

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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August 26, 2011

TO: Commissioners and Alternates

FROM: Will Travis, Executive Director (415/352-3653 travis@bcdc.ca.gov)
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SUBJECT: Current Status of Bay Plan Amendment No. 1-08 Dealing with Climate Change
(For Commission information only)

Staff Report

This report provides an update on the outreach the staff conducted in June, July and August 2011 related to Bay Plan Amendment No. 1-08 dealing with climate change. It also includes a table showing the differences between draft amendment language reviewed by the Commission at the June 2, 2011 public workshop and the staff's fourth preliminary recommendation on Bay Plan Amendment No. 1-08, which was released on July 29, 2011 for consideration by the Commission at the September 1, 2011 public hearing.

On July 8, 2011, the staff provided a summary of outreach conducted with local governments in June and July. In addition to those meetings, during June, July and August of 2011, the staff met with stakeholder groups throughout the region to provide additional opportunities for input on the proposed Bay Plan amendment and to clarify the purpose and effects of the amendments and recent changes to the language. The meetings were very productive and provided an opportunity to answer questions and gather feedback on the proposal. The staff discussed the amendments with the following groups:

- On June 27th, the staff attended a regular meeting of the Santa Clara County Chambers of Commerce in Santa Clara, provided an update on the latest changes to the policies and responded to questions from the attendees.
- On July 25th, the staff attended a meeting of the City of Alameda Planning Board, provided an update on the latest changes to the policies and responded to questions from Board members. The Board adopted a resolution recommending that the Alameda City Council rescind its resolution opposing the proposed amendments and instead support the proposed amendments.
- On August 16th, the staff participated in a forum with business leaders from Silicon Valley in Sunnyvale. The forum, which was organized by the Bay Area Council in cooperation with Joint Venture Silicon Valley and the Silicon Valley Leadership Group, focused on the proposed Bay Plan amendment concerning climate change. The panel was moderated by Jim Wunderman, President of the Bay Area Council, who indicated that the Council, the Bay Planning Coalition, and the Building Industry Association of the Bay Area find the proposed amendments acceptable. Panelists included Will Travis, BCDC's Executive Director; John Igoe, Director of Real Estate Design & Construction, Google; Larry Burnett, Global Real Estate Portfolio Manager, Cisco; Michael Covarrubias, President, TMG Development; and Miles Imwalle, Associate, Morrison & Foerster LLP.

In response to comments made at the public workshop and meetings with local governments and other stakeholders, the staff has made minor revisions to the May 27, 2011 draft findings and policies that were considered at the June 2, 2011 workshop. These revisions, which are shown on the following pages, have been incorporated into the staff's fourth preliminary recommendation on Bay Plan Amendment No. 1-08.



Making San Francisco Bay Better

Climate Change	
Earlier Draft Proposed Findings, May 27, 2011 Staff Report	Latest Draft Proposed Findings, July 29, 2011 Staff Report
<p>m. The Bay ecosystem contains diverse and unique plants and animals and provides many benefits to humans. For example, tidal wetlands improve water quality, sequester carbon and can provide flood protection. Tidal high marsh and adjacent ecotones are essential to many tidal marsh species including endangered species. The Bay ecosystem is already stressed by human activities that lower its adaptive capacity, such as diversion of freshwater inflow and loss of tidal wetlands. Climate change will further alter the ecosystem by inundating or eroding wetlands and ecotones, changing sediment dynamics, altering species composition, raising the acidity of Bay waters, changing freshwater inflow or salinity, altering the food web, and impairing water quality, all of which may impair the system's ability to rebound and function. Moreover, further loss of tidal wetland will increase the risk of shoreline flooding.</p>	<p>Additions to May 27, 2011 proposal are <u>underlined</u>:</p> <p>m. The Bay ecosystem contains diverse and unique plants and animals and provides many benefits to humans. For example, tidal wetlands improve water quality, sequester carbon and can provide flood protection. Tidal high marsh and adjacent ecotones are essential to many tidal marsh species including endangered species. <u>Agricultural lands along the Bay shoreline function as buffers that can reduce the adverse impacts of nearby land uses and activities on the Bay and tidal marshes and can also provide habitat for terrestrial species.</u> The Bay ecosystem is already stressed by human activities that lower its adaptive capacity, such as diversion of freshwater inflow and loss of tidal wetlands. Climate change will further alter the ecosystem by inundating or eroding wetlands and ecotones, changing sediment dynamics, altering species composition, raising the acidity of Bay waters, changing freshwater inflow or salinity, altering the food web, and impairing water quality, all of which may impair the system's ability to rebound and function. Moreover, further loss of tidal wetlands will increase the risk of shoreline flooding.</p>

Climate Change	
Earlier Draft Proposed Findings, May 27, 2011 Staff Report	Latest Draft Proposed Findings, July 29, 2011 Staff Report
<p>w. The California Ocean Protection Council has endorsed the guiding principles of the California Climate Adaptation Strategy, which recommends that state agencies pursue the following policy objectives in their adaptation planning:</p> <ul style="list-style-type: none"> • Protect public health and safety and critical infrastructure; • Protect restore, and enhance ocean and coastal ecosystems, on which the State economy and well-being depend; • Ensure public access to coastal areas and protect beaches, natural shoreline, and park and recreational resources; • Plan and Design new development and communities-for long-term sustainability in the face of climate change; • Facilitate adaptation of existing development and communities to reduce their vulnerability to climate change impacts over time; and • Begin now to adapt to the impacts of climate change. 	<p>Additions to May 27, 2011 proposal are <u>underlined</u> and deletions are struck-through:</p> <p>w. The California Ocean Protection Council has endorsed the guiding principles of the California Climate Adaptation Strategy, which recommends that state agencies pursue the following policy objectives in their adaptation planning:</p> <ul style="list-style-type: none"> • Protect public health and safety and critical infrastructure; • Protect restore, and enhance ocean and coastal ecosystems, on which the State economy and well-being depend; • Ensure public access to coastal areas and protect beaches, natural shoreline, and park and recreational resources; • Plan and Design new development and communities-for long-term sustainability in the face of climate change; • Facilitate adaptation of existing development and communities to reduce their vulnerability to climate change impacts over time; and • Begin now to adapt to the impacts of climate change. <p><u>The California Climate Adaptation Strategy recognizes that significant and valuable development has been built along the California coast for over a century. Some of the development is currently threatened by sea level rise or will be threatened in the near future. Similarly, the coastal zone is home to many threatened or endangered species and sensitive habitats. The strategy acknowledges that the high financial, ecological, social and cultural costs of protecting everything may prove to be impossible; in the long run, protection of everything may be both futile and environmentally destructive. The strategy recommends that decision guidance strategies frame cost-benefit analyses so that all public and private costs and benefits are appropriately considered.</u></p>

Climate Change	
Earlier Draft Proposed Findings, May 27, 2011 Staff Report	Latest Draft Proposed Findings, July 29, 2011 Staff Report
<p>(Finding w., continued)</p> <p>The California Climate Adaptation Strategy recommends that state agencies should generally not plan, develop, or build any new significant structure in a place where that structure will require significant protection from sea-level rise, storm surges, or coastal erosion during the expected life of the structure. However, the strategy also acknowledges that vulnerable shoreline areas containing existing development or proposed for new development that has or will have regionally significant economic, cultural, or social value may have to be protected, and infill development in these areas should be closely scrutinized. The strategy recommends that state agencies should incorporate this policy into their decisions.</p> <p>The California Climate Adaptation Strategy further recommends that the state should consider prohibiting projects that would place development in undeveloped areas already containing critical habitat, and those containing opportunities for tidal wetland restoration, habitat migration, or buffer zones.</p>	<p>(Finding w., continued)</p> <p>The California Climate Adaptation Strategy <u>strategy further</u> recommends that state agencies should generally not plan, develop, or build any new significant structure in a place where that structure will require significant protection from sea-level rise, storm surges, or coastal erosion during the expected life of the structure. However, the strategy also acknowledges that vulnerable shoreline areas containing existing development or proposed for new development that has or will have regionally significant economic, cultural, or social value may have to be protected, and infill development in these areas should be closely scrutinized and may be accommodated. The strategy recommends that state agencies should incorporate this policy into their decisions. <u>If agencies plan, permit, develop or build any new structures in hazard zones, the California Climate Adaptation Strategy recommends that agencies employ or encourage innovative engineering and design solutions so that the structures are resilient to potential flood or erosion events, or can be easily relocated or removed to allow for progressive adaptation to sea level rise, flood and erosion.</u></p> <p>The California Climate Adaptation Strategy <u>strategy further</u> recommends that the state should consider prohibiting projects that would place development in undeveloped areas already containing critical habitat, and those containing opportunities for tidal wetland restoration, habitat migration, or buffer zones. <u>The strategy also encourages projects that protect critical habitats, fish, wildlife and other aquatic organisms and connections between coastal habitats. The strategy recommends pursuing activities that can increase natural resiliency, such as restoring tidal wetlands, living shorelines, and related habitats; managing sediment for marsh accretion and natural flood protection; and maintaining upland buffer areas around tidal wetlands.</u></p>

Climate Change	
Earlier Draft Proposed Findings, May 27, 2011 Staff Report	Latest Draft Proposed Findings, July 29, 2011 Staff Report
<p>4. To address the regional adverse impacts of climate change, undeveloped areas that are both vulnerable to future flooding and currently sustain critical habitats or species, or possess conditions that make the areas especially suitable for ecosystem enhancement should be given special consideration for preservation and habitat enhancement and should be encouraged to be used for those purposes.</p>	<p><u>4.</u> To address the regional adverse impacts of climate change, undeveloped areas that are both vulnerable to future flooding and currently sustain critical <u>significant</u> habitats or species, or possess conditions that make the areas especially suitable for ecosystem enhancement should be given special consideration for preservation and habitat enhancement and should be encouraged to be used for those purposes.</p>
<p>7. Until a regional sea level rise adaptation strategy can be completed, the Commission should evaluate each project proposed in vulnerable areas on a case-by-case basis to determine the project's public benefits, resilience to flooding, and capacity to adapt to climate change impacts. The following specific types of projects have regional benefits, advance regional goals, should be encouraged if their regional benefits and their advancement of regional goals outweigh the risk from flooding:</p> <ol style="list-style-type: none"> a. remediation of existing environmental degradation or contamination, particularly on a closed military base; b. a transportation facility, public utility or other critical infrastructure that is necessary for existing development or to serve planned development; c. a project that will concentrate employment or housing near existing or committed transit service, particularly within those Priority Development Areas that are established by the Association of Bay Area Governments and endorsed by the Commission, and that includes a financial strategy for flood protection that will minimize the burdens on the public and a sea level rise adaptation strategy that will adequately provide for the resilience and sustainability of the project over its designed lifespan; and d. a natural resource restoration or environmental enhancement project. 	<p>7. Until a regional sea level rise adaptation strategy can be completed, the Commission should evaluate each project proposed in vulnerable areas on a case-by-case basis to determine the project's public benefits, resilience to flooding, and capacity to adapt to climate change impacts. The following specific types of projects have regional benefits, advance regional goals, <u>and</u> should be encouraged, if their regional benefits and their advancement of regional goals outweigh the risk from flooding:</p> <ol style="list-style-type: none"> a. remediation of existing environmental degradation or contamination, particularly on a closed military base; b. a transportation facility, public utility or other critical infrastructure that is necessary for existing development or to serve planned development; c. a project that will concentrate employment or housing near existing or committed transit service (whether by public or private funds or as part of a project), particularly within those Priority Development Areas that are established by the Association of Bay Area Governments and endorsed by the Commission, and that includes a financial strategy for flood protection that will minimize the burdens on the public and a sea level rise adaptation strategy that will adequately provide for the resilience and sustainability of the project over its designed lifespan; and d. a natural resource restoration or environmental enhancement project.

Climate Change	
Earlier Draft Proposed Findings, May 27, 2011 Staff Report	Latest Draft Proposed Findings, July 29, 2011 Staff Report
<p>(Policy 7, continued)</p> <p>The following specific types of projects should be encouraged if they do not negatively impact the Bay and do not increase risks to public safety:</p> <ul style="list-style-type: none"> d. repairs of an existing facility; e. a small project; f. a use that is interim in nature and either can be easily removed or relocated to higher ground or can be amortized within a period before removal or relocation of the proposed use would be necessary; and g. a public park. 	<p>(Policy 7, continued)</p> <p>The following specific types of projects should be encouraged if they do not negatively impact the Bay and do not increase risks to public safety:</p> <ul style="list-style-type: none"> de. repairs of an existing facility; ef. a small project; fg. a use that is interim in nature and either can be easily removed or relocated to higher ground or can be amortized within a period before removal or relocation of the proposed use would be necessary; and gh. a public park.

Safety of Fills	
Earlier Draft Proposed Policies, May 27, 2011 Staff Report	Latest Draft Proposed Policies, July 29, 2011 Staff Report
<p>4. Adequate measures should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project. The Commission may approve fill that is needed to provide flood protection for existing projects. New projects on fill or near the shoreline should either be set back from the edge of the shore so that the project will not be subject to dynamic wave energy, be built so the bottom floor level of structure will be above a 100-year flood elevation that takes future sea level rise into account for the expected life of the project, be specifically designed to tolerate periodic flooding, or employ other effective means of addressing the impacts of future sea level rise and storm activity. Rights-of-way for levees or other structures protecting inland areas from tidal flooding should be sufficiently wide on the upland side to allow for future levee widening to support additional levee height so that no fill for levee widening is placed in the Bay.</p>	<p>Additions to May 27, 2011 proposal are <u>underlined</u>:</p> <p>4. Adequate measures should be provided to prevent damage from sea level rise and storm activity that may occur on fill or near the shoreline over the expected life of a project. The Commission may approve fill that is needed to provide flood protection for existing projects <u>and uses</u>. New projects on fill or near the shoreline should either be set back from the edge of the shore so that the project will not be subject to dynamic wave energy, be built so the bottom floor level of structure will be above a 100-year flood elevation that takes future sea level rise into account for the expected life of the project, be specifically designed to tolerate periodic flooding, or employ other effective means of addressing the impacts of future sea level rise and storm activity. Rights-of-way for levees or other structures protecting inland areas from tidal flooding should be sufficiently wide on the upland side to allow for future levee widening to support additional levee height so that no fill for levee widening is placed in the Bay.</p>

Shoreline Protection	
Earlier Draft Proposed Policies, May 27, 2011 Staff Report	Latest Draft Proposed Policies, July 29, 2011 Staff Report
<p>1. New shoreline protection projects and the maintenance or reconstruction of existing projects should be authorized if: (a) the project is necessary to provide flood or erosion protection for (i) existing development or infrastructure, or (ii) proposed development or infrastructure that is consistent with other Bay Plan policies; (b) the type of the protective structure is appropriate for the project site, the uses to be protected, and the erosion and flooding conditions at the site; (c) the project is properly engineered to provide erosion control and flood protection for the expected life of the project based on a 100-year flood event that takes future sea level rise into account; (d) the project is properly designed and constructed to prevent significant impediments to physical and visual public access; and (e) the protection is integrated with current or planned adjacent shoreline protection measures. Professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes should participate in the design.</p>	<p>Additions to May 27, 2011 proposal are <u>underlined</u>:</p> <p>1. New shoreline protection projects and the maintenance or reconstruction of existing projects <u>and uses</u> should be authorized if: (a) the project is necessary to provide flood or erosion protection for (i) existing development, <u>use</u> or infrastructure, or (ii) proposed development, <u>use</u> or infrastructure that is consistent with other Bay Plan policies; (b) the type of the protective structure is appropriate for the project site, the uses to be protected, and the erosion and flooding conditions at the site; (c) the project is properly engineered to provide erosion control and flood protection for the expected life of the project based on a 100-year flood event that takes future sea level rise into account; (d) the project is properly designed and constructed to prevent significant impediments to physical and visual public access; and (e) the protection is integrated with current or planned adjacent shoreline protection measures. Professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes, should participate in the design.</p>