



# Monterey County

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## Board Report

6/25/13

Legistar File Number: 13-0651

**Introduced:** 6/12/2013

**Current Status:** Agenda Ready

**Version:** 1

**Matter Type:** General Agenda Item

Consider a Feasibility Study for flood prevention and habitat protection projects within the Carmel Lagoon and adopt a Resolution:

- a. Selecting Ecosystem Protective Barrier (EPB) - Alternative 2A with a top of wall elevation at 17.5 feet as the preferred alternative for purposes of evaluation and environmental assessment;
- b. Selecting Scenic Road Protection Structure (SRPS) - Alternative 1 as the preferred alternative for purposes of evaluation and environmental assessment; and
- c. Directing staff to prepare necessary environmental assessments of the preferred alternatives for pending applications for permits from regulatory agencies with permit authority.

#### RECOMMENDATION:

It is recommended that the Board of Supervisors:

Adopt a Resolution selecting preferred alternatives for the Ecosystem Protective Barrier (EPB) and Scenic Road Protection Structure (SRPS) projects for purposes of preparing environmental assessment of the preferred alternatives for pending permit applications from regulatory agencies with permit authority (Exhibit B).

#### SUMMARY:

Conceptual plans and draft technical studies have been completed for two projects that would help address flood prevention and habitat protection at the Carmel Lagoon (Exhibit C). The objective is to present alternatives to the BOS in order to establish a preferred option for each project that will be used for environmental assessment and permit applications.

Considering all of the components and regulatory requirements, staff recommends the Board select the following as preferred alternatives:

- Ecosystem Protective Barrier (EPB)-Alternative 2A (50-foot set back) with a top of wall elevation of 17.5 feet. Staff finds that this option provides adequate protection of homes while minimizing ecological and visual impacts. This alternative would result in smaller pumps with less frequent pumping because of greater area that serves as a bioswale.
- Scenic Road Protection Structure (SRPS)-Alternative 1 (riprap). Staff finds that rip rap provides the most natural material and the structure would be covered with sand when the beach is not breached. The alignment allows continued use of the beach area located north of the barrier when (if) the beach breaches to the north.

Carmel River Beach and Lagoon property are owned by State Parks; therefore, the ability to complete these projects is contingent on an agreement with State Parks for construction access, use and/or relinquishment of their property. In addition, activity to manage the Carmel Lagoon requires permits from US Army Corps of Engineers (USACE), California Fish and Wildlife (CF&W), California Coastal Commission (CCC), and Regional Water Quality Control Board (RWQCB).

#### DISCUSSION:

For decades, the Monterey County Water Resources Agency (MCWRA), State Parks, and County Resource Management Agency (RMA) -Public Works have actively managed the Carmel River/Lagoon to protect homes and infrastructure from flooding impacts. Actions to manage the sandbar barrier have occurred annually, and in many cases multiple times per year, as a declared emergency without permits.

Beginning in 2011, County-RMA assumed a lead role to obtain necessary permits and work with agencies on a long-term solution to mechanically managing the sandbar barrier at the Carmel

River/Lagoon. On June 11, 2013, the Board considered a memorandum of understanding (MOU) with USACE and National Marine Fisheries Service (NMFS) that identifies the need to develop a long-term solution to annual mechanical breaching. Two projects, Ecosystem Protective Barrier and Scenic Road Protection, have been identified as alternatives to performing sandbar management.

A team of engineers led by Whitson Engineers is under contract with MCWRA and County to complete a planning and feasibility study on the Ecosystem Protective Barrier (EPB) and Scenic Road Protection Structure (SRPS) projects (Exhibit C). Comments received from the public relative to the proposed alternatives are included with the study.

There are a number of options, including multiple variations of said options that the Board may consider:

- Ecosystem Protective Barrier. The feasibility study evaluated a range using three alignments (15-foot, 50-foot, Mission Ranch) representing five alternatives. These alternatives were evaluated using a range in height from the 16-foot elevation to the 19-foot elevation. Increasing the height above the 18-foot elevation increases the length of the barrier, which increases construction cost. Any increase in height above the 16-foot elevation reduces the frequency of managing the sandbar, which reduces maintenance cost. Reducing the storage area (set back from homes) requires larger pumps run more often to maintain water levels on the urban side of the barrier, which increase costs.
- Scenic Road Protection Structure. The feasibility study evaluated four different alignments and designs ranging from riprap located at the toe of slope (SRPS 1) to a pile wall located at the top of slope (edge of ROW). All of the alternatives include riprap at the east end around the State Parks parking lot and restroom facility.
- Other. Options, such as no project, that have been discussed over the past decade are listed in Exhibit A. These other options were discounted for various reasons, and therefore, were not part of the feasibility study. However, they are options that the Board may consider. See Exhibit A for further Discussion.

#### OTHER AGENCY INVOLVEMENT:

RMA has assumed a lead role to coordinate with the regulatory agencies (USACE, CF&W, CCC, and RWQCB), regulatory consulting agencies (NMFS, US Fish & Wildlife), land owner (State Parks) and local agencies (Monterey Peninsula Water Management District, MCWRA) to preview alternative plans and explain the rationale behind them. The EPB abuts the eastern portion of Community Service Area (CSA) 1 and has potential flood implications to CSA-50, so staff presented the proposed projects to these citizen advisory groups relative to their areas.

#### FINANCING:

Required staff efforts for RMA administrative activities related to Carmel Lagoon matters (e.g. MOU) are part of the work program included in the approved budget for the RMA Admin Unit 8222, RMA013. Annual costs to manage (physically) the Lagoon and protect homes from flooding range from \$200,000 to \$500,000 per year, and these emergency costs are ultimately reimbursed by the General Fund. The feasibility study has been funded by two grants: \$145,000 from the Carmel River Watershed Conservancy (through the Wildlife Conservation Board) to the Monterey County Water Resources Agency; and \$54,000 from Monterey Peninsula Water Management District (as part of a larger Integrated Regional Watershed Management Planning (IRWMP) grant it received through the Department of Water Resources) to the County through the Resource Management Agency. On April 23, 2013, the Board approved a Professional Services Agreement with Denise Duffy & Associates for up to \$353,100 to assist with environmental documents using unexpended funds appropriated in Other Financing Uses (1050-8038) in the County Administrative Office budget.

Prepared by: Carl P. Holm, AICP, Deputy Director, Resource Management Agency  
Approved by: Benny J. Young, Director, Resource Management Agency

#### Attachments:

- Exhibit A Discussion
- Exhibit B Resolution
- Exhibit C Feasibility Study - distributed to BOS under separate cover

A cd of the Feasibility Study is available for review at the Clerk of the Board, and also via the following webpage link:

<[http://www.co.monterey.ca.us/planning/major/EPB%20and%20Scenic%20Road%20Protection/EPB\\_SRP.htm](http://www.co.monterey.ca.us/planning/major/EPB%20and%20Scenic%20Road%20Protection/EPB_SRP.htm)>

cc: Front Counter Copy; County Counsel; Nick Chiulos; RMA-Planning; RMA-Public Works; Economic Development; County Parks

# EXHIBIT A

**EXHIBIT A**  
**DISCUSSION**  
**Carmel Lagoon Feasibility Study**

**Background:**

The Carmel River Watershed is approximately 246 square miles and drains into Carmel Bay. This Watershed has very large variations in seasonal and yearly discharge rates. The lagoon is not connected to the ocean during times of low or no river flow, when ocean waves build a barrier beach (sandbar) across the mouth of the lagoon and close the lagoon's outflow channel. When river inflow is relatively low, equilibrium is reached between river and groundwater inflow, outflow through the barrier beach and evapotranspiration. When river flow increases in the fall and early winter, lagoon water levels can rise to flood stage, with the result that private properties along the northern edge of the lagoon, as well as a parking lot and restroom facility owned by State Parks, are threatened with flooding.

Since at least the early 20th century, when water in the lagoon rose to levels that threatened private property, the sandbar has been mechanically managed (breached) in order to lower the lagoon's water level to below flood stage. Since 1973 emergency sandbar management was carried out by the County of Monterey, Monterey County Water Resources Agency (MCWRA), and State Parks. On average at least one mechanical breach has occurred yearly, with as many as three or four management actions occurring in some years.

In 1992, regulatory agencies informed the County that its ongoing sandbar management did not qualify as emergency actions due to the predictability of flooding at Carmel River Lagoon. In response, the County prepared an Interim Sandbar Management Plan and Breaching Criteria and submitted it to the various regulatory agencies. The County updated the agencies in the years following; however, a concern about lack of supporting data and analysis was expressed by the agencies and sandbar management continued without permits.

Several local, state and federal agencies, together with several non-governmental organizations, have been working together since about 2000 to develop a sustainable, long-term management plan for the Lower Carmel River and Carmel Lagoon. A technical advisory committee of public agencies developed a "Study Plan for Long-Term Adaptive Management of the Carmel River State Beach and Lagoon." This Plan was released in 2007, which outlines multiple additional studies necessary to seek permits for a long-term solution to managing Carmel River. A number of projects were considered, including the following (adapted from the 2007 Study Plan):

1. Remove buildings that flood
2. Raise or otherwise flood-proof buildings that flood
3. Provide temporary / seasonal flood protection measures (e.g., sand bagging)
4. Provide variable-height Ecosystem Protective Barrier (EPB) (e.g., rubber bladder floodwall)
5. Provide mechanical control of lagoon level (e.g., additional outfalls)
6. Manage sandbar maximum elevation to keep the lagoon below flooding level by mechanically grading to lower the berm's crest in preferred locations; also, time breaching to occur when wave, climate, tide, and inflow rates are optimum
7. Manage base elevation of outflow channel by maintaining a channel over a bedrock sill, or by installing a temporary or permanent weir structure, or by maintaining a relatively long outflow channel (e.g., along Scenic Drive)
8. "No Project"

Representatives from the Carmel River Watershed Conservancy (CRWC), Homeowners for Effective Lagoon Management (HELM), and Carmel River Steelhead Association met with Congressman Sam Farr and Supervisor Dave Potter to talk about the best way to solve this ongoing flooding problem. The group agreed that a vinyl sheet wall was the best solution among the Lagoon TAC solutions and a concept Ecosystem Protective Barrier was developed. CRWC and HELM hosted community meetings and neighborhood meetings throughout 2005-2011 to discuss the various options. Support for the EPB was limited to a solution that had minimal visual impacts.

Several agencies and organizations have sought funding for studies and for individual construction projects. MCWRA has been tasked to help coordinate the various projects and agencies in the most economically and operationally efficient manner. When John Laird was appointed Secretary of the Department of Natural Resources, he assisted with the State Department of Fish and Game (now CA Fish and Wildlife) funding a feasibility study through the Wildlife Conservation Board. CRWC was awarded \$145,000 but determined that the grant contract was infeasible for them to manage and asked MCWRA to assume management of the project. MCWRA processed an RFP for professional services and selected a team led by Whitson Engineers. Concurrently, the County through its Resource Management Agency (RMA) received \$54,000 from Monterey Peninsula Water Management District as part of a larger Integrated Regional Watershed Management Planning (IRWMP) grant it received through the Department of Water Resources. RMA coordinated with MCWRA to utilize Whitson Engineers on a similar feasibility study for the Scenic Road Project.

In 2010, MCWRA submitted an application to US Army Corps of Engineers (USACE) for a permit to manage the sandbar. A Biological Opinion (BO) from National Marine Fisheries Service was expected around May 2011 to help better define a solution. In September 2011, RMA assumed a lead role for the Carmel Lagoon management. A meeting with National Marine Fisheries Service (NMFS) and USACE identified that the EPB and SRP projects are viewed as their preferred projects with a means to achieving the following objectives:

1. To improve the functions and values of the ecosystem in and around the Lagoon by allowing lagoon levels to rise and the lagoon to breach naturally (versus mechanically breaching the lagoon).
2. To improve the existing level of flood protection in the low-lying developed areas located immediately north of the Lagoon.
3. To protect public infrastructure (Scenic Road embankment, State Parks restroom, and parking facilities) from storm surge and scour resulting from a northerly-aligned channel.

As such, the EPB/Scenic projects would be considered mitigation for a jeopardy opinion (JO). These agencies informed MCWRA and County that we could avoid the JO if we withdrew that application and filed a new application for the EPB and Scenic Road Protection Structure (SPRS) projects. The County withdrew the application for long-term sandbar management, and submitted applications (to all of the permitting agencies) for approval of the EPB and SRPS projects and a 5-year Interim Sandbar Management Plan while County/MCWRA completes plans and construction of the projects.

These agencies stated that they would work with the County to issue emergency permits for 2011/12, but identified a specific timeframe (October 2012) for the County to obtain a non-emergency permit. In November 2011, the County obtained emergency permits from the US Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB),

California Coastal Commission (CCC), and the California Department of Fish and Wildlife (CDFW) to manage lagoon water levels and install a sand ramp for public beach access. USACE consulted with the National Marine Fisheries Service (NMFS) and the US Fish and Wildlife Service (USFWS) as part of permit review.

RMA worked with USACE to develop a draft Memorandum of Understanding that would include USACE, County and NMFS as signatory agencies. This document was reviewed by NMFS and USFWS as consulting agencies to USACE. In September 2011, a draft Memorandum of Understanding (MOU) was completed for management of the Carmel River Lagoon. This MOU:

- Establishes a long-term plan to balance protection of private property with protection of federally listed species.
- Recognizes that mechanically managing the Carmel River Lagoon over the long run is not in the best interest of the County, USACE, and NMFS.
- Identifies two long-term solutions as alternatives to performing sandbar management: the Ecosystem Protective Barrier (EPB) and the Scenic Road Protection Structure (SRPS).
- Agrees to allow an Interim Sandbar Management Plan (ISMP) for temporary (5 years) management of the sandbar while we develop the EPB and Scenic projects (design, environmental review, construction).
- Establishes a target schedule to complete the projects by 2018.

Because the County has managed the sandbar only under approved emergency permits, and due to the time necessary to assess the various options, the timeframe identified in the MOU for obtaining a non-emergency permit was extended to October 2013. Staff, and our consultants, is working to try to complete environmental documents consistent with expectations of the permitting agencies. This MOU was approved by the Board of Supervisors on June 11, 2013.

Staff has submitted permit applications to USACE, CDFW, CCC and RWQCB for permits necessary for a long-term solution (EPB and SRPS) and an interim (5 years) sandbar management plan while we pursue design and construction of these projects. These applications were incomplete pending technical studies, which were completed as part of the Feasibility Study. Additional required information will be presented in environmental documents prepared for the preferred alternative.

Selection of preferred alternative projects will help establish a project description to base our analysis. A Biological Assessment (BA) required for federal permitting (USACE) will be completed and submitted to NMFS and USFWS as part of our consultation. Consultation, leading to a biological opinion (BO), takes at least 135 days from when we submit the project description.

CEQA documents are required for State permits that include RWQCB and CDFW. CCC does not require a "CEQA" document, but requires documents with technically equivalent data. These documents will be prepared concurrent with the BA based on this project description. Although no federal funding has been used to date, staff determined that we would also prepare a NEPA document in the event federal funding is used for design and/or construction.

On April 23, 2013, the Board of Supervisors approved a Professional Services Agreement with Denise Duffy & Associates to assist with environmental documents. Phase I of their Scope of Work includes developing a project description to a level needed to prepare environmental

documents and preparation of a Biological Assessment, including a Wetland Delineation. Phase II includes providing CEQA and NEPA compliances services, including an Initial Study/Environmental Assessment (IS/EA).



# EXHIBIT B

**Before the Board of Supervisors in and for the  
County of Monterey, State of California**

**Resolution No.**

Resolution of the Monterey County Board of Supervisors:

- a. Selecting Ecosystem Protective Barrier (EPB)-Alternative 2A with a top of wall elevation at 17.5 feet as the preferred alternative;
- b. Selecting Scenic Road Protection Structure (SRPS)-Alternative 1 as the preferred alternative; and
- c. Directing staff to prepare necessary environmental assessments of the preferred alternatives for pending applications for permits from regulatory agencies with permit authority.

**RECITALS**

**WHEREAS**, since at least the early 20th century, when the Carmel River Lagoon has risen to levels that threatened private property, the sand bar has been mechanically managed (breached) in order to lower the lagoon's water level to below flood stage; and

**WHEREAS**, since 1973, for emergency sand bar management, on average at least one mechanical breach has occurred yearly, with as many as three or four management actions occurring in some years by the County of Monterey, Monterey County Water Resources Agency, and State Parks; and

**WHEREAS**, in 1992, County prepared an Interim Sand Bar Management Plan and Breaching Criteria and regulatory agencies informed the County that its ongoing sandbar management did not qualify as emergency actions due to the predictability of flooding at Carmel River Lagoon; and

**WHEREAS**, several local, state and federal agencies, together with several non-governmental organizations have been working together since about 2000 to develop a sustainable, long-term management plan for the Lower Carmel River and Carmel Lagoon; and

**WHEREAS**, in 2007, a technical advisory committee of public agencies developed a "Study Plan for Long-Term Adaptive Management of the Carmel River State Beach and Lagoon," which outlines multiple additional studies necessary to seek permits for a long-term solution to managing Carmel River; and

**WHEREAS**, in 2010, Monterey County Water Resources Agency filed an application with US Army Corp of Engineers for a permit to manage the Carmel Lagoon sandbar; and

**WHEREAS**, a Biological Opinion from National Marine Fisheries Service was expected around May 2011 to help better define a solution; and

**WHEREAS**, in September 2011, the County Resource Management Agency (RMA) assumed a lead role for the Carmel Lagoon management; and

**WHEREAS**, in September 2011, the County, US Army Corp of Engineers, National Marine Fisheries Service began drafting a Memorandum of Understanding (MOU) for management of the Carmel River Lagoon; and

**WHEREAS**, the MOU identifies two long-term solutions as alternatives to performing sandbar management: the Ecosystem Protective Barrier (EPB) and the Scenic Road Protection Structure (SRPS), and establishes a target schedule to complete the projects by 2018; and

**WHEREAS**, County has submitted permit applications to the regulatory agencies and needs to identify preferred alternatives for purposes of completing the application and preparing the environmental analysis in support of those applications; and

**WHEREAS**, the Board of Supervisors finds, pursuant to CEQA Guidelines section 15004(b), that County's action is not a decision to approve or carry out a project within the meaning of the California Environmental Quality Act; County's action pertains only to identifying a preferred conceptual project for purposes of evaluation and environmental assessment and is not a decision to authorize such use; and furthermore, the County is not a permitting authority in this matter. County is preparing the environmental assessment in connection with submission of permit applications to regulatory agencies with permitting authority.

### **DECISION**

**NOW, THEREFORE, BE IT RESOLVED**, by the Board of Supervisors in and for the County of Monterey as follows:

- a. Selecting Ecosystem Protective Barrier (EPB)-Alternative 2A with a top of wall elevation at 17.5 feet as the preferred alternative for purposes of evaluation and environmental assessment;
- b. Selecting Scenic Road Protection Structure (SRPS)-Alternative 1 as the preferred alternative for purposes of evaluation and environmental assessment; and
- c. Directing staff to prepare necessary environmental assessments of the preferred alternatives for pending applications for permits from regulatory agencies with permit authority.

**PASSED AND ADOPTED** on this 25<sup>th</sup> day of June, 2013 by the following vote, to-wit:

AYES:

NOES:

ABSENT:

I, Gail T. Borkowski, Clerk of the Board of Supervisors of the County of Monterey, State of California, hereby certify that the foregoing is a true copy of an original order of said Board of Supervisors duly made and entered in the minutes thereof of Minute Book \_\_\_ for the meeting on \_\_\_\_\_.

Dated:

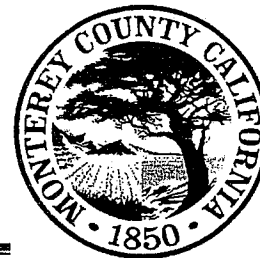
Gail T. Borkowski, Clerk of the Board of Supervisors  
County of Monterey, State of California

By \_\_\_\_\_  
Deputy

# EXHIBIT C

# MONTEREY COUNTY RESOURCE MANAGEMENT AGENCY

Benny J. Young, Director  
Carl P. Holm, AICP, Deputy Director



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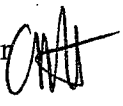
Michael A. Rodriguez, C.B.O., Chief Building Official  
Michael Novo, AICP, Director of Planning  
Robert K. Murdoch, P.E., Director of Public Works

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## MEMORANDUM

**Date:** June 12, 2013

**To:** Board of Supervisors

**From:** Carl P. Holm, AICP, Deputy Director 

**Subject:** 6/25/13 Board Report – Carmel Lagoon Ecosystem Protective Barrier (EPB) and Scenic Road Protection Structure (SRPS) Projects

**cc:** Gail Borkowski, COB

On June 25, 2013, the RMA will be asking the Board of Supervisors to consider a Feasibility Study for flood prevention and habitat protection projects within the Carmel Lagoon. Due to the large size of Attachment C, Feasibility Report, we are providing an advanced copy for your review.