

**Pajaro River Watershed Integrated Regional Water Management Plan Update
Project Solicitation Form**

PROJECT OVERVIEW

General Project Information

Project Title:	Road Raise for West Beach Road and Shell Road, up to 2,300 Lineal Feet
Project Location:	West Beach Road @ Watsonville Slough
Estimated Cost:	\$1,000,000 to \$1,150,000

Brief Project Description (1 to 2 sentences):

Asphalt raise of West Beach Road up to 12" height. Project limits are: 1) Between 1,500 to 2,000 lineal feet of West Beach Road, from the County-maintained right-of-way located approximately 400 feet West of Watsonville Slough to approximately 1,600 lineal feet East of Watsonville Slough; and 2) Shell Road along a distance of between 125 to 300 feet from West Beach Road.

Project Proponent Information

Contact Name:	Bruce Laclergue
Affiliation:	County of Santa Cruz Public Works Department
Address:	701 Ocean Street Room 410 Santa Cruz CA 95060
Phone Number:	831-454-2160
Email:	bruce.laclergue@co.santa-cruz.ca.us

Other participating agencies/organizations (if applicable):

none

DETAILED PROJECT INFORMATION

Description

Please provide a description of your project (including the location) and its purpose, what will be constructed and/or implemented, how the project will function, the area(s) and/or entities that will be affected by or will benefit from the project, and any potential obstacles to implementation.

The West Beach and Shell Road road raise was identified as an alternative (alternative #2) to sand bar breaching for the Pajaro River in an engineering report: Pajaro River Breaching Alternatives Analysis, Schaaf & Wheeler Inc., Consulting Civil Engineers, March 16, 2007. (Attachment 1, pages 18-22). The report was commissioned at the request of state and federal regulatory agencies (CA Fish & Game; NOAA Fisheries, and U.S. Fish & Wildlife Service) that issue permits for the Pajaro River sand bar breaching program. Reducing the frequency of breaching events would protect state and federally-protected wildlife species, by reducing equipment working in Snowy Plover beach habitat, and by maintaining natural water chemistry for Steelhead and Tidewater Goby fisheries habitat in the lagoon behind the sandbar at the mouth of the Pajaro River. In addition to wildlife species, other beneficiaries of flood improvements will be the Pajaro Dunes residential community, and recreational access to the State beach at Palm Beach State Park.

Technical Feasibility

Discuss the technical feasibility of the project. If possible, cite references that contain information about the proposed project and detail the technical feasibility of the project.

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Schaaf and Wheeler 2007 plans were updated by County of Public Works (SC DPW) Engineering staff in 2012. That 2012 SC DPW Cost Estimate is attached (Attachment 2). The main alterations included reducing the proposed two-foot road raise to one foot. The 2007 Schaaf & Wheeler 2-foot road raise had been proposed as road deconstruction, with 3,000 cubic yards of fill, and 4" aggregate base, overlaid by 2" asphalt. 2012 SC DPW revisions to that plan include no deconstruction, with addition of up to 12" asphalt. This change is planned to ensure greater road stability under saturated conditions. Using less permeable road material is more costly, but is expected to be more geotechnically stable. Using more asphalt instead of aggregate base over fill material will eliminate the need for the Schaaf & Wheeler budget line item for a retaining wall along the West Beach Road/ Watsonville Slough over-crossing. The culvert in the Schaaf & Wheeler budget is planned to be carried forward into SC DPW plans.

Pajaro River Watershed IRWM Regional Goals & Objectives

Put an X next to any goal that the proposed project will achieve.

Water Supply

- | | |
|--------------------------|---|
| <input type="checkbox"/> | 1. Meet 100% of M&I and agriculture demands (both current and future conditions) in wet to dry years including the first year of a drought. |
| <input type="checkbox"/> | 2. Meet 85% M&I and 75% agriculture demands (both current and future conditions) in second and subsequent years of a drought. |
| <input type="checkbox"/> | 3. Identify and address water supply needs of disadvantaged communities in the Pajaro River Watershed. |
| <input type="checkbox"/> | 4. Implement water conservation programs to reduce M&I and agricultural water use consistent with SBx7-7 and CVPIA. |
| <input type="checkbox"/> | 5. Maximize the use of recycled water during the irrigation season and expand other uses of recycled water. |
| <input type="checkbox"/> | 6. Optimize the use of groundwater and aquifer storage. |
| <input type="checkbox"/> | 7. Maximize conjunctive use opportunities including interagency conjunctive use. |
| <input type="checkbox"/> | 8. Optimize and sustain the use of existing import surface water entitlements from the San Felipe Unit. |
| <input type="checkbox"/> | 9. Maximize the beneficial use of existing local water supplies while protecting existing surface water rights. |

Water Quality

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 1. Meet or exceed all applicable groundwater, surface water, wastewater, and recycled water quality regulatory standards. |
| <input type="checkbox"/> | 2. Identify and address the drinking water quality of disadvantaged communities in the Pajaro River Watershed. |
| <input type="checkbox"/> | 3. Protect groundwater resources from contamination including salts and nutrients. |
| <input type="checkbox"/> | 4. Address impacts from surface water runoff through implementation of Best Management Practices or other surface water management strategies. |
| <input type="checkbox"/> | 5. Meet or exceed delivered water quality targets established by recycled water users. |

Flood Protection

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x	1. Implement flood management strategies throughout the watershed that provide multiple benefits.
	2. Reach consensus on the Pajaro River Risk Reduction Project necessary to protect existing urban areas and infrastructure from flooding and erosion from the 100-year event and to maximize opportunities to protect agricultural land
x	3. Work with stakeholders to preserve existing flood attenuation by implementing land management and conservation strategies throughout the watershed.
x	4. Develop approaches for adaptive management to minimize maintenance requirements and protect quality and availability of water while preserving ecologic and stream functions.
x	5. Provide community benefits beyond flood protection such as public access, open space, recreation, agriculture preservation and economic development.

Environmental Protection and Enhancement

x	1. Address opportunities to enhance the local environment and protect and/or restore natural resources, in cooperation with landowners, when developing water management strategies.
x	2. Improve biological and cultural resources, including riparian habitats, habitats supporting sensitive plant or animal species and archaeological/historic sites when implementing strategies and projects.
x	3. Address opportunities to protect, enhance, or restore habitat to support Monterey Bay National Marine Sanctuary marine life in conjunction with water supply management strategies.
	4. Address opportunities for open spaces, trails, parks along creeks and other recreational projects in the watershed that can be incorporated with water management strategies, consistent with public use and property rights.

Integration and Coordination

Put an X next to any Resource Management Strategies (RMS) that the proposed project will address.

Reduce Water Demand	Agricultural Water Use Efficiency	
	Urban Water Use Efficiency	
Improve Operational Efficiency and Transfers	Conveyance - Delta	
	Conveyance - Regional/local	
	System Reoperation	
	Water Transfers	
Increase Water Supply	Conjunctive Management & Groundwater Storage	
	Desalination	
	Precipitation Enhancement	
	Recycled Municipal Water	
	Surface Storage - CALFED	
	Surface Storage - Regional/local	
Improve Water Quality	Drinking Water Treatment & Distribution	
	Groundwater Remediation /Aquifer Remediation	
	Matching Quality to Use	
	Pollution Prevention	
	Salt & Salinity Management	
	Urban Runoff Management	
Improve Flood Management	Flood Risk Management	x

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Practice Resources Stewardship	Agricultural Lands Stewardship	
	Economic Incentives (Loans, Grants, & Water Pricing)	
	Ecosystem Restoration	
	Forest Management	
	Recharge Area Protection	
	Water-Dependent Recreation	
	Watershed Management	x
Other Strategies	Crop Idling for Water Transfers	
	Dewvaporation or Atmospheric Pressure Desalination	
	Fog Collection	
	Irrigated Land Retirement	
	Rainfed Agriculture	
	Waterbag Transport/Storage Technology	

Please describe: Raising West Beach Road at the intersection of Shell Road, and also across its intersection across Watsonville Slough will relieve road flooding. Road flooding impedes access for emergency vehicles ingress and egress from the Pajaro Dunes Community and for Palm Beach State Park, both located at the western terminus of West Beach Road. Flooding problems on West Beach Road are currently addressed by breaching the sandbar at the Pajaro rivermouth. The road raise is expected to result in reduced frequency of sandbar breaching. Reduced frequency of breaching improves beach and lagoon habitats for federally protected wildlife species that are affected by breaching, including fish species of steelhead and tidewater goby, and Snowy Plover birds.

List the projects that were integrated to develop a single proposed project, if applicable.

none

List the agencies and organization that are working together to implement the project.

Santa Cruz County Public Works Department.

Climate Change Mitigation and Adaptation

Put an X next to any climate change adaptation or mitigation strategy the proposed project will contribute to.

Adaption Strategies

	Improve water supply reliability
	Expand conjunctive use of multiple water supply sources
	Increase water use and/or reuse efficiency
	Provide additional water supply
x	Promote water quality protection

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<input type="checkbox"/>	Reduce water demand
<input type="checkbox"/>	Advance / expand recycled water use
<input type="checkbox"/>	Promote urban runoff reuse
<input checked="" type="checkbox"/>	Address sea level rise
<input checked="" type="checkbox"/>	Address other anticipated climate change impacts
<input checked="" type="checkbox"/>	Improve flood control
<input checked="" type="checkbox"/>	Promote habitat protection
<input type="checkbox"/>	Establish migration corridors
<input type="checkbox"/>	Re-establish river-floodplain hydrologic continuity
<input type="checkbox"/>	Re-introduce anadromous fish populations to watershed
<input type="checkbox"/>	Enhance and protect watershed forest and meadow systems

Please describe: As climate changes increases the frequency of future rainfall events and casues sea levels to rise, the immedaite area is expected to undergo increased frequency of flood events on West Beach and Shell Roads. As the road raise is expected to reduce frequency of sand bar breaching events, water quality of the lagoon is protected, as a more natural cycle occurs for the rivermouth opening to the ocean. This improves lagoon habitat for fish species. Also, as heavy equipment is needed less frequently for sandbar breaching, the sandy beach habitat undergoes less frequent disturbance to nesting and resting areas for Snoy Plover avian species.

Mitigation Strategies

<input type="checkbox"/>	Increase water use efficiency or promote energy-efficient water demand reduction
<input type="checkbox"/>	Improve water system energy efficiency
<input type="checkbox"/>	Advance / expand recycled water use
<input type="checkbox"/>	Promote urban runoff reuse
<input type="checkbox"/>	Promote use of renewable energy sources
<input type="checkbox"/>	Contribute to carbon sequestration

Please describe:

Does the proposed project reduce regional greenhouse gas emissions and/or improve energy efficiency? If so, explain how.

no

Social Benefits and Impacts

Does the project provide specific benefits to disadvantaged communities and/or Native American tribal communities? If so, explain.

no

Does the project address any known environmental justice issues?

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Project Cost

Total Estimated Capital Cost	\$1,150,000
Annual Operation & Maintenance (O&M) Cost	\$0
Cost Basis (Year)	
Source(s) of Funding for Capital	SC DPW Operations and Maintenance Budget
Source(s) of Funding for O&M Cost	
Project Life (years)	
Provide link to project cost estimate, if available	see Attachment 2

Economic Feasibility

Has a benefit:cost or cost effectiveness analysis been completed for your project? If so, please cite reference and briefly summarize. If no economic analysis has been completed for the project, the project may receive zero points out of a possible 100 points for the financial considerations criteria unless the project is a DAC project. If the project is not a DAC project but the B:C ratio is expected to be greater than 1, please provide a justification. The lack of an economic analysis may also affect the project's readiness score.

no

If known, please provide the Benefit:Cost Ratio.

Provide a detailed discussion of the benefits the project will provide. To the extent possible, quantify changes and benefits (e.g. water quality and water supply benefits) that will result from project implementation; otherwise, describe benefits qualitatively.

Same as line 109: Raising these low-elevation sections of West Beach Road and Shell Road will relieve road flooding stemming from the Pajaro River and Watsonville Slough. Road flooding impedes access for emergency vehicles ingress and egress from the Pajaro Dunes Community and for Palm Beach State Park, both located at the western terminus of West Beach Road. Flooding problems on West Beach Road are currently addressed by breaching the sandbar at the Pajaro rivermouth. The road raise is expected to result in reduced frequency of sandbar breaching. Reduced frequency of breaching improves beach and lagoon habitats for federally protected wildlife species that are affected by breaching, including fish species of steelhead and tidewater goby, and Snowy Plover birds.

Project Readiness

Proposed Project Start Date:	Jun-15
Anticipated Project Completion Date:	Oct 15 2015

Please Indicate the status (pending, in process, complete) of the following.

Project Element	Status	% Complete	Estimated Completion Date
Feasibility Study	done	100	2007

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<i>Preliminary design</i>	done	90	2012
<i>CEQA/NEPA</i>	to-do	0	2014
<i>Permit Acquisition</i>	to-do	0	2014
<i>Construction Docs</i>	to-do	0	2014