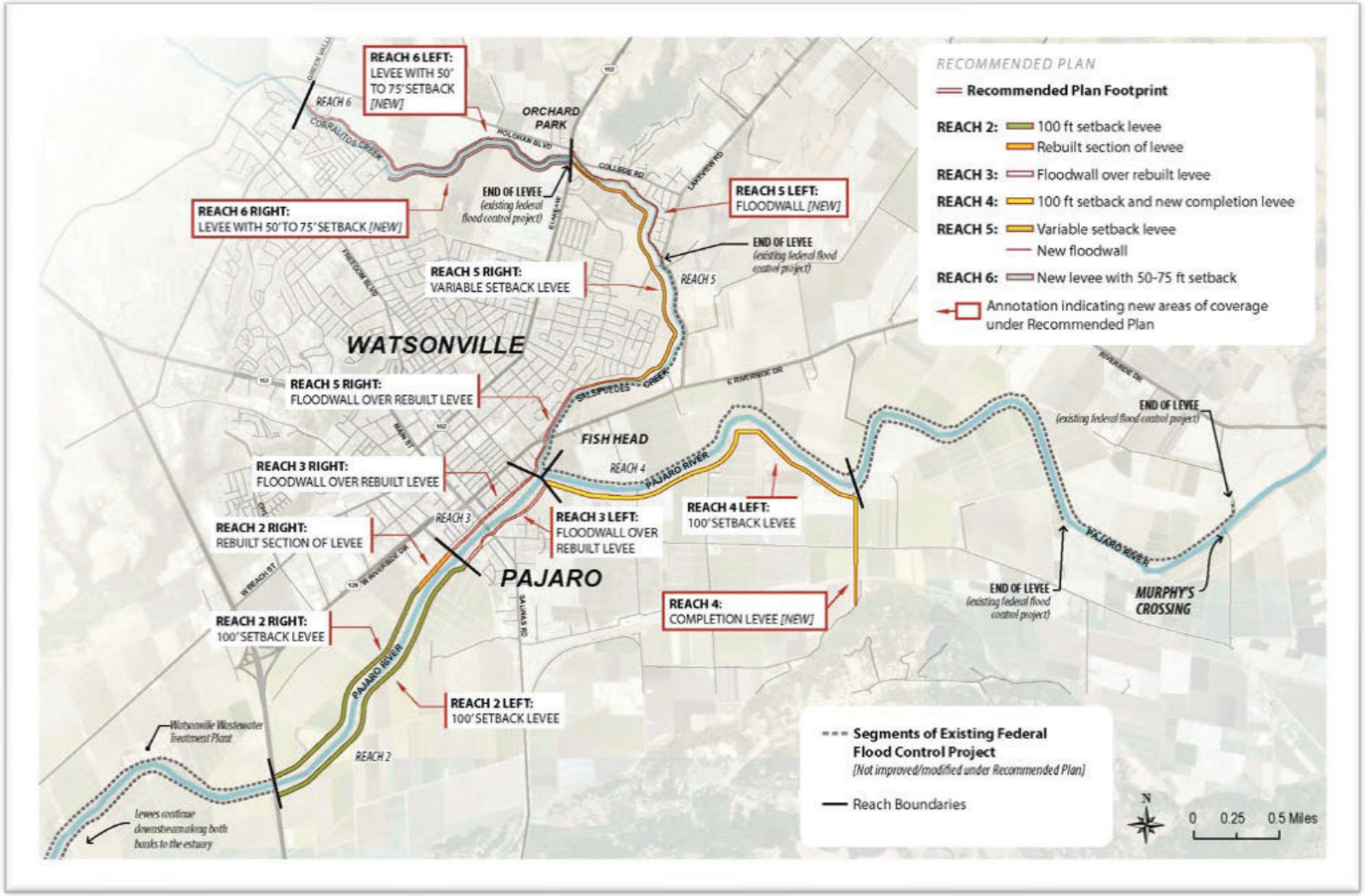

Figure 1. Overall Pajaro Levee Project Map

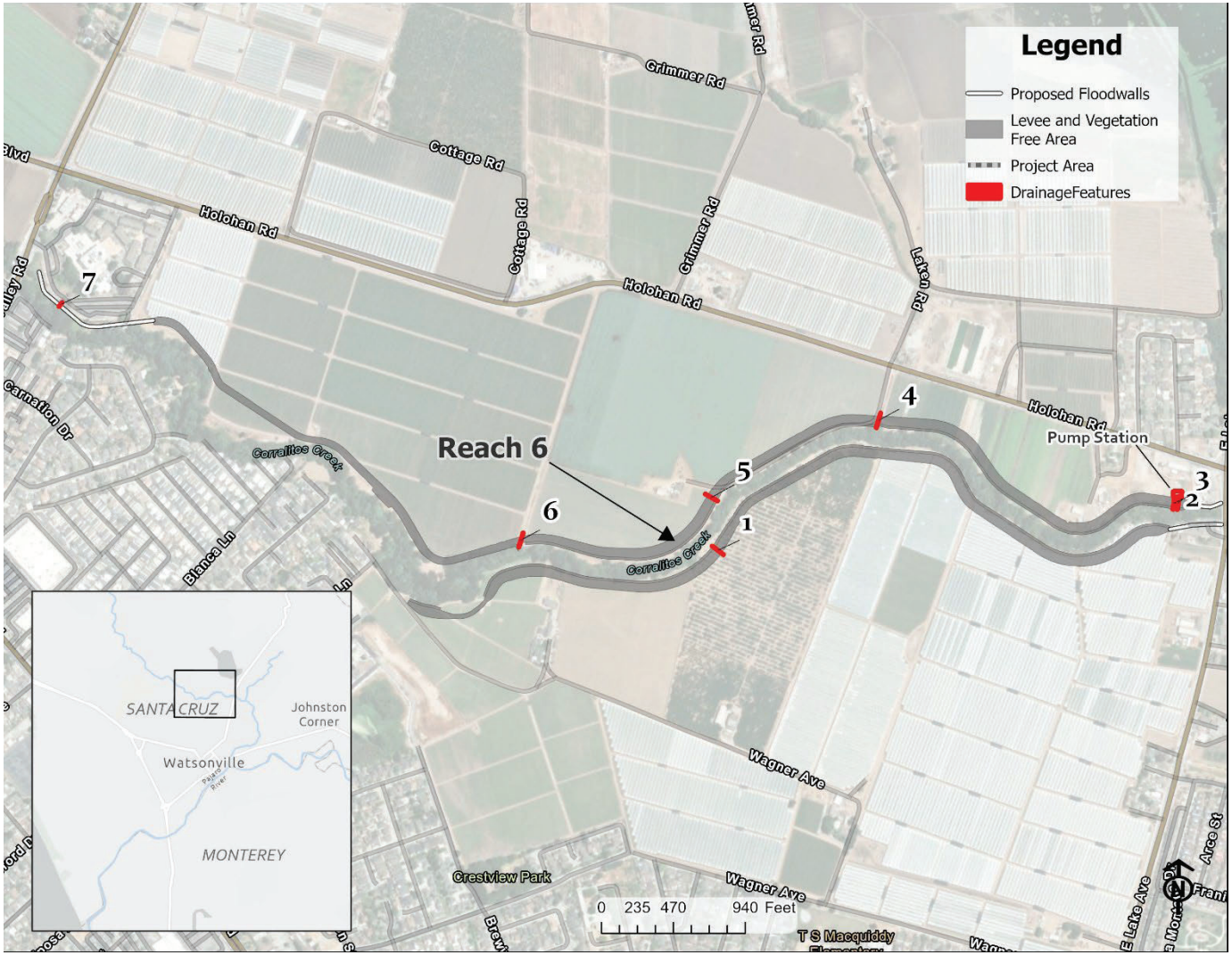

Figure 2. Proposed Project Features

1.3 Background

The Pajaro River levee system was constructed in 1949. Today, if improved, it stands to provide flood risk management benefits to over 10,000 acres of mixed-use land with a current population estimated at 12,600 residents located in the floodplain (approximately 3,000 residents in Pajaro and 9,600 in Watsonville) and an estimated $1.2 billion in damageable property. Since its construction, there have been numerous major flood events that have resulted in significant flooding caused by overtopping or breaching of the levees. Floods have occurred on the Pajaro River and its tributaries in 1955, 1958, 1986, 1995, 1998, 2017, and 2023 (R&F Engineering et al., 2022).

The levee system demonstrated its inadequacy after flood damage in 1955, but efforts to reconfigure the system did not occur. Although the 1949 flood project was designed to reduce flood risk in the Pajaro Basin from a two percent annual chance of exceedance (ACE) probability event (50-year event), hydrologic analysis conducted following the flood flows of 1955 and 1958 indicated that the design capacity was more equivalent to a four percent ACE probability event (25-year event). The analysis additionally indicated an expected ACE probability of 12 percent (8-year event) more accurately describes the existing level of flood protection for both Salsipuedes and Corralitos Creeks, which is one of the lowest levels of protection of any federal flood control system in California.

The project area has continued to experience flooding from the Pajaro River and Corralitos and Salsipuedes Creeks, as the existing 1949 levee project does not provide the intended level of protection. A new project was originally recommended and authorized by Congress in the Flood Control Act of 1966. The 1966 project included modifications to the existing levee system to ensure that there was a standard level of flood protection on the Pajaro River, Salsipuedes Creek, and Corralitos Creek. However, the 1966 project was never constructed due to economic justification challenges and inconsistent support for the project, both from local and federal governments.

A flood in 1995 caused nearly $100 million in damages and life loss, and levees nearly broke again during the storms of early 2017. Flooding events that occurred prior to 2019 are described in Section 2.1.1 in the original GRR/EA. Following the 1995 and 1998 floods and associated emergency levee repairs, there were multiple efforts by USACE and Santa Cruz and Monterey counties to complete a General Reevaluation Study to update and recommend future flood improvements on the Pajaro River with public outreach for a proposed study occurring in 2004, 2009, 2012, and 2015. The 2019 GRR/EA was ultimately completed for the project, with the associated Director's Report signed in December 2019. USACE initiated the preconstruction design phase of the Pajaro Project in 2021.

In the winter of 2023, two separate storm events caused widespread damage, which flooded homes in the economically disadvantaged communities in Watsonville and Pajaro. During the event in early January 2023, water overtopped the banks of Corralitos and Salsipuedes Creeks. In March of 2023, high flows on the Pajaro River breached the levee in nearly the same location as the 1995 flood, flooding the town of Pajaro. At the peak of the levee breach,

nearly 33,000 individuals in Monterey County were under evacuation orders or warning, and nearly every home in Pajaro was impacted by the flooding. The flooding events in January and March 2023 resulted in a combined impact of over $450.5 million dollars in agricultural damage to the Pajaro River Valley, and numerous critical pieces of levee infrastructure needing repair (Newsom, 2023).

The flood risk reduction structures proposed for Reach 6 are currently planned as the first constructed portions of the overall Pajaro River at Watsonville Project, with construction of the new levees scheduled to begin in summer 2025. In parallel to the design and construction of the Reach 6 levees, PRFMA conducted an interior drainage study on the Reach 6 area with project condition (i.e., with the new levees in place). The study recommended the construction of several through-levee, gravity culverts throughout the reach, as well as a pump station at the downstream end of Reach 6 to ensure adequate stormwater drainage from the adjacent agricultural lands into Corralitos Creek during storm events.

1.4 Authority

The existing USACE Pajaro River project was completed in 1949 and authorized by the Flood Control Act (FCA) of 1944 (Public Law No. 534, 78th Congress, Ch. 665, 2nd Session). A new project authorization to modify the project was provided by the 1966 FCA (Public Law 89–789, 80 Stat. 1421). Section 1001 of the Water Resources Development Act (WRDA) of 1986 states that every two years, the Secretary of the Army shall submit a list of projects to Congress for deauthorization. The list would include authorized projects that have not been constructed and have received no funding for the previous 10 fiscal years. To avoid de-authorization, the Pajaro River flood risk management feasibility study was re-authorized by WRDA 1990, Continuation of Authorization of Certain Projects (Public Law 101–640). With the GRR's approval through the December 2019 Director's Report, the 1966 project remains authorized for construction. On 30 March 2022, the project was granted initial construction funding under the Infrastructure Investment and Jobs Act of 2021.

1.5 Purpose and Need

The proposed drainage features and pump station in Reach 6 are necessary to mitigate potential flooding on the landside of the levee and ensure the long-term stability and functionality of the levee system. The need and design capacity for these features was identified through an interior drainage analysis conducted by R&F Engineering, Inc. (R&F), following criteria outlined in U.S. Army Corps of Engineers (USACE) Engineering Manuals (EM) 1110-2-1413 and EM 1110-2-1417. A hydrologic analysis, conducted during the pre-construction engineering and design phase, determined ponding would occur on the landside of the levee in the absence of through-levee interior drainage infrastructure from a rainfall event capable of producing 1% (1/100)

Annual Exceedance Probability (AEP) flow rates[1](Figure 3). To address this issue, the study recommended the incorporation of gravity drainage culverts and a pump station into the Reach 6 levee design.

The proposed gravity drainage features would facilitate runoff conveyance and alleviate ponding along the levee toe during typical rainfall events. However, under high-flow conditions, water surface elevations in Corralitos Creek are anticipated to rise, reducing the effectiveness of the gravity culverts or rendering them inoperable. This would result in temporary ponding on the landside of the levee. To address this, a pump station with a capacity of 24 cubic feet per second (cfs) and a 24-inch discharge pipe was recommended near the downstream end of Reach 6. This infrastructure would alleviate localized rainfall-runoff accumulation, particularly near Highway 152 and adjacent commercial properties (Figure 4). The USACE pump station design team has determined that the 24-inch discharge pipe would sufficiently address the potential ponding.

1.6 Previous Environmental Documentation

The Pajaro River Flood Risk Management Project GRR/EA was completed in 2019 and is the original NEPA documentation for this project. Previous reports and investigations of the project area are described in detail in Section 1.6 of the original GRR/EA.

In June 2024, USACE completed a supplemental EA on the Reach 6 Project, which elaborated on the existing environmental conditions in Reach 6, evaluated the anticipated environmental effects of levee construction on these conditions, and identified measures to avoid or reduce any adverse environmental effects to a less-than-significant level where practicable.

This Supplemental EA for the Reach 6 Interior Drainage Features further supplements the June 2024 Reach 6 Project EA to describe the anticipated environmental effects that could result from the construction and operation of the proposed drainage features and pump station which were incorporated into the overall project design following the completion of the interior drainage analysis in October 2024. This Supplemental EA has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA). This Supplemental EA, in combination with the Reach 6 Supplemental EA and the Pajaro River GRR/EA (USACE, 2019), fully discloses the potential environmental effects adjacent to Corralitos Creek to the public and provides an opportunity for the public to comment on the proposed action.

[1] A 1/100 AEP flow rate refers to the flow rate with a 1% chance of occurring in any given year. This event is more commonly known as the 100-year flood event.

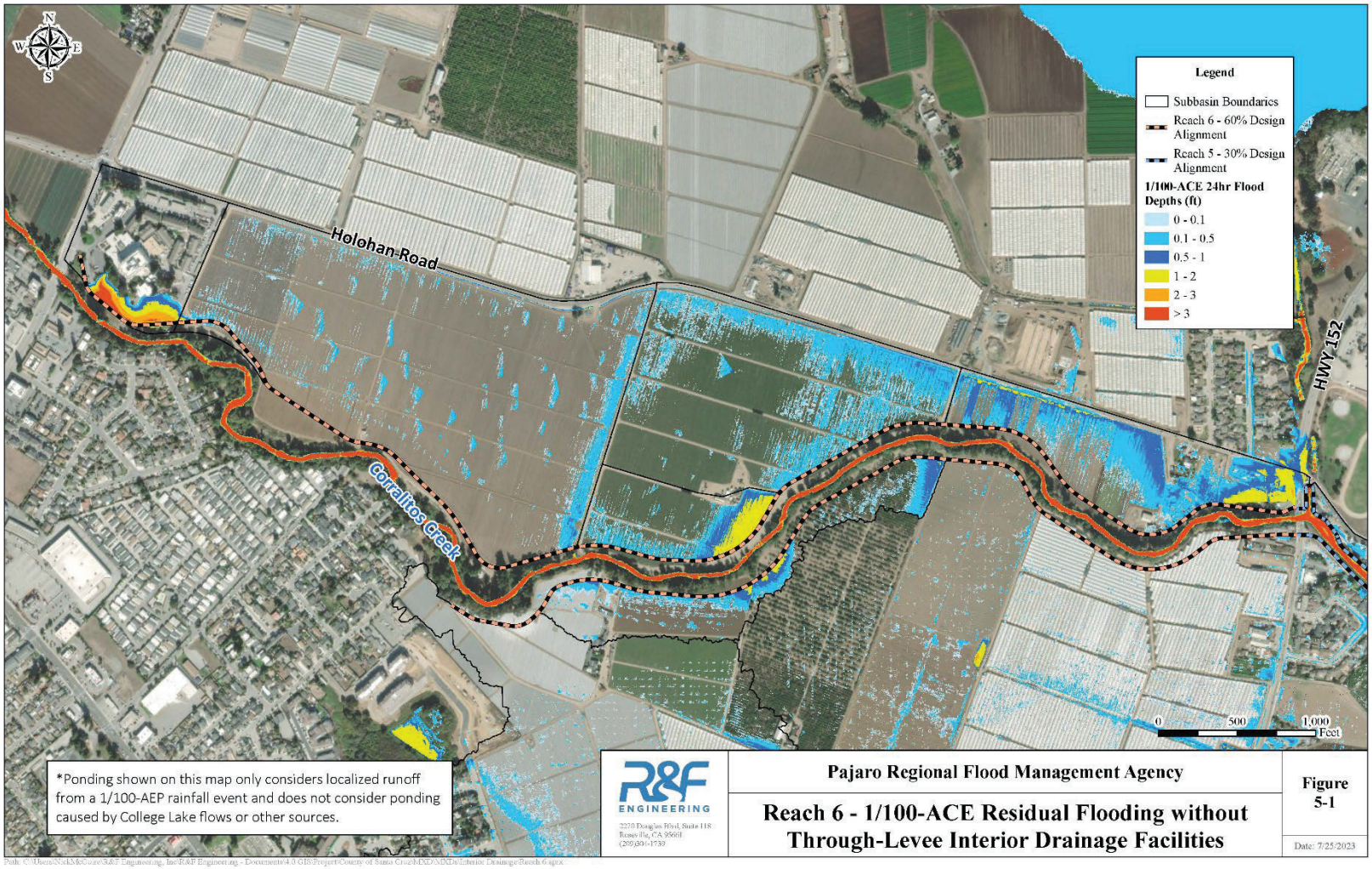

Figure 3. Residual Flooding without Through-Levee Interior Drainage Facilities.

Sourced from Appendix B, the Reach 6 Interior Drainage Analysis Report (R&F Engineering 2024)

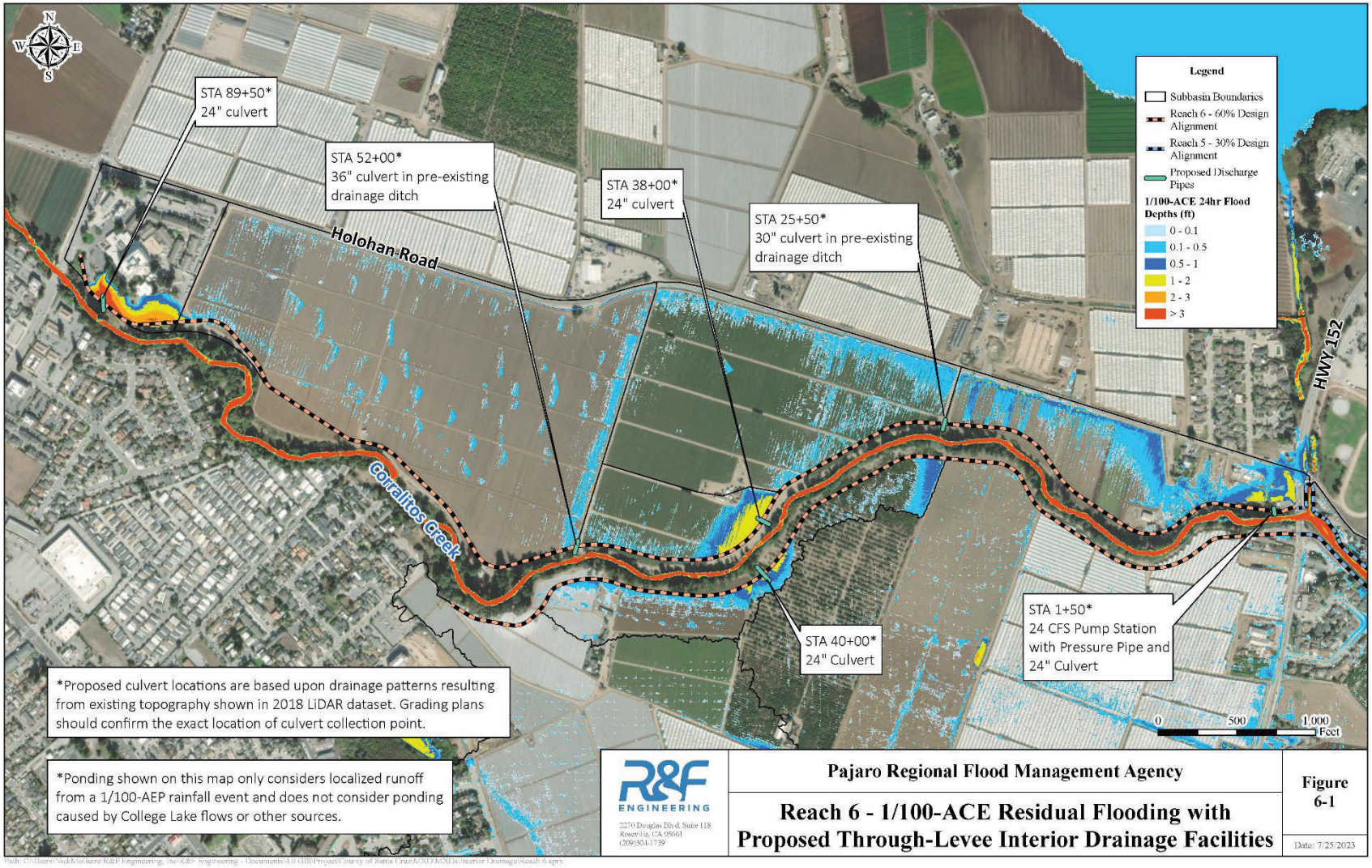

Figure 4. Residual Flooding with Through-Levee Interior Drainage Facilities.

Sourced from Appendix B, the Reach 6 Interior Drainage Analysis Report (R&F Engineering 2024

2. Alternatives

2.1 Alternatives Not Evaluated in Detail

Alternatives eliminated from further consideration for this supplement include constructing the levee without the pump station and constructing the pump station without the through-levee drainage features. These alternatives were deemed to provide insufficient drainage in the project area and could result in prolonged flooding during storm events, which could result in detrimental economic effects to the local farmers, as well as damage of infrastructure, limited access due to roadway flooding, and other prolonged effects associated with a flood event. Other Alternatives that were eliminated from detailed consideration for the overall Pajaro River at Watsonville Project were described in the original GRR/EA Chapter 3 (USACE 2019).

2.2 Alternative 1 - No Action

NEPA requires the analysis of a "No Action" alternative that illustrates project conditions if the proposed action is not taken. Under the No Action Alternative, the proposed Reach 6 drainage features would not be constructed and during storm events, rainfall runoff would accumulate at the landside levee toe at several locations. Without a drainage outlet, removal of the ponded water would be limited to infiltration and evaporation. Prolonged flooding at these locations has the potential to negatively impact the agricultural lands, commercial properties, and the newly constructed flood risk management features, namely the levee and floodwall.

2.3 Alternative 2 - Proposed Action

Reach 6 includes the construction of new setback levees along Corralitos Creek. The proposed action includes the construction of the Reach 6 Pump Station, an associated bioswale and inlet basin for the forced discharge pipe, and six gravity culverts along the length of the Reach 6 levee. These features would provide improved drainage along the newly constructed levees, alleviate potential interior flooding, and increase the long-term resiliency of the levee structure.

2.3.1 Features of Proposed Action

The proposed interior drainage features for the newly constructed levees include a combination of gravity culverts and a pump station with associated forced discharge pipe to manage localized stormwater runoff. One gravity culvert would be located along the right bank, while the remaining culverts and the pump station would be situated along the left bank (Figure 2).

The gravity culvert features upstream of the pump station (SDs 4-7) will consist of 24-inch or 36-inch reinforced concrete pipes (RCPs), each equipped with drainage structures at the inlet and outlet. Each culvert will originate near the landside levee toe with a graded inlet basin, extending beneath the levee before discharging near the stream channel. At the culvert outlets, erosion control measures such as riprap placement and a small concrete pad with a gently graded slope will be implemented to protect the channel banks from further erosion. Excavation at outfalls will include the placement of gravel and rock materials to establish a 2% slope, minimizing erosion and ensuring efficient water conveyance. Figure 6 shows the typical plans for the gravity culverts in the proposed action.

The pump station is designed with a 24 cubic feet per second (cfs) capacity and includes a discharge pipe to mitigate localized rainfall-runoff accumulation near Highway 152 and adjacent commercial properties. To enhance operational flexibility, the pump station consists of two means of drainage with a shared inlet basin, following a design approach commonly used in Santa Cruz County and the City of Watsonville. Drainage for the landside to waterside of the project is achieved through SD 2 (Forced Discharge Pipe) and SD 3 (Gravity Culvert). The inlet basin serves as the low spot in the local area that routes all water toward the SD 3 inlet as the primary means of drainage. SD 3 is equipped with a closure structure on the levee in case the pump station needs to be activated, and enough water has collected within the basin to activate the intake. The intent of this design is to have the gravity fed culvert handle normally occurring ponding and runoff. Under infrequent high flow conditions, the pump station takes over local drainage in its immediate vicinity. Under these conditions, flap gates would be closed and the pump station would be utilized to actively drain the landside of the levee. Figure 5 shows the planned alignment of the pump station in relation to the levee.

The basin is fed by a bioswale in the form of a “V-Ditch” which varies in depth and ties into existing ground with a 3:1 and no flat bottom. Depth was dependent on satisfying a downward grade (minimum 1%) toward the inlet basin. The grassy swale will be planted with native short, brunch and/or long grass variants. The site also takes advantage of this swale by routing site drainage into these in the form of overside v-ditches that will also be grass-lined. Temporary slope stabilization and erosion control will be utilized in the form of coir rolls, silt curtains, or other means to satisfy stormwater best management practices.

The grassy swale will satisfy design flow of the area based on Caltrans Highway Manual Chapter 860 – Roadside Channels, Table 865.2. The plantings will act as both a permanent erosion control and biofiltration to help collect heavy metals, excess nitrogen and phosphorous from agricultural activities, and debris small enough that otherwise would bypass the trash rack spacing and compromise the wet well.

Intake for the discharge pipe (SD2) is in the form of an underground reinforced concrete wet well equipped with trash racks to prevent debris from entering the well. The sump pumps within the wet well then route up to surface and collect into a single discharge line. A control building sits next to this line on an elevated concrete pad with underground electrical connections.

The entire pump station will be encapsulated within security fencing and access gate. The gate and fencing will be black vinyl coated and post will be embedded within concrete. Post will be within both native ground and existing pavement.

Table 1. Table of proposed drainage features and locations. See Figure 2 for map of feature locations.

Name	Description	Latitude	Longitude	Township/Range
SD 1	24" Gravity Culvert	36° 56' 03.72" N	121° 45' 16.61" W	*T11S-R2E*
Pump Station	24 CFS Pump Station	36° 56' 07.32" N	121° 44' 39.93" W	*T11S-R2E*
SD 2	Pump Discharge Pipe*	36° 56' 07.32" N	121° 44' 39.93" W	*T11S-R2E*
SD 3	24" Gravity Culvert*	36° 56' 07.32" N	121° 44' 39.93" W	*T11S-R2E*
SD 4	30" Gravity Culvert	36° 56' 12.25" N	121° 45' 03.83" W	*T11S-R2E*
SD 5	24" Gravity Culvert	36° 56' 07.13" N	121° 45' 17.19" W	*T11S-R2E*
SD 6	36" Gravity Culvert	36° 56' 04.21" N	121° 45' 32.46" W	*T11S-R2E*
SD 7	24" Gravity Culvert	36° 56' 18.94" N	121° 46' 09.62" W	*T11S-R2E*
**Associated with 24 CFS Pump Station*				

2.3.2 Feature Design

The design, location, and sizing of the proposed drainage features are based on an interior drainage analysis completed in October 2024 (See Appendix B). Site selection, sizing and design are informed by drainage patterns derived from a 2018 LiDAR dataset, with a 2D HEC-RAS[2] model used to identify flow paths and runoff accumulation areas.

2.3.3 Feature Construction

Construction will take place in multiple phases based on the construction contract the work is taking place under. Construction of the culvert features will occur simultaneously with the construction of the Reach 6 Levees. Construction is expected to begin in Late Summer 2025 and may take 1-2 years to complete.

The pump station will be constructed under a separate construction contract and will consist of the construction of a wet well pump station with submersible pumps, an operator room, fuel storage platform, access roads, a bioswale feature and re-grading of drainage ditches. The footprint of pump station will all be Hot-Mix Asphalt (HMA) other than top of wet well which will be reinforced concrete. The pump station will tie into existing asphalt on the eastbound side.

The pump station construction is expected to begin in late 2027 and take one year to complete. Construction of the drainage features proposed in this document would include the following activities and processes:

- Set up designated temporary construction access and staging areas.
- Set up temporary chain link fencing and gates around construction area.
- Install temporary erosion control measures.

[2] HEC-RAS (Hydrologic Engineering Center - River Analysis System) is a software program developed by USACE to model the flow of waters in rivers, channels and floodplains

- Clear and grub work area, including, but not limited to removing tree stumps and vegetation growing within and immediately adjacent to the feature footprint.
- Remove and dispose of existing structures, fencing, pipe, and asphalt pavement.
- Perform excavation to shape the slope and create features to the design specifications Import additional material as necessary to meet required material specifications for feature construction.
- Construct and install through-levee culvert features concurrent with levee and floodwall construction.
- Perform excavation to shape the slope and create drainage features, including culverts and bioswale feature
- Construct and install pump station components, including excavation and placement of foundations, erection of the control building, installation of the wet well, submersible pumps, piping, valves, and associated mechanical and electrical systems.
- Construct and install concrete headwalls
- Place erosion protection measures, including installation of the concrete outfall pad and rock at the outfalls of drainage features
- Conduct site cleanup and restoration activities as detailed below.

See the Executive Summary of the GRR/EA and Section 2.3.4 of the Supplemental EA for construction specifics for the overall levee setback project.

2.3.4 Site Access and Staging

The project area may be accessed from Highway 152 to the east, Green Valley Rd. to the west, Holohan Rd. to the north, and Atkinson Ln or Brewington Ave. to the south. Haul trucks, construction equipment and construction workers will likely access and leave the project area from either Highway 152 or Highway 129 via Highway 101 to the east or Highway 1 to the west. From any of these highways, surface streets and smaller agricultural access roads would be taken to arrive at the project site. Prior to start of construction, the construction contractor would develop and submit a signed and stamped temporary traffic control plan for approval by the City of Watsonville and other applicable permitting agencies. For the through-levee culverts, eight staging areas for equipment and materials are proposed within the project area. Access and staging for pump station construction will be through an existing parking lot and will not result in new surface improvement.

2.3.5 Site Preparation

Prior to the start of construction, the construction area would be set up, with staging areas and construction offices set up, as needed, and the active construction zone fenced off. Any utility relocations necessary to facilitate construction would occur.

Removal of mature riparian vegetation for the levee construction and borrow features was conducted in Fall 2024. All additional clearing, and grubbing activities would occur from the landside above the ordinary high-water mark, where possible, and in accordance with previous coordination with fish and wildlife resource agencies. Silt curtains and other BMPs would be applied during these activities to ensure no impacts to the creek channel. This vegetation and debris would be disposed of at an approved commercial disposal site.

2.3.6 Restoration and Cleanup

The staging areas, landside levee slope, and any other bare earth areas would be reseeded with native grasses and forbs to promote revegetation and minimize soil erosion. Any roads or other access areas damaged by construction activities would be fully repaired and restored to their preconstruction condition. All trash, excess construction materials, and construction equipment would be removed, and the site would be left in a safe and clean condition.

2.3.7 Operations and Maintenance

As part of the levee construction project, the USACE will prepare a new Operation, Maintenance, Repair, Replacement and Rehabilitation (OMRR&R) manual, to establish the long-term maintenance and management requirements for the new levee system, pump station and associated features. Following construction, the non-Federal partners will assume responsibility for continued operation and maintenance of the project consistent with the new OMRR&R manual.

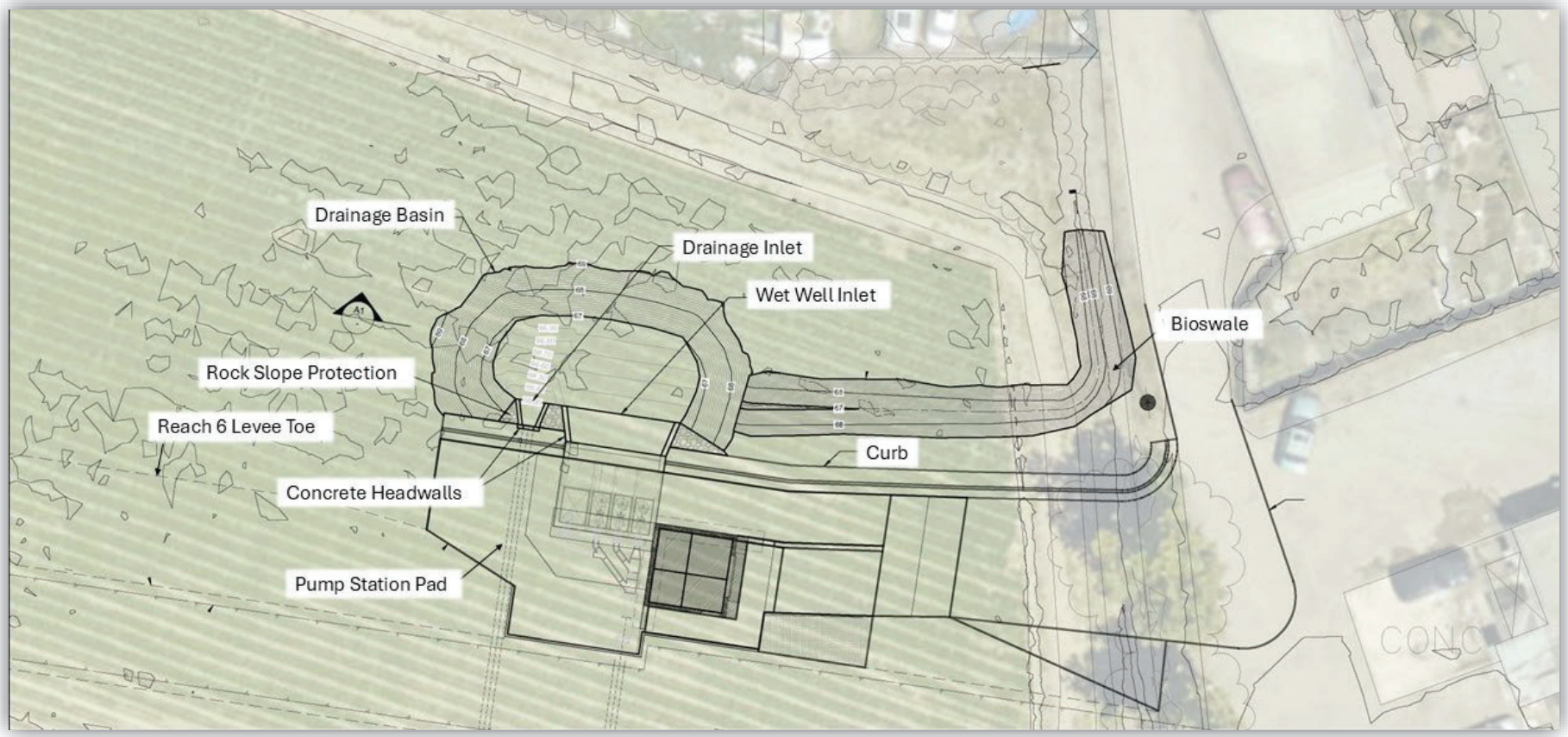

Figure 5.Plan set for proposed pump station layout. Bioswale feature will be at inlet to pump station pipes. In the bottom figure, Corralitos Creek is to the left of the page.

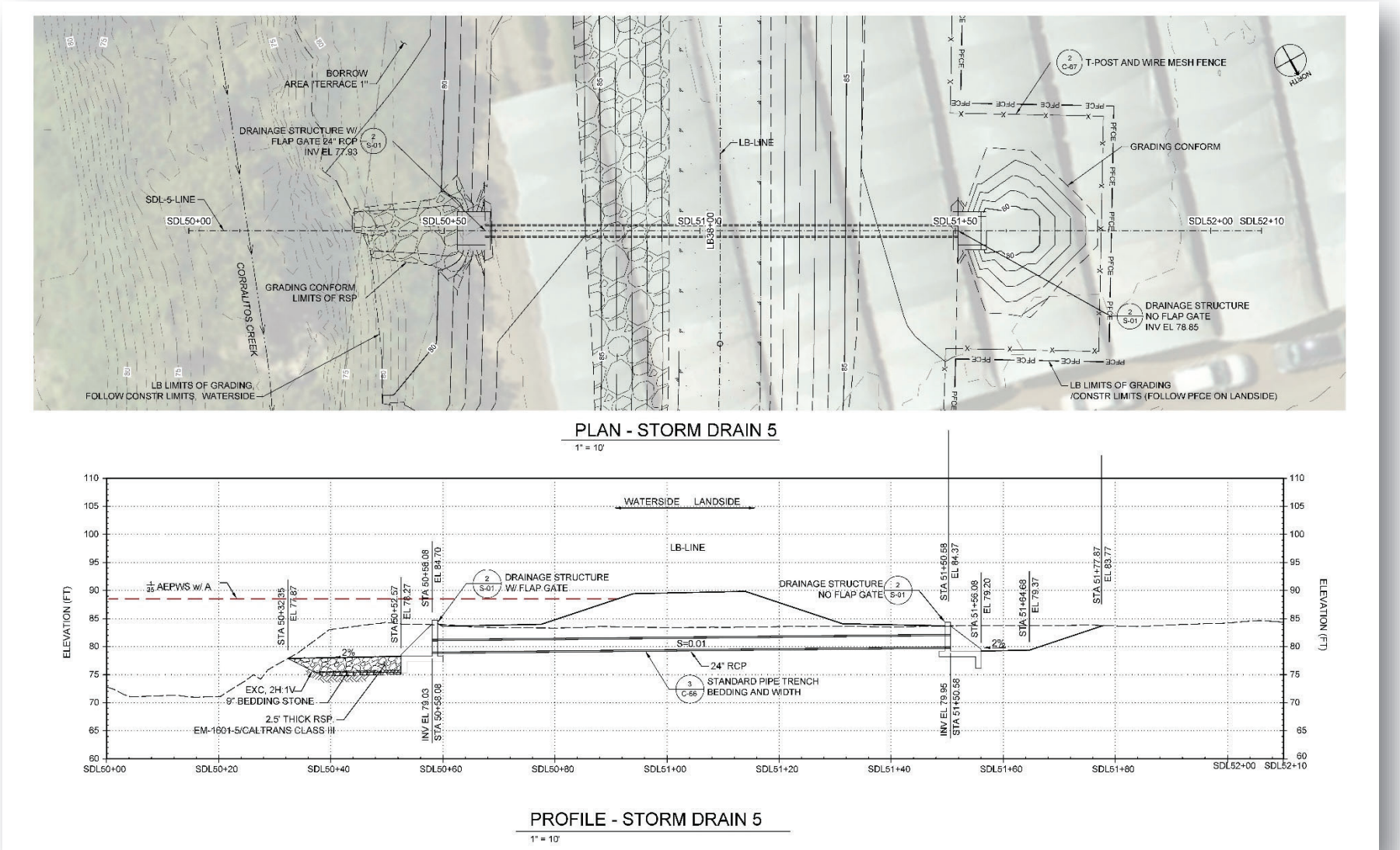

Figure 6. Typical plan (top) and section (bottom) view of one of the proposed through-levee drainage culverts (SD 0)

3 Affected Environment and Environmental Consequences

This chapter describes the affected environment, reports the environmental consequences that would result from the project features as described in section 2.3.1, and identifies mitigation measures to address potential adverse effects. See Section 4.1.1 and 4.1.2 of the GRR/EA for the process in determining environmental effects of the project refinements.
While standard procedure is to ensure that the resource evaluation in a supplemental EA is reflective of the original documentation, in this case the evaluation has been reorganized for clarity purposes. The scope of the project features is limited enough they only require reanalysis of **two** resource areas: Hydrology and Hydraulics, Water Quality

Section 3.2 below summarizes the resources not evaluated in detail and directs the reader to the section of the GRR/EA which contains the analysis for that resource. Section 3.3 follows with the full analysis of the **two** resources that are evaluated in detail.

3.1 NEPA Significance Criteria

NEPA requires that the environmental effects of a project be analyzed for significance. Under NEPA, potential project effects are assessed in relation to the conditions described in the No Action Alternative. Impacts are considered significant because of their context (location sensitivity) and intensity (severity of impact). USACE has integrated NEPA requirements into its regulations, policies, and guidance. Engineer Regulation 1105-2-100, "Planning Guidance Notebook," April 2000, establishes the following significance criteria, which apply to all resources considered in this environmental review and are not repeated for each resource:

- *Significance based on institutional recognition means that the importance of the effects is acknowledged in the laws, adopted plans, and other policy statements of public agencies and private groups. Institutional recognition is often in the form of specific criteria.*
- *Significance based on public recognition means that some segment of the general public recognized the importance of the effect. Public recognition may take the form of controversy, support, conflict, or opposition expressed formally or informally.*
- *Significance based on the technical or scientific criteria related to critical resource characteristics.*

3.2 Resources Not Evaluated in Detail

Some resources were eliminated from further analysis in this EA because effects were negligible, or because the proposed action would not create additional impacts to the resources beyond the scope of those addressed regionally within the GRR/EA (USACE, 2019) or the Reach 6 Supplemental EA 1 (USACE, 2024). A summary of resources excluded from further analysis in this Supplemental EA document includes the following:

Table 2. Summary table of resources not analyzed in detail for this document

Resource	Location in GRR/EA or Supplemental EA 1	Summary of Impacts	Mitigation
Aesthetics	GRR/EA Section 4.3	*Less than significant.* The proposed project features would affect the visual character to the same extent as to what was described in the GRR/EA. Any construction related effects would be temporary and construction of the new features, would not be a significant change to the visual character of the area.	Mitigation Measure VIS-1: Preserve existing native trees to the extent practicable. Mitigation Measure VIS-2: Locate staging areas on previously disturbed lands where feasible. Mitigation Measure VIS-3: Restore staging areas following construction by restoring pre-construction topography to the degree practicable and hydroseeding the areas with native grasses and forbs.
Agriculture	GRR/EA Section 4.14	*Less than significant.* The proposed project features would not significantly impact agricultural lands and production beyond the effects described in the GRR/EA, and conversion of current farmland for the Project would remain minimal. The features would reduce the risk of flooding and its associated impacts on agricultural infrastructure, soil, and production, which would be a beneficial effect for the local agricultural community.	Mitigation Measure AG-1: Compensate Landowners. Property acquisition would be consistent with all applicable laws and regulations, including compensating at fair market value landowners whose lands become part of the project.
Air Quality	GRR/EA Section 4.5	*Less than significant.* All criteria pollutants are within NAAQS attainment or unclassified standards. Therefore, General Conformity does not apply to the proposed action. Thus, any emissions generated by the construction of the proposed action, particularly along traffic and haul routes and the use of machinery, has the potential to result in a temporary and minor effect to air quality.	See Section 4.5 of the GRR/EA for the full list of measures under each category below. Mitigation Measure AQ-1: Contracted Diesel Control Measures Mitigation Measure AQ-2: Diesel Particulate Matter Emission Control Measures Mitigation Measure AQ-3: Basic Dust Control Measures Mitigation Measure AQ-4: Enhanced Dust Control Measures Mitigation Measure AQ-5: Optional Dust Control Measures
Greenhouse Gas	GRR/EA Section 4.5	*Less than significant.* The proposed project features would not significantly impact greenhouse gas emissions beyond the effects described in the GRR/EA.	Mitigation Measure AQ-6: Greenhouse Gas Control Measures. During construction, contractors would be required to implement the following measures to reduce greenhouse gas emissions from fuel combustion and construction activities: • Maintain on road and off-road vehicle tire pressures to manufacturer specifications. Check tires and reinflate at regular intervals. • Use lower-carbon fuels such as biodiesel blends where feasible.

			• Use engine retrofits to remove emissions such as diesel particulate matter filters with diesel oxidation catalysts where feasible. • Maintain construction equipment engines to manufacturer's specifications. • Use locally made materials for construction to the extent feasible. • Recycle construction debris for reuse to the extent feasible. • Feasibility would be determined consistent with Best Available Control Technology (BACT) general criteria: 1) achieved in practice; 2) contained in adopted control measures; 3) technologically feasible; and 4) cost-effective.
Land Use	GRR/EA Section 4.9	*Less than significant.* The proposed project features would not significantly change the land use designations, or the relative acreage of different land uses beyond the conversion described in the GRR/EA. See Agriculture, Section 4.14 of the GRR/EA for Agriculture related land use changes.	LU-1: Property acquisition would be consistent with all applicable laws and regulations. Relocation of people, homes or businesses would be minimized to the extent feasible and consistent with the project purpose and would be compensated under the Uniform Relocation Assistance and Real Property Acquisition Policies Act. Implementing this mitigation measure would ensure that effects on land use would be less than significant.
Noise and Vibration	GRR/EA Section 4.10	*Less than significant.* Construction of the proposed project features would remain consistent with the temporary and minor effects as detailed in the GRR/EA. Implementation of the mitigation measures described in 4.10.3 of the GRR/EA would result in a less than significant effect in the project area.	See Section 4.10.3 of the GRR/EA for the full details of each mitigation measure described below. Mitigation Measure NOI-1 NED: Reduce noise from construction and operational activity. Mitigation Measure NOI-2: Reduce vibration from construction and operational activity. Mitigation Measure NOI-3: Coordinate with Potentially Affected Community
Public Health and Environmental Hazards	GRR/EA Section 4.11	*Less than significant.* The proposed project features would not significantly change the footprint for Reach 6 as was previously described in the GRR/EA. Overall the features would contribute to reducing the flood risk from Corralitos Creek and the associated health and environmental hazards. There are no known hazardous waste sites in the Reach 6 Project Area. Therefore, the incorporation of the proposed features would not result in any changes to the effects as described.	See Avoidance, Minimization, and Mitigation Measures in section 3.2.2 Water Quality, below.
Recreation	GRR/EA Section 4.12	*No effects.* There are no recreation features in the project area, and therefore there would be no effects to recreation.	Not applicable.
Social Effects	GRR/EA Section 4.13	*Less than significant.* The proposed project features would not affect any additional properties beyond what was previously determined in the GRR/EA. The incorporation of the proposed	Mitigation Measures SOCIO-1: Provide Compensation. Development of the Reach 6 project included attention to avoiding and minimizing potential impacts on adjacent properties to the extent feasible in consideration of the FRM goals of the study. Effects on properties would be mitigated through appropriate

		features would provide additional flood risk reduction that may reduce the risk of property damage and reductions in agricultural income and employment that would likely occur with large-scale flood events. As a result, these impacts would be less than significant.	compensation. If relocation of people or their homes is required, they would be compensated under the Uniform Relocation Assistance and Real Property Acquisition Act.
Traffic and Circulation	GRR/EA Section 4.15	*Less than significant.* The proposed project features would not significantly impact traffic and circulation outside of what was described in the GRR/EA and Supplemental EA #1.	Mitigation Measure TRAF-2: Coordinate and Provide Advance Notification. • USACE, Santa Cruz County, and Monterey County will notify tenants and owners of property within 300 feet of the edge of the construction footprint at least 2 weeks before roadway construction. Additionally, schools, businesses, and the Santa Cruz Metro will be contacted in advance to coordinate the development of alternate routes. • Construction notifications will summarize the purpose of construction and modifications at the specific site and include names and phone numbers of Project contacts at Santa Cruz County and Monterey County who will be available to address questions and concerns from the public during the construction period. • USACE, Santa Cruz County, and Monterey County will notify emergency providers at least 2 weeks before roadway or bridge construction of anticipated lane or full road closures and work to coordinate the development of alternate routes. USACE will immediately notify emergency providers of unanticipated lane or full road closures. • USACE, Santa Cruz County, and Monterey County will coordinate with the residents and business owners to ensure that access to private driveways and walkways is maintained. • USACE, Santa Cruz County, and Monterey County will restrict truck operators to truck haul routes identified in Figure 4.10-3 of the GRR/EA. Access routes within the City of Watsonville will be restricted to truck routes defined by city ordinance. • USACE, Santa Cruz County, and Monterey County will notify and coordinate alternate routes with Santa Cruz METRO and MST of construction activities on their transit routes 60 days before the start of construction on that route. Mitigation Measure TRAF-3: Prepare a Traffic Control Plan. USACE, Santa Cruz County, and Monterey County will prepare a Traffic Control Plan and submit the plan to Caltrans, Santa Cruz County, Monterey County, and the City of Watsonville for approval. The plan will include the following measures: • Site-specific traffic circulation and detour plans for each roadway construction site.

			• Site-specific traffic control measures such as changing signal timing, installation of new temporary traffic signals, traffic calming devices, restriping lanes and public outreach for each roadway construction site.
Utilities and Public Services	GRR/EA Section 4.16	*Less than significant.* The proposed project features would not change the utilities or public services effects analysis beyond what was described in the GRR/EA.	Mitigation Measure UT-1: Prior to Initiating Construction, the Construction Contractor will Coordinate with the Public and with Public Service Providers. Before beginning construction, coordination with utility providers to implement orderly relocation of utilities that need to be removed or relocated would occur. Coordination would include the following: • Notification of any potential interruptions in service shall be provided to the appropriate agencies and affected landowners. • Before the start of construction, utility locations shall be verified through field surveys and the use of Underground Service Alert services. Any buried utility lines shall be clearly marked where construction activities would take place and on the construction specifications before of any earthmoving activities begin. Before the start of construction, the contractor would be required to coordinate with the local municipality and acquire any applicable permits prior to use of municipal water for construction. • Before the start of construction, a response plan shall be prepared to address potential accidental damage to a utility line. The plan shall identify chain of command rules for notification of authorities and appropriate actions and responsibilities to ensure the public and worker safety. Worker education training in response to such situations shall be conducted by the contractor. The response plan shall be implemented by the contractor during construction activities. • Utility relocations shall be staged to minimize interruptions in service.
Vegetation and Wildlife	EA Supplement 1 Section 3.2.3	*Less than significant.* The proposed project features would result in the removal of approximately .15 additional acres of riparian vegetation and would not change the vegetation characteristic or habitat availability significantly beyond what was described in the Reach 6 Supplemental EA 1.	See Section 4.17.3 of the GRR/EA for the full details of each mitigation measure described. Additional avoidance, minimization and mitigation measures descried in the Supplemental EA include: • Minimize project impacts by reseeding all disturbed areas at the completion of construction in a timely manner with native forbs and grasses. All disturbed areas would be restored to pre-project conditions upon the completion of work. • To help prevent importation of invasive plants and animals, the construction contractor would be required to thoroughly clean vehicles and equipment before first entering the project site. All construction equipment will be inspected for leaks prior to being brought on site. All equipment shall be well maintained and inspected daily while on site to prevent leaks of fuels, lubricants, or other fluids into aquatic habitat.

Special Status Species	EA Supplement 1 Section 3.2.4	*Less than significant.* The proposed project features would not change the Special Status Species effects analysis beyond what was described in the Reach 6 Supplemental EA 1	USACE has included conservation measures as a part of this project that are intended to avoid or minimize adverse effects to special status species and their habitat. These include measures to limit the extent of the work area; implement erosion control best management practices prevent introduction of contaminants into the stream; and ensure the complete removal and proper disposal of all construction waste. Additional metrics include: • Heavy equipment will not enter the waterway. • Limit work in or near channel until after June 30 to the extent feasible. • Limiting or avoiding construction work in or near-channel until after the nesting season to the extent feasible would ensure no impacts occur to the nesting birds. Establish a buffer if nest is found. • Preconstruction presence/absence surveys by a USFWS permitted biologist will be conducted t to detect nesting cuckoos and vireos within all accessible suitable habitat within 300 feet of the proposed construction area. If any nesting cuckoos are detected within that area, a 300-foot buffer would be established until the young fledge or the biologist determines that the nest is inactive. Additionally, the biologist will monitor the nest daily when work is occurring within 500 feet of the nest to ensure that the work is not altering nesting behavior. • Preconstruction Surveys prior to in-channel Construction (Steelhead, CRLF, WPT). Preconstruction surveys will be performed by a qualified biologist to determine if steelhead, CRLF, or WPT are present in the construction area. If any species is present, these organisms would be captured and relocated to areas of suitable habitat that would not be affected by the construction activity.
Cultural Resources	EA Supplement 1 Section 3.2.5	*Less than significant.* The proposed project features would not change the Cultural Resources effects analysis beyond what was described in the Reach 6 Supplemental EA 1	• No historic properties were identified in the APE for Reach 6 • A Worker Environmental Awareness Program (WEAP) training focused on cultural resources is recommended for the entire Project • In the event that historic resources are uncovered, work would be halted immediately and a USACE archeologist would be notified, whom would in turn notify the appropriate SHPOs and/ or Tribes.

3.3 Resources Evaluated in Detail

Resources for which adverse or positive effects from the proposed project features could occur outside of the scope addressed in the original GRR/EA or the previous Supplemental EA are discussed in detail below. The resources considered in detail for this Supplemental EA have been reorganized for clarity purposes from the order they were presented in the GRR/EA. Note that in many cases, the regulatory setting and methodology of assessment, as well as a description of the existing conditions, are incorporated by reference from the original GRR/EA, and the associated section number in the GRR/EA is referenced in those sections. Many of the existing avoidance, minimization, and mitigation measures from the GRR/EA are included for each of the resources below and additional measures have been included where relevant. For clarity and organizational purposes, all mitigation measures have been renamed for this Supplemental EA. A link to the electronic version of the GRR/EA can be found in the reference section under USACE 2019, or can be provided upon request.

3.3.1 Hydrology, Hydraulics, Groundwater and River Morphology

Affected Environment

Section 4.8 of the original GRR/EA adequately describes the environmental setting, regulatory setting, and methodology for hydrology, hydraulics, and river morphology, including the affected environment and existing conditions for the project area.

Environmental Effects

For low flow conditions in the channel, which occur most of the year, there will be no change in flow rates or flow patterns with incorporation of the proposed features into the project. For environmental conditions necessitating through-levee drainage into the channel, the proposed features will enable water to drain into the channel that would have otherwise flowed directly into the channel. Without the proposed features, this water would pool on the landside of the levees, causing induced flooding impacts that would not have previously occurred. The proposed features enable stormwater drainage to function consistent with the pre-project conditions. Under high flow conditions, the presence of the pipes and erosion reduction measures will not change flow rates; however, flow patterns may change in a localized fashion, as the pipe and erosion reduction measures present a potential influence on flow. The localized flow pattern change due to the obstruction is limited to the immediate vicinity of the obstruction, meaning the length, width, and height of the flow pattern change only occurs at the obstruction, and is expected to have a less than significant effect on overall flow within the project area.

Velocity of discharge from the culverts, during low flow conditions in the channel, will be slowed by erosion reduction measures before combining with the channel flow. Discharge from the gravity culverts during high flow conditions will not occur due to flap gates. The one exception is the pipe from the pump station. This culvert may discharge into the channel during high flow conditions; however, this discharge would be a small percentage of the channel flow,

and water surface elevations, flow directions, and flow velocities in the channel will not be impacted.
Despite minor and local impacts to flow conditions, the proposed features would be beneficial in terms of flood risk to areas where project construction would alleviate ponding and/or exacerbated risk of local flooding.

The proposed features are not expected to have an impact on groundwater supplies, quality, or recharge potential beyond what has been analyzed in previous NEPA documents for this project. Overall the impacts of these proposed features are **less than significant** on hydrology and hydraulics.

Avoidance, Minimization, and Mitigation Measures

No additional avoidance minimization and mitigation measures are required outside of the scope of those described in the original GRR/EA.

3.3.2 Water Quality

Affected Environment and Existing Conditions

Section 4.18 of the original GRR/EA adequately describes the environmental setting, regulatory setting, and methodology for water quality, including the affected environment and existing conditions for the project area.

Environmental Effects

Construction activities associated with the Reach 6 project have the potential to temporarily impair water quality if disturbed and eroded soil, petroleum products or construction-related wastes (e.g., cement and solvents) are discharged into receiving waters or onto the ground where they can be carried into receiving waters. Soil and associated contaminants that enter receiving waters can increase turbidity, stimulate algae growth, increase sedimentation of aquatic habitat, and introduce compounds that are toxic to aquatic organisms. Accidental spills of construction-related substances such as oils and fuels can contaminate both surface water and groundwater. The extent of potential impacts on water quality would depend on the tendency for erosion of soil types encountered, types of construction practices, extent of the disturbed area, duration of construction activities, timing of construction activities relative to rain events, proximity to receiving water bodies and sensitivity of those water bodies to contaminants.

The incorporation of these proposed features into the design will require a small footprint of work within the riparian zone and jurisdictional Waters of the U.S. (WOTUS). This includes excavation and the placement of a small amount of material or "fill" below the Ordinary High Water Mark[3]. The footprint of the material within WOTUS is approximately .03 acres, or ~189 cubic yards of material and will consist of rip rap and a small concrete pad at the outfalls to the

[3] The Ordinary High Water Mark (OHWM) is a regulatory boundary that indicates the lateral extent of waterways under the Clean Water Act.

proposed culvert features. A 404(b)(1) evaluation is included as Appendix A to assess the impacts of this fill. No work is anticipated to occur within the flowing waterway of the channel, and no diversion or dewatering activities will be required. USACE has coordinated on this project with the Central Coast Regional Water Quality Control Board, and a Clean Water Act Section 401 Water Quality Certification was issued for this project on 21 May 2025.

A bioswale feature at the culvert inlets for SDs 2 and 3, landside levee toe, has the potential to reduce surface runoff velocity and provide a degree of erosion protection after the features are constructed, while also providing a degree of contaminant reduction prior to surface runoff entering the channel.
With the incorporation of applicable BMPs it is anticipated that the impacts from the proposed features should be **less than significant** on water quality.

Avoidance, Minimization, and Mitigation Measures

USACE is committed to ensuring water quality in the creek during construction activities. Any fill and excavation impacts for this project shall be limited to the minimum necessary to provide adequate erosion protection, hydraulic stability and structural integrity. Construction activities will be in compliance with all relevant water quality rules and regulations.

The following best management practices will be implemented to avoid and minimize direct or indirect impacts of project activities.

- No equipment will be operated in flowing or standing surface waters, unless otherwise proposed in the project description or diversion/dewatering plan and approved by the Regional Water Board
- USACE shall not conduct construction activities below top of creek banks or in other waters of the State during rain events.
- USACE shall implement effective erosion control, sediment control, and other protective measures prior to the start of any rainfall.
- Erosion and sedimentation control measures including straw wattles and/or Silt fencing may be installed to further decrease any sediment release from construction area.
- All rip rap (rock) placed shall be sized to withstand (not move except for minor settling in place) the expected shear velocity of anticipated winter flows.
- USACE shall retain a spill plan and appropriate spill control and clean up materials (e.g., oil absorbent pads) onsite at all project sites at all times in case spills occur.
- All construction vehicles and equipment used on site shall be checked before they are used at the project site for the first time, and then daily for fuel, oil, and hydraulic fluid leaks or other problems that could result in spills of toxic materials. At no time shall USACE or its contractors allow use of any vehicle or equipment that leaks any substances that may impact water quality.
- USACE shall designate a staging area for equipment (including sump pumps) and vehicle fueling and storage at least 100 feet away from waterways, if possible, in a location where fluids or accidental discharges cannot flow into waterways. If it is not possible to

remain 100 feet from waterways, USACE must provide secondary containment for any staging sites that are closer than 100 feet from the waterbody, where fluid is exchanged.

- All vehicle fueling, sump pump fueling and maintenance activity shall occur at least 100 feet away from waterways, if possible, and in designated staging areas.
- All construction-related equipment, materials, and any temporary management practices no longer needed shall be removed and cleared from the site upon completion of the project.
- All personnel who engage in construction activities or their oversight at the Project site shall attend trainings on the conditions of applicable environmental permits and regulations and how to perform their duties in compliance with those conditions.
- All work performed shall be completed in a manner that minimizes impacts to project area.
- Disturbance or removal of vegetation shall not exceed minimum necessary to complete the Project implementation.
- All construction-related equipment, materials, and any temporary BMPs no longer needed shall be removed and cleared from the site upon completion of the Project

4 Reasonably Foreseeable Effects

Section 102 of NEPA requires the consideration of the reasonably foreseeable effects of the proposed action.

Reasonably foreseeable effects expected from the overall Pajaro Project are discussed in section 4.19 of the GRR/EA (USACE, 2019), and it was determined that with mitigation, the project would not have any significant adverse effects on any of the discussed resources. The potential of the proposed changes as described in this document to incrementally contribute to significant effects on specific resources is discussed below. Although there are no significant impacts from the proposed project features, this section will discuss the resulting effects for all relevant resource areas that may have additional impacts since the publication of the GRR/EA in 2019 and the Reach 6 Supplemental EA #1 in 2024.

Section 4.19.1 of the GRR/EA and Section 4.1 of the Supplemental EA #1 adequately describe the majority of past, present, and reasonably foreseeable future projects and defines a methodology, geographic and temporal scope for this project area.

4.1 Past, Present and Reasonably Foreseeable Future Projects

The Pajaro FRM GRR/EA described and analyzed a number of other projects within the project area that were considered as reasonably foreseeable for the overall FRM project. The Supplemental EA #1 included an additional project—Emergency Levee Repairs under PL 84-99-- that was not considered in the original GRR/EA. No additional projects within the footprint of the proposed action are proposed or planned at this time.

4.2 Reasonably Foreseeable Effects Analysis

The potential effects on all resources, including those analyzed in detail in this document, were thoroughly addressed in previous NEPA documents, specifically the original GRR/EA and Supplemental EA #1 (Section 4.1). Since the publication of Supplemental EA #1, the Emergency Levee Repair Project under PL 84-99 has been completed, resulting in minor and temporary environmental impacts. Given the temporal separation between the construction periods, this project is unlikely to contribute to impacts on the resources associated with the Reach 6 Project.

As of the preparation of this document, no additional projects requiring further reasonably foreseeable effects analysis are planned within the narrower geographic and temporal scope of the Reach 6 Project. Therefore, this analysis concludes that there are no additional effects to disclose at this time.

5 Compliance

Table 3 below provides a summary of the status of consultation and other requirements that must be met before the proposed project could be implemented.

Table 3. Summary of Federal Environmental Compliance for the Proposed Action.[4]

Regulatory Requirement	Status of Compliance/Expected Completion
Clean Air Act	*Full Compliance.* No significant changes since GRR/EA. The project is located within a Federal attainment area and therefore would be in compliance with the Clean Air Act Conformity Rule.
Clean Water Act (401)	*Full Compliance.* With the addition of these features, some minimal work is required below the Corralitos Creek Ordinary High Water Mark, and USACE received a 401 Water Quality Certification for these features from the Central Coast Regional Water Quality Control Board on 21 May 2025. Consistent with CWA regulations, avoidance, minimization measures, and other BMPs will be implemented to ensure that no incidental effects occur to the creek.
Clean Water Act (404(b)(1)	*Full Compliance.* With the addition of these features, some minimal work is required below the Corralitos Creek Ordinary High Water Mark, and an analysis has been prepared in accordance with the Section 404(b)(1) Guidelines, 40 CFR Part 230 and the U.S. Army Corps of Engineers Planning Guidance Notebook, Engineer Regulation (ER) 1105-2-100. (Appendix A). Consistent with CWA regulations, avoidance, minimization measures, and other BMPs would be implemented to ensure that no incidental effects occur to the creek.
Coastal Zone Management Act	*NA.* The Reach 6 project is fully located outside of the designated Coastal Zone and therefore does not trigger compliance with the Coastal Zone Management Act.
Endangered Species Act	*Full Compliance.* USACE consulted with USFWS and received a Biological Opinion, dated 24 February 2023, on the effects of the overall Pajaro project on the federally threatened California red-legged frog (*Rana draytonii*), yellow-billed cuckoo (*Coccyzus americanus*), and the federally endangered least Bell's vireo (*Vireo belliipusillus*). USACE also consulted with NMFS, and received a Concurrence Letter, dated February 17, 2023, specific to the determination that the project is not likely to adversely affect the federally threatened South-Central California Coast

[4] "Full Compliance" and "Partial Compliance" indicate the status of the compliance needed for this project. To remain in compliance during construction and operation would require implementation of all related environmental commitments and consistency with compliance documents.

	steelhead (*Oncorhynchus mykiss*), as designated under the Endangered Species Act. Both documents are included in Appendix A.
Farmland Protection Policy Act	*Full Compliance.* No significant changes since GRR/EA.
Fish and Wildlife Coordination Act	*Full Compliance.* No significant changes since GRR/EA.
Magnuson-Stevens Fishery Conservation and Management Act	*Full Compliance.* There is no designated essential fish habitat in the project area.
Migratory Bird Treaty Act	*Full Compliance.* No significant changes since GRR/EA.
National Environmental Policy Act	*Full Compliance*. A supplemental document was required per NEPA because there were substantial changes to the proposed action that are relevant to environmental concerns, as originally described in the GRR/EA (USACE, 2019). Therefore, this Supplemental EA was developed consistent with the requirements of NEPA (33 C.F.R. part 230).
National Historic Preservation Act	*Full Compliance.* Since the GRR/EA identification and evaluation efforts have been completed as detailed in Section 3.2.5. Section 106 of NHPA has been completed for Reach 6, with a finding of No Historic Properties Affected, in compliance with a Programmatic Agreement for the project (19 MAR 2024). See Appendix D.
Executive Order 11988 – Floodplain Management	*Full Compliance.* No significant changes since GRR/EA.
Executive Order 11990 – Protection of Wetlands	*Full Compliance.* No significant changes since GRR/EA.
Executive Order 13112 – Invasive Species and Executive Order 13751 – Safeguarding the Nation from the Impacts of Invasive Species	*Full Compliance.* No significant changes since GRR/EA. Invasive species within the project area would be removed as part of construction. The disturbed areas would be reseeded with native grasses following completion of construction.

6 Public Involvement Summary

The GRR/EA details the public engagement efforts undertaken as part of the study phase. Section 6 of Supplemental EA #1 details the public engagement efforts undertaken as part of the Supplemental EA. This Supplemental EA will be released for a 30-day public review period on April 16, 2025. During the review period, the draft report was made available online or upon request from USACE.

The following tribes will be notified of the availability of this Supplemental EA:

- Amah Mutsun Tribal Band
- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Costanoan Ohlone Rumsen-Mutsen Tribe
- Costanoan Rumsen Carmel Tribe
- Esselen Tribe of Monterey County
- Indian Canyon Mutsun Band of Costanoan
- Muwekma Ohlone Indian Tribe of the SF Bay Area
- Salinan Tribe of Monterey, San Luis Obispo Counties
- Ohlone/Coastanoan-Esselen Nation
- Xolon-Salinan Tribe

In addition to the local residents, businesses, and tribes discussed above, the following agencies and organizations will be notified of the availability of this EA:

Table 4. Agencies and Organizations to be Notified

Action Pajaro Valley	Association of Monterey Bay Area Governments (AMBAG)
California Native Plant Society - Monterey Chapter	California Department of Fish and Wildlife
California Department of Food and Agriculture	California Department of Water Resources
California Department of Conservation	California Division of Boating and Waterways
California Governor's Office of Emergency Services	California Native American Heritage Commission
California Natural Resources Agency	California Public Utilities Commission
California Resources Agency	California State Water Resources Control Board
Casa de La Cultura	Central Coast Regional Water Quality Control Board #3
California State Historic Preservation Officer	College Lake Reclamation District No. 2049
City of Watsonville	Elkhorn Slough Foundation
Community Action Board of Santa Cruz County	Flood Control and Water Conservation District - Zone 7
Federal Emergency Management Agency	Monterey County Planning Department
Monterey Bay Air Resources District	National Marine Fisheries Service
Monterey County Water Resources Agency	Office of Historic Preservation/SHPO
Native American Heritage Commission	Pajaro River Watershed Integrated Regional Water Management
Pajaro River Watershed Flood Prevention Authority	Pajaro Valley Unified School District
Pajaro Sunny Mesa Community Services District	Regeneración Pajaro Valley

Pajaro Valley Water Management Agency	Santa Cruz County Regional Transportation Commission
Santa Cruz County Planning Department	Sierra Club - Pajaro River Watershed Committee of the Sierra Club
Santa Cruz County Resource Conservation District	U.S. Environmental Protection Agency
The Pajaro Compass	Watsonville Planning Department
U.S. Fish and Wildlife Service	Wildlands' Pajaro River Wetland Mitigation Bank
Watsonville Wetlands Watch	

7 Conclusions

Based on the information in this EA, the proposed action would have no significant adverse effects on the quality of the human environment. Mitigation consisting of BMPs, and other measures proposed in this EA are sufficient to reduce all potential direct, indirect, and cumulative effects to less than significant. All public comments received were considered and revisions to the EA were incorporated in response, as appropriate. USACE has made the determination that a FONSI is appropriate for this action, as mitigation measures have been incorporated to reduce all impacts to a less than significant level. The FONSI accompanies this EA.

8 References

Newsom, Gavin. 2023. Major disaster declaration request letter. March 28, 2023. https://www.gov.ca.gov/wp-content/uploads/2023/03/3.28.23-Major-DisasterDeclaration-request.pdf

Pajaro Valley Water Management Agency (PVWMA). 2014. Basin Management Plan Update. February.https://www.pvwater.org/images/aboutpvwma/assets/bmp_update_eir_final_2014/BMP_Update Final_February_2014_(screen) .pdf

Pajaro Valley Water Management Agency (PVWMA). 2022. Groundwater Sustainability Update 2022: Pajaro Valley Basin Management Plan. November. https://www.pvwater.org/images/aboutpvwma/assets/SGM/GSU22_20211229_MainBody-web.pd

R&F Engineering. 2022. Pajaro River Flood Risk Management Project Hydraulic Model Update. Prepared for the Pajaro Regional Flood Management Agency. Available upon request.

R&F Engineering. 2024. Pajaro River Flood Risk Management Project Reach 6 Interior Drainage Analysis. Prepared for the Pajaro Regional Flood Management Agency.

U.S. Army Corps of Engineers (USACE). 2019. Pajaro River Flood Risk Management Project, Santa Cruz and Monterey Counties, California. Final General Reevaluation Report and Integrated Environmental Assessment. February 2019, Revised December 2019. https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Current-Projects/Pajaro-River-Watsonville/

U.S. Army Corps of Engineers (USACE). 2024. Pajaro River Flood Risk Management Project, Reach 6 Project EA (#1) https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Current-Projects/Pajaro-River-Watsonville/

Appendix A:
ESA Coordination Documents

Previous ESA compliance documentation for this project is incorporated by reference and can be found in Appendix A of the Final Pajaro Reach 6 Project Supplemental EA #1 at https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Current-Projects/Pajaro-River-Watsonville/

Appendix B:
Interior Drainage Report

Appendix C:
404(b)(1) Evaluation

Appendix D:
Cultural Compliance Documents

Appendix E:
Public Comment Summary