



# County of Santa Cruz

## FLOOD CONTROL AND WATER CONSERVATION DISTRICT – ZONE 7

701 OCEAN STREET, ROOM 410, SANTA CRUZ, CA 95060-4070  
(831) 454-2160 FAX (831) 454-2385 TDD (831) 454-2123

**MATTHEW J. MACHADO**  
DISTRICT ENGINEER

### NOTICE OF PREPARATION OF ENVIRONMENTAL IMPACT REPORT

**Date:** January 24, 2020

**To:** Governor's Office of Planning and Research/State Clearinghouse Unit, Responsible Agencies, Trustee Agencies, and Interested Parties

**From:** Santa Cruz County Flood Control and Water Conservation District, Zone 7

**Subject:** Announcement of:

- 1) Notice of Preparation of an environmental impact report for the Pajaro River Flood Risk Management Project
- 2) Scoping period starting January 27, 2020, and ending February 25, 2020, with a scoping meeting to be held February 10, 2020

The Santa Cruz County Flood Control and Water Conservation District, Zone 7 (District), as lead agency under the California Environmental Quality Act (CEQA), will be preparing an environmental impact report (EIR) for the Pajaro River Flood Risk Management Project (project) to determine if proposed project actions have the potential to create significant environmental impacts and if so, how such impacts could be avoided, minimized, compensated or mitigated. As the Lead Agency, the District will prepare an Environmental Impact Report (EIR) for the Pajaro River Flood Risk Management Project (Project) described below.

An Initial Study was not prepared for the Project and the District has not made any determination regarding significant or less-than-significant environmental effects of the Project. The EIR will consider all potentially significant environmental effects and will analyze these potential effects at the level of detail necessary to determine impact significance. As required by State CEQA Guidelines, this Notice of Preparation contains a description of the proposed project, the location of the proposed project, and probable environmental effects of the proposed project.

The District solicits input from agencies, organizations, and the public as to the scope and content of the EIR relevant to your agency's statutory responsibilities or of interest to your organization in connection with the proposed Project. Specifically, we are requesting the following:

1. If representing a public agency, state if your agency will be a Responsible or Trustee agency for the project and list the permits or approvals from your agency that will be required for the project and its future actions;
2. Identify significant environmental effects and mitigation measures you believe should be explored in the EIR with supporting discussion of why you believe these effects may be significant;
3. Describe special studies and other information you believe are necessary for the lead agency to analyze the significant environmental effects, alternatives, and mitigation measures you have identified;
4. Provide the name, title, and telephone number of the preferred contact person from your agency or organization; and
5. Identify any alternatives that you believe should be explored in the EIR.

During the 30-day public scoping period from January 27, 2020 to February 25, 2020, the District will conduct a scoping meeting to allow public comment on the scope and content of the EIR. The public scoping meeting will begin at **6:00 PM on Monday, February 10, 2020 at the Watsonville Civic Plaza Community Room, 275 Main Street, Fourth Floor, Watsonville, CA 96076.**

Your response to this NOP and/or the scoping meeting must be received by the District by the following deadline:

- 5:00 pm on February 25, 2020 (30 days after notice date).

If we do not receive a response from your agency or organization, we will presume that your agency or organization will not have any comments. A responsible agency, trustee agency, or other public agency may request a meeting with District representatives in accordance with Section 15082(c) of the State CEQA Guidelines.

Please send your response or comment sheet to the Santa Cruz County Flood Control and Water Conservation District, Zone No. 7, 701 Ocean Street Room 410, Santa Cruz, California 95060. Comments may also be sent electronically to [PajaroProject@santacruzcounty.us](mailto:PajaroProject@santacruzcounty.us) or by FAX to 831-454-2385.



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**Antonella Gentile, Resource Planner**  
Santa Cruz County Flood Control and Water Conservation District, Zone 7  
Main Office 831-454-2160 | Direct Line 831-454-2632 | Fax 831-454-2385  
701 Ocean Street, Room 410, Santa Cruz, CA 95060

# NOTICE OF PREPARATION

## 1 PROJECT LOCATION

The Pajaro River Flood Risk Management Project (Project) is located within the Pajaro River watershed on the central coast of California, approximately 75 miles south of San Francisco and in the vicinity of the City of Watsonville and the Town of Pajaro. The Pajaro River watershed is approximately 88 miles long and 30 miles wide and drains an area of approximately 1,300 square miles of the southern section of the California Coastal Ranges, discharging into the Pacific Ocean six river miles southwest of the City of Watsonville.

## 2 PROJECT AREA

**Figure 1, *Project Location Map***, illustrates the extent of the Pajaro River, two tributaries, and adjacent floodplains that comprise the Project area. The Project area is located within the lower Pajaro River watershed and 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 is divided by the Pajaro River that serves as the county boundary of Santa Cruz County to the north of the Pajaro River and Monterey County to the south and would include bridge crossings at Highway 1 and State Routes 129 and 152. Salsipuedes and Corralitos Creeks, which join just north of the Pajaro River in Santa Cruz County, are tributaries of the Pajaro River. **Figure 2, *Project Area Reaches***, depicts the following reaches:

- **Reach 1** is the most downstream reach of the Pajaro River mainstem and is approximately 4 miles long between the Highway 1 Bridge and the Pacific Ocean.
- **Reach 2** is the stretch of the main stem of the Pajaro River extending from the Highway 1 Bridge to the west side of Watsonville's city limits and is approximately 1.5 miles long.
- **Reach 3** is the stretch of the main stem of the Pajaro River extending from the west side of Watsonville's city limits to the confluence with Salsipuedes Creek and is approximately 0.9 mile long.
- **Reach 4** is the stretch of the main stem of the Pajaro River extending from the confluence with Salsipuedes Creek to Murphy's Crossing Road and is approximately 5.0 miles long.
- **Reach 5** is the stretch of Salsipuedes Creek from its confluence with the Pajaro River main stem to State Route 152 and is approximately 2.6 miles long.
- **Reach 6** is the stretch of Corralitos Creek from State Route 152 to Green Valley Road and is approximately 1.8 miles long.

### **3 EXISTING LAND USE**

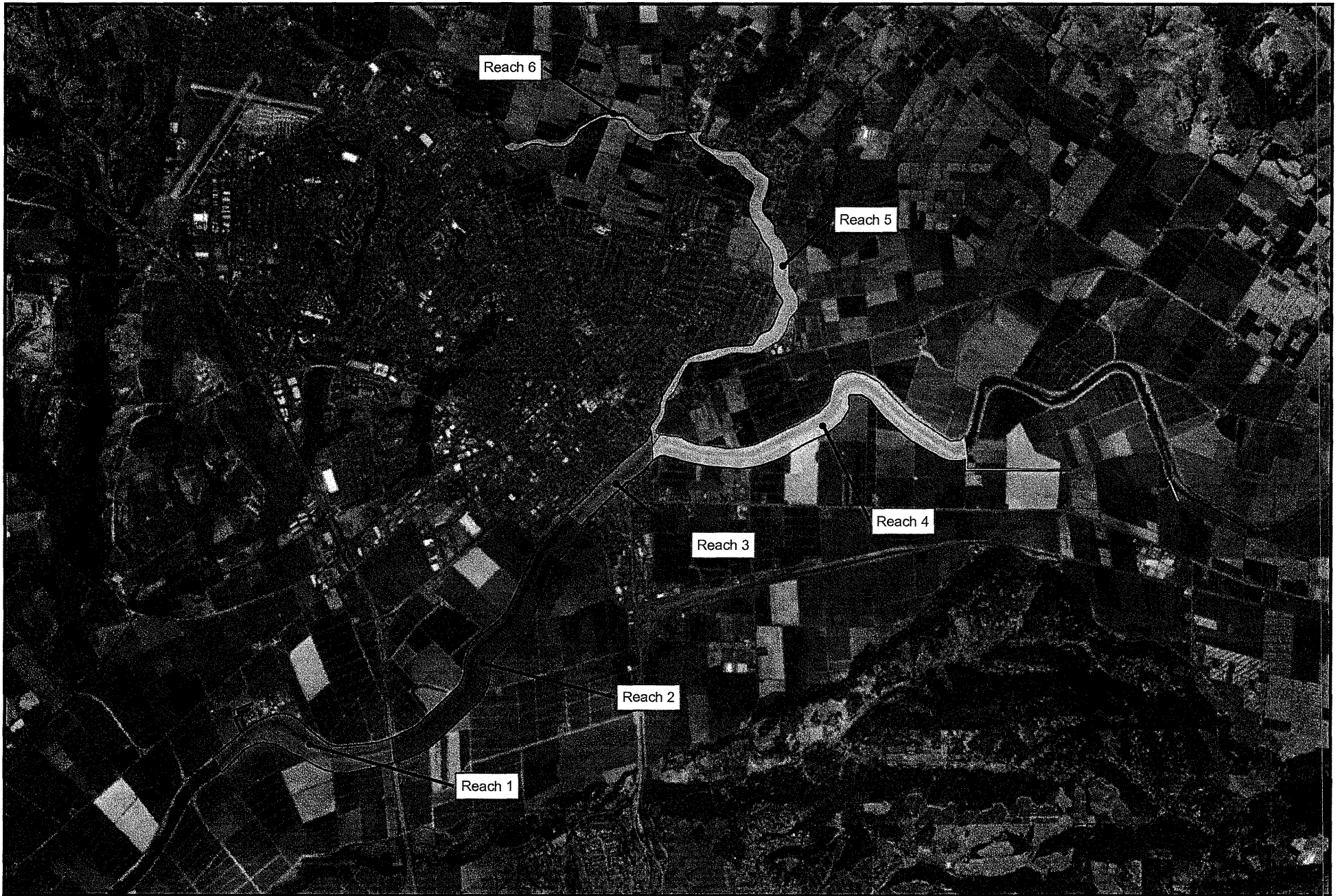
Existing land uses within the Project area are mapped as agricultural, residential, commercial, public right-of-ways, and industrial. Additionally, two significant urban areas are located in the immediate proximity to the Pajaro River. The project area includes portions of the City of Watsonville, on the Santa Cruz County side of the Pajaro River, and the unincorporated town of Pajaro, on the south side of the river in Monterey County.

### **4 SURROUNDING LAND USE**







Much of the surrounding land use adjacent to the Project area consists of commercial agriculture. However, portions of the City of Watsonville and the unincorporated town of Pajaro extend beyond the project limits. Residential, commercial, industrial, and open space land use designations surround the Project area.

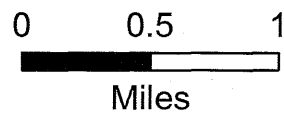






**Legend**

	Reach_1		Reach_4
	Reach_2		Reach_5
	Reach_3		Reach_6



**Pajaro River Flood Risk Management Project**

**Project Area Reaches**

Pajaro River

Santa Cruz County and Monterey County, CA

Prepared by Cardno  
1/22/2020



Map Projection: NAD 1983; Image: USGS

**Figure 2**

## 5 PROJECT DESCRIPTION

The project purpose is to reduce the probability and consequences of flooding in the City of Watsonville, the Town of Pajaro, and surrounding agricultural lands.

The project objectives are as follows:

1. Reduce flood risk to human life, safety, homes, local economy, and critical infrastructure in the City of Watsonville, Town of Pajaro, and surrounding unincorporated lands as soon as possible.
2. Certify and accredit flood risk reduction facilities that meet FEMA standards in urban areas.
3. Construct a project within local financial capacity and authority that leverages State, Federal and non-governmental organization investment.
4. Integrate multi-benefit project features, including, but not limited to: groundwater recharge, agricultural land preservation, habitat enhancement, water quality protection, improved public access, open space expansion, recreational opportunities, and economic development, when consistent with the project purpose and other project objectives.
5. Incorporate environmentally sustainable designs and construction techniques, adaptive management approaches and climate change considerations to minimize future maintenance requirements and related environmental impacts.
6. Improve natural geomorphic processes and ecological functions in conjunction with other flood risk management features in the project area.
7. Construct a project that is politically, socially, economically, and environmentally acceptable.

The No-Project Alternative and three Project alternatives have been developed: 1) Proposed Project alternative; 2) Federal Project alternative; and 3) Basic Project alternative. To achieve desired flood risk reductions, the Project will consider constructing new setback and tieback levees, improving existing levees by raising levee heights or adding floodwalls, and installing sheet pile walls and erosion protection.

**Table 1** summarizes the proposed flood risk management features of the alternatives and is followed by narrative summaries for each of the three Project alternatives.

# NOP – Pajaro River Flood Risk Management Project EIR

**Table 1. Project Alternatives Summary**

LOCATION		Alternative 1	Alternative 2	Alternative 3
		<b>PROPOSED PROJECT (LOCALLY DEVELOPED PROJECT)</b> Level of protection: unless noted, 1% Annual Exceedance Probability + 3-foot freeboard*	<b>FEDERAL PROJECT (USACE GRR/EA RECOMMENDED PLAN)</b> Level of protection: unless noted, 1% Annual Exceedance Probability + USACE prescribed freeboard*	<b>BASIC PROJECT</b> Level of protection: unless noted, 1% Annual Exceedance Probability + 3-foot freeboard*
Mainstem Right Bank (Santa Cruz County)	Reach 1	<ul style="list-style-type: none"> <li>▪ Raise existing levee</li> <li>▪ Install new floodwall, build 2000-ft long wing levee at wastewater treatment plant</li> <li>▪ Modify State Route 1 bridge</li> </ul>	<ul style="list-style-type: none"> <li>▪ No improvements</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reinforce existing levee with sheet pile walls (existing level of protection: approximately 5%)</li> </ul>
	Reach 2	<ul style="list-style-type: none"> <li>▪ Raise existing levee</li> <li>▪ Install new floodwall from Walker Street to 400 feet downstream of Sakata Lane</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deconstruct existing levee, build 100-ft setback levee</li> <li>▪ Deconstruction existing levee, build new levee from Walker Street to 400- foot downstream of Sakata Lane</li> </ul>	<ul style="list-style-type: none"> <li>▪ Install new sheet pile walls and floodwall on existing levee</li> </ul>
	Reach 3	<ul style="list-style-type: none"> <li>▪ Reconstruct levee with new floodwall</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reconstruct levee with new floodwall</li> </ul>	<ul style="list-style-type: none"> <li>▪ Install new sheet pile walls and floodwall on existing levee</li> </ul>
	Reach 4	<ul style="list-style-type: none"> <li>▪ Reinforce existing levee with new sheet pile walls (existing level of protection: approximately 7% for upstream and 4% for downstream)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Install 4,300 linear feet of riprap for erosion protection (existing level of protection: approximately 7% for upstream and 4% for downstream)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reinforce existing levee with new sheet pile walls (existing level of protection: approximately 7% for upstream and 4% for downstream)</li> </ul>



# **NOP – Pajaro River Flood Risk Management Project EIR**

LOCATION		Alternative 1	Alternative 2	Alternative 3
		<b>PROPOSED PROJECT (LOCALLY DEVELOPED PROJECT)</b> Level of protection: unless noted, 1% Annual Exceedance Probability + 3-foot freeboard*	<b>FEDERAL PROJECT (USACE GRR/EA RECOMMENDED PLAN)</b> Level of protection: unless noted, 1% Annual Exceedance Probability + USACE prescribed freeboard*	<b>BASIC PROJECT</b> Level of protection: unless noted, 1% Annual Exceedance Probability + 3-foot freeboard*
Mainstem Left Bank (Monterey County)	Reach 1	<ul style="list-style-type: none"> <li>▪ Deconstruct existing levee, build new 400-ft setback levee</li> <li>▪ Modify State Route 1 bridge</li> </ul>	<ul style="list-style-type: none"> <li>▪ No improvements</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reinforce existing levee with sheet pile walls (existing level of protection: approximately 5%)</li> </ul>
	Reach 2	<ul style="list-style-type: none"> <li>▪ Deconstruct existing levee and build new 400-ft setback levee</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deconstruct existing levee and build 100-ft setback levee</li> </ul>	<ul style="list-style-type: none"> <li>▪ Install new sheet pile walls and floodwall on existing levee</li> </ul>
	Reach 3	<ul style="list-style-type: none"> <li>▪ Deconstruct existing levee, build new levee with floodwall</li> <li>▪ Build new setback levees at Main Street Bridge (50-100-ft) and at confluence (100-250-ft)</li> <li>▪ Install new closure structure at existing railroad crossing</li> <li>▪ Modify Porter Street bridge approach</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deconstruct existing levee, build new levee with new floodwall</li> <li>▪ Install new closure structure at existing railroad crossing</li> </ul>	<ul style="list-style-type: none"> <li>▪ Install new sheet pile walls and floodwall on existing levee</li> </ul>
	Reach 4	<ul style="list-style-type: none"> <li>▪ Implement combination of fix-in-place of existing levee and build 50-300-ft setback levees to achieve 600-ft channel width</li> <li>▪ Build east-west tieback levee and 900-ft levee extension at upstream end</li> </ul>	<ul style="list-style-type: none"> <li>▪ Deconstruct existing levee and build new 100-ft setback levee and north-south tieback levee</li> <li>▪ Install 9,200 linear feet of riprap for erosion control</li> <li>▪ Railroad grade modification needed</li> </ul>	<ul style="list-style-type: none"> <li>▪ Install new sheet pile walls and floodwall on existing levee</li> </ul>

# **NOP – Pajaro River Flood Risk Management Project EIR**

LOCATION		Alternative 1	Alternative 2	Alternative 3
		<b>PROPOSED PROJECT (LOCALLY DEVELOPED PROJECT)</b> Level of protection: unless noted, 1% Annual Exceedance Probability + 3-foot freeboard*	<b>FEDERAL PROJECT (USACE GRR/EA RECOMMENDED PLAN)</b> Level of protection: unless noted, 1% Annual Exceedance Probability + USACE prescribed freeboard*	<b>BASIC PROJECT</b> Level of protection: unless noted, 1% Annual Exceedance Probability + 3-foot freeboard*
Tributary Right Bank	Reach 5	<ul style="list-style-type: none"> <li>Downstream 5300 feet: deconstruct existing levee, build new levee with floodwall</li> <li>Upstream 7,500 feet: deconstruct existing levee and build new 250-350-ft setback levee with 800-ft long floodwall at upstream end</li> </ul>	<ul style="list-style-type: none"> <li>Downstream 5300 feet: deconstruct existing levee, build new levee with floodwall</li> <li>Upstream 7,500 feet: deconstruct existing levee and build new 100-225-ft setback levee</li> </ul>	<ul style="list-style-type: none"> <li>Install new sheet pile walls and floodwall on existing levee</li> </ul>
	Reach 6	<ul style="list-style-type: none"> <li>Build new 50-100-ft setback levee for lowest 6,000 feet</li> </ul>	<ul style="list-style-type: none"> <li>Build new 50-100-ft setback levee for lowest 6,000 feet</li> </ul>	<ul style="list-style-type: none"> <li>Build new 50-100-ft setback levee for lowest 6,000 feet</li> </ul>
Tributary Left Bank	Reach 5	<ul style="list-style-type: none"> <li>Build new floodwall from College Road to Lakeview Road with 300-350-ft tieback wall at upstream end</li> <li>Reinforce existing levee with new sheet pile walls for the remainder of reach from Lakeview Road to confluence (existing level of protection: approximately 4%)</li> </ul>	<ul style="list-style-type: none"> <li>Install new floodwall and new floodwall on top of new levee from College Road to Lakeview Road (proposed level of protection: 4%)</li> </ul>	<ul style="list-style-type: none"> <li>Build new floodwall from College Road to Lakeview Road with 300-350-ft tieback wall at upstream end</li> <li>Reinforce existing levee with new sheet pile walls for the remainder of reach from Lakeview Road to confluence (existing level of protection: approximately 4%)</li> </ul>
	Reach 6	<ul style="list-style-type: none"> <li>No improvements</li> </ul>	<ul style="list-style-type: none"> <li>Build two new lengths of levees (6,400 ft and 1,200 ft) (proposed level of protection: 4%)</li> </ul>	<ul style="list-style-type: none"> <li>No improvements</li> </ul>

Notes: \*Where stream velocities warrant, erosion protection will be included as a project component in all alternatives and for all reaches.  
 Ft = Foot

### 5.1 Alternative 1 - Proposed Project Alternative

The District, in consideration of public review and comments received on the U.S. Army Corps of Engineers' integrated General Reevaluation Report and Environmental Assessment (GRR/EA) (USACE 2019), prepared a revised hydraulic model and obtained new topographic data to address instability issues that were identified with the USACE model and develop the Locally Developed Plan that will serve as the CEQA Proposed Project. The Proposed Project alternative (**Figure 3**) includes the components described below. The levees and floodwalls, where described, would be designed and constructed to meet Federal Emergency Management Agency (FEMA) standards (100-year event plus 3-feet of freeboard). Sheet pile walls would be constructed to the existing top of levee height. Additionally, erosion protection would be installed as needed, where stream velocities warrant. Improvements identified for the Proposed Project alternative are presented below by river Reach 1 through 6. Left and right banks are defined as facing in the downstream direction.

#### Reach 1 – Pajaro River Downstream of Highway 1

In Reach 1, the existing levees on the left bank of the Pajaro River from Highway 1 to just downstream of the Watsonville wastewater treatment plant would be deconstructed and a new 400-foot setback levee would be constructed.

The existing levee on the right bank of Reach 1 would be fix-in-place, including added height and riprap, from Highway 1 to approximately 2,200 feet downstream of the wastewater treatment plant. Fix-in-place would necessitate an increase in levee base width for every 1-foot of raised height in order to maintain a 3:1 side slope.

The section of right bank levee directly adjacent to the wastewater treatment plant would require a floodwall. Additionally, an approximately 2,000-foot-long wing levee would be constructed on the west and north sides of the wastewater treatment plant to protect from backwater flooding.

#### Reach 2 – Pajaro River Between Highway 1 and Walker Street/Railroad Crossing

Improvements to the left bank of Reach 2 would include deconstructing the existing levee and constructing a 400-foot setback levee from Highway 1 upstream to the Railroad Bridge at Walker Street.

The right bank of Reach 2 would include a fix-in-place (added height and riprap) of the existing levee. From Walker Street to approximately 400-feet downstream of Sakata Lane, a floodwall would be constructed as the fix-in-place measure along the urban portion of the levee reach.

The opening under Highway 1 would also be expanded to accommodate the 400-foot levee setback on the left bank of Reach 1 and Reach 2.

#### Reach 3 – Pajaro River Between Walker Street/Railroad Crossing and the Salsipuedes Confluence

The proposed Project includes improvements to both banks of Reach 3. The right bank levee would be fix-in-place by adding a floodwall to the existing levee for increased height.

Improvements to the left bank levee would also include adding a floodwall to the existing levee for increased height of approximately 3-feet. Portions of the left bank improvement would be fix-in-place and other portions would be a setback levee with a floodwall.

## **NOP – Pajaro River Flood Risk Management Project EIR**

Setbacks would be incorporated at two locations along the left bank. First at the Main Street bridge, the existing levee would be deconstructed and a new levee with a floodwall on top would be constructed 50- to 100-feet back from the original alignment. The approach ramp to Main Street Bridge would likely need to be modified to account for the new setback.

The other setback levee would be constructed, also on the left bank, at the Pajaro River and Salsipuedes Creek confluence. This setback would serve to open up the confluence and would end approximately 350 feet downstream of the confluence. The existing levee would be deconstructed and a new levee with a floodwall along the waterside edge of the levee crest would be constructed. This setback would also require relocating a Monterey County stormwater pump station.

### **Reach 4 – Pajaro River Upstream of Salsipuedes Confluence**

In Reach 4, the proposed Project includes improvements along both the left and right banks of the Pajaro River.

For the right bank levee, the existing levee would be left in place and sheet pile I-walls (e.g., series of steel-reinforced concrete panels shaped like an “I”), would be installed along the waterside edge of the existing levee top.

The existing levee on the left bank would be set back (where required) to maintain conveyance approximately equal to the downstream capacity. This design would target setbacks in areas where the channel width is currently less than about 600 feet. Areas that are already at least 600 feet wide would be fix-in-place. For areas with less than 600-foot channel widths, the existing levee would be deconstructed and a new setback levee constructed. Setback distances vary between 50 feet and 300 feet in this reach.

To prevent flanking, at the upstream end of the setback levee, a dryland tieback levee would be constructed from the river edge to high ground. The upstream end of the existing left bank levee would also be extended by approximately 900 feet to avoid channel spilling and flanking of the tieback levee.

### **Reach 5 – Salsipuedes Creek from Pajaro River to Corralitos Creek at State Route 152**

For Reach 5, the proposed Project includes improvements along both the left and right banks of Salsipuedes Creek.

For the right bank, starting at the confluence with the Pajaro River to approximately 5,300 feet upstream, existing levees would be fix-in-place with a floodwall through this urban section where development exists along the levee toe.

Starting 5,300 feet upstream of the confluence, improvements to the right bank of Salsipuedes Creek would include degrading the existing levee and constructing a setback levee approximately 350 feet from the original alignment. The setback levee would run approximately 7,500 feet and would end at a location just downstream of State Route 152.

A small segment of floodwall would be constructed on the right bank upstream of the setback levee for the remaining 800 feet to State Route 152 to accommodate existing development along the levee toe.

## **NOP – Pajaro River Flood Risk Management Project EIR**

For the left bank of Reach 5, no levee currently exists. A floodwall would be constructed along the developed urban area spanning approximately 6,000 feet from College Road downstream to Lakeview Road. To prevent flanking, the left bank improvements would be tied into high ground at the upstream end where there is an existing football stadium embankment.

The remainder of Reach 5 left bank would include sheet pile I-wall improvements down to the confluence with Pajaro River.

The State Route 129 bridge, located just upstream of the confluence of Salsipuedes Creek and the Pajaro River, would be replaced and raised.

### **Reach 6 - Corralitos Creek Upstream of Salsipuedes Creek**

On the right bank of Reach 6, a new levee would be constructed from the end of Reach 5 to approximately 6,000 feet upstream. This levee would be set back between 50- and 100-feet from the existing creek bank.

The State Route 152 bridge over Corralitos Creek would also be replaced and raised as part of the Project.

Level of protection: unless noted,  
1% Annual Exceedance Probability  
+ 3-foot freeboard  
(Left and right banks are defined as  
facing in the downstream direction.)

LB: No improvements

LB: Build new floodwall from College Road to Lakeview Road with 300-350 foot  
tieback wall at upstream end  
Reinforce existing levee with new sheet pile walls for the remainder of reach  
from Lakeview Road to confluence (existing level of protection: approximately 4%)

RB: Deconstruct existing levee and build new 50-100 foot  
setback levee for lowest 6,000 feet

RB: Upstream 7,500 feet: deconstruct existing levee and build new 250-350-foot  
setback levee with 800-foot long floodwall at upstream end

RB: Downstream 5300 feet: deconstruct existing levee, build new levee with floodwall

RB: Reconstruct levee with new floodwall

RB: Raise existing levee  
Install new floodwall from Walker Street to 400 feet  
downstream of Sakata Lane

RB: Modify State Route 1 bridge

RB: Install new floodwall, build 2000-foot  
long wing levee at wastewater treatment plant

RB: Raise existing levee

RB: Reinforce existing levee with new sheet pile walls (existing level of  
protection: approximately 7% for upstream and 4% for downstream)

LB: Implement combination of fix-in-place of existing levee and build 50 to 300-foot  
setback levees to achieve 600-foot channel width  
Build east-west tieback levee and 900-foot levee extension at upstream end

LB: Modify Porter Street bridge approach







LB: Deconstruct existing levee, build new levee with floodwall  
Build new setback levees at Main Street Bridge (50-100 ft) and at confluence (100-250 ft)  
Install new closure structure at existing railroad crossing

LB: Deconstruct existing levee and build new 400-foot setback levee

LB: Modify State Route 1 bridge

LB: Deconstruct existing levee, build new 400-foot setback levee

# Legend

	Reach_1		Reach_4
	Reach_2		Reach_5
	Reach_3		Reach_6

0 0.5 1  
Miles

## Pajaro River Flood Risk Management Project Proposed Project Alternative

Pajaro River

Santa Cruz County and Monterey County, CA

Prepared by Cardno  
1/22/2020



Map Projection: NAD 1983, Image: USGS **Figure 3**



## 5.2 Alternative 2 - Federal Project Alternative

The USACE 2019 Recommended Plan represents the Federal Project alternative. The Federal Project alternative would include the combination of Mainstem Alternative 1 and Tributary Alternative 6 that were studied in the 2019 GRR/EA (USACE 2019) and described by reach, as follows. Additionally, **Table 1** and **Figure 4** identify key flood management features of this alternative. Erosion protection would be installed as needed along all reaches, where stream velocities warrant.

### Reach 1 – Pajaro River Downstream of Highway 1

No improvements are proposed for Reach 1 under the Federal Project alternative.

### Reach 2 – Pajaro River Between Highway 1 and Walker Street/Railroad Crossing

Reach 2 would include deconstruction of the existing levees and construction of new 100-foot setback levees on both banks.

### Reach 3 – Pajaro River Between Walker Street/Railroad Crossing and the Salsipuedes Confluence

In Reach 3, the existing levees on both banks would be improved in place with floodwalls.

### Reach 4 – Pajaro River Upstream of Salsipuedes Confluence

In Reach 4, the existing levee on the left bank would be deconstructed and a new 100-foot setback levee would be constructed that ties into high ground on the east end. A north-south tieback levee is proposed to tie into high ground. These levees would be constructed to provide flood risk reduction at the 1% annual chance of exceedance (1/100) event with approximately 90% assurance. There would be no improvements to the right bank of Reach 4. The mainstem levees and levee/floodwalls would range from 13 to 14 feet in height. Approximately 9,200 linear feet of bank protection rip rap would be placed on the left bank and 4,300 linear feet of rip rap would be placed on the right bank for bank protection.

### Reach 5 – Salsipuedes Creek from Pajaro River to Corralitos Creek at State Route 152

In Reach 5, the levee design for the right bank reaches of Salsipuedes Creek would provide flood risk reduction up to the 1% annual chance of exceedance (1/100) event with approximately 90% assurance for the areas on the right bank of the reach. In Reach 5, the right bank above the confluence with the Pajaro River, approximately 5,300 linear feet of floodwalls or a combination levee with a floodwall on top would be constructed where urban development prevents raising existing levees. A 4,500-foot setback levee between 100 and 225 feet from the existing levee would be constructed upstream of the floodwall section. Then an approximately 500-foot-long section of the existing levee would be rebuilt in place.

For Reach 5 left bank, beginning 8,800 feet upstream from the confluence with the Pajaro River, a floodwall or a combination levee with a floodwall on top would be constructed on the left bank between Lakeview Road and College Road for a distance of approximately 5,000 feet.

Reach 5 levees and levees with floodwalls would range from 10 to 13 feet in height.

## **NOP – Pajaro River Flood Risk Management Project EIR**

### **Reach 6 - Corralitos Creek Upstream of Salsipuedes Creek**

In Reach 6, the levee design for the right bank of Corralitos Creek would provide flood risk reduction up to the 1% annual chance of exceedance (1/100) event with approximately 90% assurance for the areas on the right bank of the reach. The USACE incremental economic analysis concluded that improvements to levees on the left bank of Reach 6 were not economically justified when designed to provide flood risk reduction for the 1% (1/100) annual chance of exceedance. Further analysis determined that features providing flood risk reduction to the urbanized areas along the left bank of Reach 6 were economically justified for the 4% annual chance of exceedance (1/25) event. Reach 6 levees and levees with floodwalls would range from 10 to 13 feet in height.

On the right bank of Reach 6, a new levee would be constructed from the end of Reach 5 to approximately 6,000 feet upstream. This levee would be set back between 50 and 100-feet from the existing creek bank.

On the left bank, two new lengths of levee (6,400 feet and 1,200 feet) would be constructed to provide protection to a 4% annual chance of exceedance.

The State Route 152 bridge over Corralitos Creek would also be replaced and raised as part of the Project.

Level of protection: unless noted,  
1% Annual Exceedance Probability  
+ USACE prescribed freeboard  
(Left and right banks are defined as  
facing in the downstream direction.)

LB: Build two new lengths of levees (6,400 foot and 1,200 foot)  
(proposed level of protection: 4%)

LB: Install new floodwall and new floodwall on top of new levee from  
College Road to Lakeview Road (proposed level of protection: 4%)

RB: Build new 50-100-foot setback levee for lowest 6,000 feet

RB: Upstream 7,500 feet: deconstruct existing levee and build new  
100-225-foot setback levee

RB: Install 4,300 linear feet of riprap for erosion protection (existing level of protection:  
approximately 7% for upstream and 4% for downstream)

RB: Downstream 5300 feet: deconstruct existing levee, build new levee with floodwall

RB: Reconstruct levee with new floodwall

RB: Deconstruct existing levee, build 100-foot setback levee  
Deconstruction existing levee, build new levee from Walker Street to  
400 foot downstream of Sakata Lane

LB: Deconstruct existing levee and build new 100-foot setback levee and  
north-south tieback levee  
Install 9,200 linear feet of riprap for erosion control  
Railroad grade modification needed







RB: No improvements

LB: Deconstruct existing levee, build new levee with new floodwall  
Install new closure structure at existing railroad crossing

LB: Deconstruct existing levee and build 100-foot setback levee

LB: No improvements

# Legend

	Reach_1		Reach_4
	Reach_2		Reach_5
	Reach_3		Reach_6

0 0.5 1  
Miles

## Pajaro River Flood Risk Management Project Federal Project

Pajaro River

Santa Cruz County and Monterey County, CA

Prepared by Cardno  
1/24/2020



Map Projection: NAD 1983, Image: USGS

Figure 4

### 5.3 Alternative 3 - Basic Project Alternative

The Basic Project alternative (**Figure 5**) would consist of installation of sheet pile walls and floodwalls within and along the top of the existing levee system, reinforcing the existing embankments to reduce risk of modes of failure including overtopping, through seepage, and under seepage, and raising flood protection levels. Additionally, erosion protection would be installed as needed, where stream velocities warrant. The project would seek to achieve a 100-year level of flood protection within urban areas. In addition to installation of sheet pile walls and floodwalls along existing levee embankments, a new levee would need to be constructed along the right bank of Reach 6 to accomplish this. The project would also reduce risk of levee failure in non-urban areas.

Sheet pile walls are typically driven into the levee embankment to extend past the engineered fill material and into native, low permeability clay soils. Sheet piles would typically be driven to penetrate into the clay layer. Sheet pile walls would then be capped and sealed and the existing asphalt restored to maintain vehicular access.

Installation of sheet pile walls and floodwalls is expected to be the lowest cost alternative, would create the least land disturbance and would not change the alignments of the existing levee embankment. In the absence of Federal or State funding, this alternative could be constructed using local funding sources. As long as the levee embankment is intact and there is no exposure, sheet pile walls and floodwalls would require minimal maintenance.

Level of protection: unless noted,  
1% Annual Exceedance Probability  
+ 3-foot freeboard  
(Left and right banks are defined as  
facing in the downstream direction.)

LB: No improvements

LB: Build new floodwall from College Road to Lakeview Road with 300-350 foot  
tieback wall at upstream end  
Reinforce existing levee with new sheet pile walls for the remainder of reach from  
Lakeview Road to confluence (existing level of protection: approximately 4%)

RB: Deconstruct existing levee and build new 50-100 foot  
setback levee for lowest 6,000 feet

RB: Reinforce existing levee with new sheet pile walls  
(existing level of protection: approximately 7% for  
upstream and 4% for downstream)

RB: Install new sheet pile walls and floodwall on existing levee

RB: Install new sheet pile walls and floodwall  
on existing levee

RB: Install new sheet pile walls and floodwall  
on existing levee

RB: Reinforce existing levee with sheet pile walls  
(existing level of protection: approximately 5%)

LB: Install new sheet pile walls and floodwall on existing levee

LB: Install new sheet pile walls and floodwall on existing levee

LB: Install new sheet pile walls and floodwall on existing levee

LB: Reinforce existing levee with sheet pile walls  
(existing level of protection: approximately 5%)

#### Legend

Reach\_1 Reach\_4 Existing Levee with Sheet Pile Wall  
Reach\_2 Reach\_5  
Reach\_3 Reach\_6

0 0.5 1  
Miles

## Pajaro River Flood Risk Management Project Basic Project

Pajaro River  
Santa Cruz County and Monterey County, CA



Map Projection: NAD 1983, Image: USGS  
Prepared by Cardno  
1/22/2020

Figure 5



## 6 ANTICIPATED PROJECT APPROVALS

The Project may require the following permits and approvals:

- FRA and UPRR Railroad Right-of-Way Approvals
- United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service letter of concurrence or Biological Opinion
- National Historic Preservation Act Section 106 Programmatic Agreement
- Clean Water Act (CWA) Section 408 Permission
- CWA Section 404 Authorization
- CWA Section 401 Water Quality Certification
- CWA Section 402 National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activities
- California Department of Fish and Wildlife (CDFW) 1602 Streambed Alteration Agreement
- California Coastal Commission Coastal Development Permit
- Caltrans Project Engineering Report (PER) and Encroachment Permit
- Monterey Bay Air Resources District review and Authority to Construct/Permit to Operate
- County Design Approvals and Grading permits
- County's Agricultural Advisory Committee Discretionary Permit

## 7 PROBABLE ENVIRONMENTAL EFFECTS TO BE ADDRESSED IN THE EIR

The District has not prepared an environmental checklist or Initial Study for this Project. Based upon prior environmental documents and technical studies prepared for the 2019 GRR and other projects on or in the vicinity of the subject property, and staff's preliminary analysis of the Project, the District anticipates the EIR will address the following environmental effects.

The environmental factors checked below would be potentially affected by this project, and may involve at least one impact that is a "Potentially Significant Impact," either temporarily during construction or from operations and maintenance or both during construction and operations and maintenance of the Project. Where checked below, the topic with a potentially significant impact will be addressed in the EIR in the greatest detail.

<input checked="" type="checkbox"/>	Aesthetics	<input checked="" type="checkbox"/>	Agriculture and Forest Resources	<input checked="" type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input checked="" type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Energy
<input checked="" type="checkbox"/>	Geology / Soils	<input checked="" type="checkbox"/>	Greenhouse Gas Emissions	<input checked="" type="checkbox"/>	Hazards / Hazardous Materials
<input checked="" type="checkbox"/>	Hydrology / Water Quality	<input checked="" type="checkbox"/>	Land Use / Planning	<input type="checkbox"/>	Mineral Resources
<input checked="" type="checkbox"/>	Noise	<input checked="" type="checkbox"/>	Population / Housing	<input checked="" type="checkbox"/>	Public Services
<input checked="" type="checkbox"/>	Recreation	<input checked="" type="checkbox"/>	Transportation	<input checked="" type="checkbox"/>	Tribal Cultural Resources
<input checked="" type="checkbox"/>	Utilities / Service Systems	<input type="checkbox"/>	Wildfire	<input checked="" type="checkbox"/>	Mandatory Findings of Significance



## **NOP – Pajaro River Flood Risk Management Project EIR**

A preliminary list of the probable environmental effects from the proposed Project that will be evaluated in the EIR is presented below.

### **Aesthetics**

- Substantial adverse impact on a scenic vista
- Substantial damage to scenic resources
- Substantial degradation of existing visual character or quality of the site and surroundings

### **Agricultural and Forestry Resources**

- Conversion of Important Farmland to nonagricultural uses in areas of setback levees
- Conflict with existing zoning for agricultural use or a Williamson Act contract

### **Air Quality**

- Conflict with the applicable air quality plan
- Substantial contribution to existing or projected air quality violations
- Exposure of sensitive receptors to substantial pollutant concentrations
- Exposure of sensitive receptors to objectionable odors

### **Biological Resources**

- Fill and/or degradation of Federally protected waters of the United States
- Loss of sensitive habitats
- Loss of special-status plants
- Modification of habitat for special-status fish and other aquatic species and interference with movement of special-status fish
- Potential for stranding of special-status fish
- Mortality of special-status amphibian species
- Loss or disturbance of active nests of migratory bird species
- Loss or disturbance of active nests of raptors
- Interference with terrestrial wildlife movement, migration corridors, and nursery sites
- Conflicts with local policies or ordinances
- Impact on fish or wildlife habitat and populations, plant or animal communities, and number or range of endangered or threatened species

### **Cultural Resources**

- Loss of integrity of cultural deposits, loss of information, and the alteration of site setting of known archaeological sites eligible for listing on the California Registry of Historical Resources (CRHR)
- Disturbance to unknown archaeological sites, human remains, and historic resources
- Disturbance or alteration of historic resources eligible for listing on the CRHR

### **Geology, Soils and Paleontological Resources**

- Risks to people and structures caused by strong seismic ground shaking
- Seismically induced risks to people and structures caused by liquefaction
- Increased risk from erosion hazards
- Geologic hazards from construction in unstable soils

## **NOP – Pajaro River Flood Risk Management Project EIR**

- Geologic hazards from construction in expansive soils
- Damage to or destruction of previously unknown unique paleontological resources during construction-related activities

### **Greenhouse Gas Emissions**

- Generation of Greenhouse gas (GHG) emissions
- Conflict with a GHG Reduction Plan

### **Hazards and Hazardous Materials**

- Hazards from accidental release of hazardous materials into the environment or through the routine transport, use, or disposal of hazardous materials
- Exposure of employees and residents to existing hazardous materials, including those on the Cortese List
- Exposure of people or structures to airport safety hazards

### **Hydrology and Water Quality**

- Violation of water quality standards or waste discharge requirements, or substantial degradation of water quality
- Substantial alteration of existing drainage pattern in a manner that would result in substantial on- or off-site erosion or siltation
- Substantial alteration of existing drainage pattern or substantial increase in rate or amount of surface runoff in a manner that would result in on- or off-site flooding
- Creation or contribution of runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
- Exposure of people or structures to significant risk of loss, injury, or death involving flooding, including flooding resulting from levee or dam failure
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

### **Land Use, Population, and Housing**

- Consistency with applicable land use plans, policies, and regulations
- Permanent property acquisitions and temporary construction easements would likely be needed, along with temporary restrictions on access to private property
- Physical division of an established community during construction
- Displacement of substantial numbers of existing housing or people

### **Noise**

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or in other applicable local, State, or Federal standards during construction
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels during construction
- Substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project during construction
- Exposure of people residing or working in a project area within the Watsonville Municipal Airport land use plan to excessive aircraft noise levels

## **NOP – Pajaro River Flood Risk Management Project EIR**

### **Recreational Resources**

- Potential increase in use of existing recreational facilities such that substantial physical deterioration of facilities would occur or be accelerated
- Potential for degradation of recreation experiences during project construction

### **Transportation and Traffic**

- Increase in traffic volumes along designated roadways in the vicinity of the project area during construction
- Increased emergency response times or inadequate emergency access during construction
- Decreased performance or safety of alternative modes of transportation during construction

### **Utilities and Public Services**

- Temporary disruption of irrigation water supply
- Disruption of on-site drainage
- Generation of solid waste potentially exceeding permitted capacity of local landfills
- Loss of agricultural water supply wells
- Removal, relocation or replacement of utilities in areas of levee encroachment

## **8 TECHNICAL STUDIES**

Several technical studies necessary to adequately address environmental issues will be prepared as part of the EIR process. These studies include, but are not limited to: an updated traffic study describing construction-related traffic and circulation effects; an air quality and greenhouse gas analysis estimating Project construction emissions; a noise analysis that quantifies construction noise effects; a biological assessment that includes identification of any potential wetlands and critical habitats; and a cultural and tribal cultural resources assessment that identifies known and potential historical, archeological and tribal resources within the Project area.

## **9 ALTERNATIVES ANALYSIS**

The EIR will include analysis of Project alternatives, including the No-Project Alternative. Three Project alternatives have been identified: the Proposed Project; Federal Project; and Basic Project alternatives. The District encourages suggestions and recommendations during the NOP comment period regarding the nature and content of the alternatives to be considered.

## **10 CUMULATIVE IMPACTS**

The EIR will address the cumulative considerable incremental impacts of Project implementation along with the impacts of other past, present, and reasonably foreseeable future that could contribute to significant cumulative impacts. The analysis will be based on a list of past, present, and reasonably foreseeable future projects in the Pajaro River watershed, as well as development forecasts in the Santa Cruz County General Plan and Monterey County General Plan.