

Attachment 3 Work Plan

Introduction

The City of Carpinteria is committed to addressing statewide issues by participating in regional efforts to improve water quality, update aging infrastructure and enhance flood control. Participating in the Santa Barbara County RWMG allows the City to further these goals. This Stormwater Flood Management Grant application was prepared with the intent of addressing the goals and policies set forth in the Santa Barbara County Integrated Regional Water Management Plan.

Goals and Objectives

The goals of this Proposal are to increase regional self-sufficiency through water conservation and habitat restoration; improve water quality and ecosystem habitat; and update flood and water resource infrastructure. These goals are guided by regional objectives that are achieved by the Proposal projects. See Appendix 1.0 for “Santa Barbara County IRWM Prop 84 Project Selection Process, Regional Issues, Conflicts, and Objectives.”

In addition, the 2007 IRWM Plan articulates objectives to meet the overarching goals listed above. The project included in this proposal has multiple benefits and achieves the following regional objectives:

- Protect, restore and enhance natural processes and habitats through water quality improvements; public education; and restoration efforts.
- Improve the quality of urban runoff and storm water discharges to regional water bodies
- Protect public safety and property damage by reducing potential flood risks and working with stakeholders
- Improve flood management by replacing, rehabilitating and upgrading infrastructure and integrating adjacent systems

The project addresses the following watershed-specific issues in the IRWMP:

South Coast (Multiple Small Creek Watersheds)

- *Water Supply Reliability.* Issues include difficulty meeting peak demands; aging infrastructure, which constrains system operability; and insufficient integration of adjacent systems.
- *Public Safety.* People and property may experience potential harm from flooding.
- *Public Health and Environmental Protection.* Pollution of creeks and coastal waters could result from nonpoint sources and point source runoff during rain events.

The project includes the replacement of drainage channels that are currently low or non-functioning to allow efficient transfer of water during rain events, reducing the risk of property damage occurrences due to flooding, and upgrading approximately 7,000 square feet of currently impervious parking surface to pervious parking surface, reducing the potential flooding risks while treating stormwater runoff. In addition to the permeable parking element, shallow treatment bioretention will be used to capture and treat runoff. The bioretention swale will feature native plants, complimenting and in effect extending the adjacent Marsh Park’s habitat.

Purpose and Need

The proposed project’s purpose and need can best be demonstrated by looking at the obstacles facing the Central Coast region. Poor water quality, loss of habitat and aging infrastructure are

common themes both regionally and statewide. This project seeks to address these challenges using innovative design that integrates with the surrounding landscape.

The following bullets describe the purpose and need of the project as it relates to the Santa Barbara County IRWMP:

- *Improve the quality of urban runoff and storm water discharges to regional water bodies*— The Ash Avenue Project proposes a variety of Low Impact Development techniques to improve the quality of urban runoff. The design of the bioretention wale and use of native plants will filter and infiltrate runoff from the surrounding urban environment prior to flowing into the adjacent Salt Marsh.
- *Protect, restore and enhance natural processes and habitats through public education and restoration efforts* – The project design includes the use of native plants to enhance native habitat. The adjacent Carpinteria Marsh Park is reclaimed estuary, which will benefit from the removal of non-native species in the adjacent drainage channel. The educational components, including interpretive panels and public meetings, encourage resource stewardship.
- *Improve flood management by replacing, rehabilitating and upgrading infrastructure and integrating adjacent systems* – Upgrading the drainage infrastructure and replacing the impervious parking area with pervious surface improves flood management.
- *Protect public safety and property damage by reducing potential flood risks and working with stakeholders* – By improving flood management, the proposed project will improve public safety and reduce the risk of flood damage to the adjacent properties.

Project List

<p>Ash Avenue Improvements Project</p>	<p>This project will decrease flooding and pollutant discharges associated with urban stormwater runoff to the Carpinteria Salt Marsh and adjacent beaches, high-use recreation areas with documented fecal coliform contamination. The project, located adjacent to the east side of the Carpinteria Salt Marsh and the terminus of Franklin Creek, includes a contributing drainage area of 20 acres of medium and high-density residential land use and associated street runoff. The project includes bioretention and pervious pavement elements specifically designed to function under conditions common to coastal cities (e.g., tidal influences, limited infiltration potential). In particular, sub-surface treatment as part of the LID design will include the physical, chemical, and biological mechanisms for bacterial degradation and removal. The project design and corresponding educational components are intended to further address the causal factors of pollution through changes to social behaviors. Project performance will be conducted by individuals experienced in monitoring design, implementation, and data analysis. To support long-term performance and function of the project, an educational Owner's Handbook will accompany the completion of the project and compliment the City of Carpinteria's commitment to long-term maintenance and operation of the project.</p>
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Integrated Elements

The Ash Avenue Improvements Project is part of the City of Carpinteria’s Beach Area Drainage Improvements. The area is a known flood risk due to high groundwater and tidal influences. Completed work includes the Carpinteria Salt Marsh Park Project, an area adjacent to the Carpinteria Salt Marsh Reserve, part of the University of California’s Natural Reserve System, that had been compromised by infill. The City restored the property, creating the Carpinteria Salt Marsh Park, enhancing and expanding the existing habitat and creating educational opportunities along the nature trails.

The proposed project is an important part of the larger Beach Area Drainage Improvement Project, which is to be constructed in segments as funding comes available. The Ash Avenue Improvements Project is one phase of this and is a standalone project. There are several private development projects currently in construction which are implementing measures to reduce flooding that, upon completion, will complement the Ash Avenue Improvements Project. The Carpinteria Salt Marsh Park Project, completed in 2001/2.

Regional Map

See Appendix 3

Completed Work

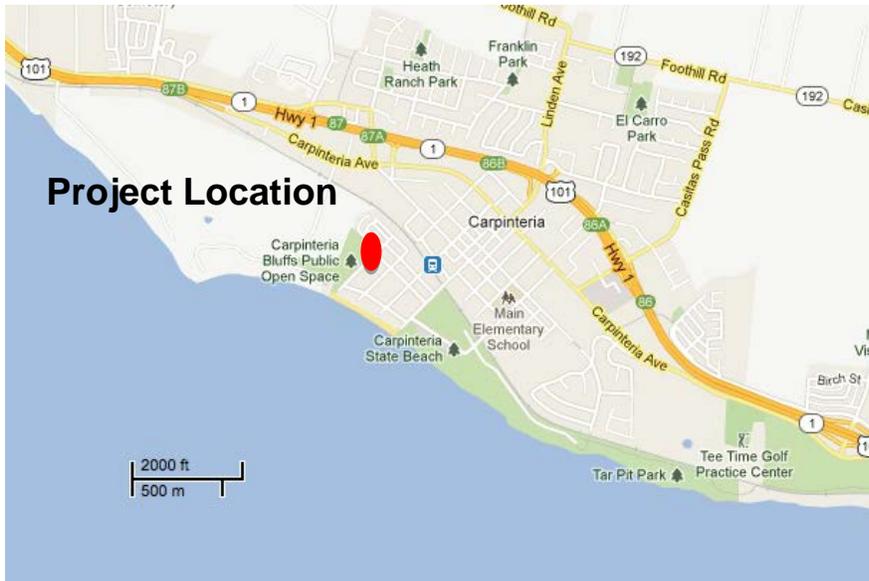
Each of the below tasks has either been completed or is anticipated to be completed by the grant award date.

- Right-of-Way Surveys – Completed.
- Topographical Surveys – Completed.
- Ash Avenue Restoration Project – Project completed in 2001/2
- Beach Area Design Guidelines – Adopted 2012
- Beach Area Street Design Guidelines – Adopted 2012
- CEQA – Categorical Exemption expected to be completed June 2013
- Ash Avenue Improvement Project complete PS&E – expected to be completed July 2013

Existing Data and Studies

- City of Carpinteria Storm Drainage Master Plan
- City of Carpinteria Creeks Preservation Plan
- Beach Area Design Guidelines
- Preliminary Engineering/Conceptual Design
- Right-of-Way Surveys
- Topographical Surveys

Project Map



Project Specifics

The Ash Avenue Improvements Project incorporates LID measures into public street improvement project. This portion of Ash Avenue has an existing asphalt lined drainage swale adjacent to an informal parking area. No pedestrian facilities currently exist and public access to the Salt Marsh is not optimal.



(view looking south along west side of project)

The project proposes to formalize the parking areas with permeable surfaces (ie. Pavers, DG, permeable concrete, etc.), replacing the asphalt drainage swale with a natural bottom bio-retention system, formalizes and improves existing drainage systems and incorporates many LID elements.



(view looking south along east side of project)

The overall drainage area that is attributable to the project is approximately 20 acres. (See Figure 1.)

Currently, localized flooding occurs along the eastside of Ash Avenue within the project area. This project proposes to formalize the drainage along this area and transmit the drainage into a bio-retention system.

The project incorporates the following elements:

- +/-380 feet of bioretention system.
- +/-3250 square feet of LID retention/run-off treatment planters
- Permeable parking area for approximately 35 vehicles.
- Permeable walking path.

The bioretention system is located along the west side of the project following the existing alignment of the drainage system. At the south end of the system, is a larger area that would receive drainage from the roadway surface and along the eastside of Ash Avenue. Native plants to the Salt Marsh would be incorporated into these areas as tidal influences impact this drainage system.

Along the parking areas that are planned along the west side of Ash Avenue, landscaping consistent with treatment of surface run-off would be combined with the bioretention system plantings to treat surface run-off, to allow for infiltration and to accommodate the tidal influences of the Salt Marsh.

Approximately 25 perpendicular parking areas are proposed along the west side of Ash Avenue. The parking surface will have a permeable surface consisting of permeable concrete, permeable asphalt, pavers or decomposed granite surface. The parallel informal parking strip along the eastside of Ash Avenue will be constructed of DG and drainage system to channelize street run-off into the bioretention system across the street.

To improve pedestrian circulation and access, a five foot wide decomposed granite path will be located between the parking areas and the bioretention system along the west side of the project. This pathway will provide much improved access for adjacent residents to the Beach area and Salt Marsh. Along the path will be an interpretive area that will highlights the environmental elements of the project and Salt Marsh.



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Project Location, Contributing Drainage Area,
and Stormwater Collection Routing

Project Timing and Phasing

The Ash Avenue Improvements Project is a standalone project that is fully functional without the implementation of other projects and is expected to go to construction in the fall/winter of 2013-14.

The project will be completed following these general work tasks:

- Task 1: Project Administration
 (Preparation of invoices and other project deliverables)
 - 1.1 Development of Project Management
 - 1.2 Development of Financing

- Task 2: Labor Compliance Program

- Task 3: Reporting
 (Submision of quarterly, final and post completion reports as required by
 Grant Agreement)

- Task 4: Permitting/Engineering/Environmental
 (Preparation of project environmental and construction documents and
 permits)
 - 4.1 Environmental
 - 4.1.1 Environmental Review
 - 4.1.2 Environmental Permitting
 - 4.2 Engineering
 - 4.2.1 Engineering Design (PS& E and Bid Package)
 - 4.2.2 Permitting

- Task 5: Construction
 (Project advertising, award, construction management and environmental
 monitoring/mitigation)
 - 5.1 Award Contract
 - 5.2 Construction
 - 5.3 Environmental Enhancement/Mitigation