

Delta Levees Investment Strategy Update

Summary: The Delta Levees Investment Strategy (DLIS) will inform prioritization of State investments in levee operation, maintenance, and improvements in the Delta in accordance with Water Code section 85306. As part of a parallel effort to inform a broader Delta flood risk reduction strategy, staff are also looking at alternatives to levee investments for reducing flood risk in the Delta. These “non-structural” alternatives will be developed in coordination with partner agencies and also through outreach with emergency preparedness experts.

Today’s briefing will be the first report on non-structural options that may be considered by the Council as part of a broader risk reduction strategy for the Delta and in response to Water Code section 85305(a). Additional information will be brought to the Council in the coming months as it is developed.

Background

Water Code section 85305(a) states that the Delta Plan shall attempt to reduce risks to people, property, and state interests in the Delta by promoting effective emergency preparedness, appropriate land uses, and strategic levee investments. In addition, Water Code section 85306 directs that “the Council, in consultation with the Central Valley Flood Protection Board, shall recommend in the Delta Plan priorities for state investments in levee operation, maintenance, and improvements in the Delta, including both levees that are a part of the State Plan of Flood Control and nonproject levees.”

Council staff and the Arcadis consulting team have been making progress toward prioritizing state investments in levee operation, maintenance, and improvements in the Delta. This has been the focus of the Delta Levees investment Strategy, including the development of the draft decision-support tool that was demonstrated for the Council in October.

Over the next few months, as part of a parallel effort to the direct investment in levees that will be captured in the Delta Levees Investment Strategy, staff will investigate “non-structural” options for reducing flood risk. Today’s briefing will be the first in a series of reports on non-structural options that may be considered by the Council as part of a broader risk reduction strategy for the Delta and in response to Water Code section 85305(a).

Today’s Briefing

The current Delta Levees Investment Strategy effort is directly related to Water Code section 85306. Council staff and the Arcadis consulting team have been developing a decision-support tool that can be used to facilitate prioritization of Delta levee

investments. This prioritization will inform the Delta Levees Investment Strategy which will, in turn, help to refine the interim investment priorities currently identified in Delta Plan regulatory policy **RR P1** (Prioritization of State Investments in Delta Levees and Risk Reduction).

The Council's Delta Flood Management Investment Strategy Principles, however, state that levee investments should not be the only means considered for reducing risk. "A State Investment Strategy that achieves the desired goals and is cost-effective must start by evaluating all flood protection alternatives, and how they might help achieve the coequal goals. It cannot start and end with an evaluation of levees only."

Levee investments are one of three possible means identified in Water Code section 85305(a) for reducing risks in the Delta due to flooding. Effective emergency preparedness is one of the other means identified. Staff has been coordinating with partner agencies to identify alternatives to levee investments for reducing flood risk. Some of these possible alternatives, referred to as non-structural measures, have been listed in Attachment 1: Risk Reduction Alternatives. Over the next few months, staff will reach out to state and local emergency managers to gather information on the suite of potential and proven non-structural measures and estimates of how the cost and risk reduction potential of these alternatives compare to more traditional levee investments.

One source of information on non-structural alternatives for mitigating risk that may be useful in the Council's efforts is Local Hazard Mitigation Plans (LHMPs). The intent of LHMPs is to:

1. gather hazard, vulnerability, and mitigation information from the local level for use in state level planning
2. ensure that state and local hazard mitigation planning is coordinated to the greatest extent practical and
3. ensure that local jurisdictions are made aware of the hazards and vulnerabilities within their jurisdiction and to develop strategies to reduce those vulnerabilities.

According to the Federal Disaster Mitigation Act of 2000 (DMA 2000), local jurisdictions may submit Local Hazard Mitigation Plans (LHMPs) for the Federal Emergency Management Agency's (FEMA's) approval as a condition of receiving available FEMA hazard mitigation grants. A FEMA approved LHMP can be considered as guidance for the regional risk reduction activities.

In the Delta, Contra Costa, Solano, Yolo, Sacramento, and San Joaquin counties have LHMPs that have been approved and adopted by FEMA. These LHMPs could provide insights on preferred non-structural mitigation measures and will be part of the discussion staff will have with emergency managers in the coming months to determine effectiveness of non-structural measures.

Another non-structural alternative that is useful for reducing flood risk by minimizing consequences is flood insurance. Lowering the cost of flood insurance could prove to

be an incentive for purchasing insurance and thereby increasing the number of policies in effect at the time a flood event should occur.

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced flood risk resulting from the community actions meeting the three main goals of the CRS:

- (1) Reduce flood losses
- (2) Facilitate accurate insurance rating
- (3) Promote the awareness of flood hazards and flood insurance.

The counties of Contra Costa, Solano, Yolo, Sacramento, and San Joaquin, along with many incorporated communities, participate in the NFIP CRS. Attachment 2: CRS Comparison shows the number of policies purchased in each county along with a relative ranking based on their CRS scores and the percent reduction in insurance premiums they have achieved. The Council may seek to encourage more CRS participation from the communities that are currently ranked lower by comparison with other Delta counties in an effort to encourage more property owners to purchase flood insurance when feasible.

Next Steps

DLIS Decision-support Tool

In in the coming months, Council staff will undertake the following activities:

- Finalize methodology in response to the independent scientific review panel's recommendations,
 - Confirm with key partner agencies that the water supply disruption metric is adequate given currently available data/information;
 - Verify, with key stakeholders, the islands that are important to water supply disruption as identified by the decision-support tool;
 - Conduct additional analysis (outside of the decision-support tool) of the potential and consequences of a multiple island levee failure;
- Investigate additional sources of data/information (per stakeholder comments at the October 12 DLIS workshop) including information on habitat protection easements and discuss with water users islands in the Delta that are key to protecting water supply and/or quality for the north Delta.
- Continue QA/QC of data currently in the decision-support tool.
- Demonstrate the decision-support tool to focus groups and the public
- Develop a list of Delta islands/tracts ranked by risk for Council consideration and approval. This list will form the basis for developing alternative levee investment concepts.

- Develop levee improvement investment concepts (e.g., increased height/width improvements, set-back levees and other “green” improvements, etc.), through an interactive process with stakeholder groups (e.g., flood management experts, water users, environmental groups, and others). Information will be used to assess and rank alternative investment concepts’ effectiveness in reducing risks to key Delta assets.

In early 2016, staff will present alternative investment portfolios as an output of the decision-support tool to the Council and stakeholders. These investment portfolios will inform in-depth discussion and deliberations regarding overall risk-reduction, cost-effectiveness and tradeoffs. Results of these discussions and subsequent Council guidance on preferred investment portfolios will inform a draft investment strategy and alternatives, including a preferred alternative, to include in the draft Environmental Impact Report.

Non-structural Alternatives

Over the coming months, staff will reach out to state and local emergency managers to gather information on the suite of potential and proven non-structural measures and estimates of how the cost and risk reduction potential of these alternatives compare to more traditional levee investments.

List of Attachments

Attachment 1: Risk Reduction Alternatives
Attachment 2: CRS Comparison
Attachment 3: Project Schedule

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