

**American Council of Engineering Companies (ACEC) California
Policy Platform
Levee Rehabilitation**

Approved by the Executive Committee on April 9, 2014

Approved by the Board of Directors on April 9, 2014

Issue

- Levees are typically engineered and designed to provide flood protection for homes, businesses, and agriculture, but they can also be used to convey or store water for domestic uses, recharge, treatment, etc. In some cases, such as in the Delta, levees play a pivotal role in securing a reliable supply of water by protecting the water from possible contamination, such as salt water intrusion.
- Levee construction or levee rehabilitation projects can be cost effective in providing increased flood protection and/or reducing potential flood damage.
- Once levees have been constructed and are relied upon, they become part of the natural landscape and are very difficult to remove without significant impacts.
- The thousands of miles of levees in California, particularly those in the Delta, suffer from poor maintenance and have not been upgraded to account for current hydrology or changes in design criteria.
- Levees are designed and constructed to provide flood protection from storm water flows in rivers and waterways based upon a designated storm frequency. Levees do not protect against all flooding, for instance when the design storm frequency is exceeded. Levees can therefore provide a false sense of security that protected properties are "flood-proof."
- Risk associated with levee failure is defined as the probability of a failure occurring multiplied by the consequences of that failure. Even if the probability of failure of a levee or levee system is lowered through rehabilitation or reconstruction, the overall risk may not be substantially reduced, especially if the rehabilitation results in the construction of additional homes or businesses in the protected area.
- Certification and subsequent accreditation of a levee system in accordance with 44 CFR 65.10 National Flood Insurance Program (NFIP) does not imply that the levee system meets current standards of practice for levee engineering or mitigates risks of flooding to any specific standard. This "certification," as used to meet the NFIP data requirements, is not intended to provide a guarantee or warranty of the conditions of the levee or its performance, but merely represents an administrative determination for flood insurance eligibility.
- Failure of a levee or levee system can be catastrophic and could result in loss of life, personal property, and prime agricultural land. In the case of

the Delta, levee failure could temporarily or permanently impact the security and reliability of much of California's potable water supply.

- Liability issues have placed a terrible burden on both public agencies and private firms that provide engineering services related to levee systems. Many public agencies are reluctant to take on new flood control responsibilities, and qualified engineering firms are avoiding levee construction and rehabilitation work due to the potential liability. Over time the situation will only worsen, putting the public further at risk.
- Levees are typically thought to have a negative impact on the natural environment due to the disconnection of the waterways from their natural floodplains. However, levees that have been designed with vegetation (or allowed to vegetate via lack of maintenance) can provide habitat for threatened and endangered species, as well as aesthetic benefits. Some levee vegetation can reduce the reliability of a levee system by hiding levee defects as well as hindering maintenance and flood fighting activities. Vegetation can also either reduce or increase levee erosion depending on specific stream conditions.

Policy

ACEC California believes that levee construction and rehabilitation are key components to providing a safe, reliable supply of water to meet California's growing needs, as well as means to protect our citizens, personal property, and prime agricultural lands from the effects of floods. ACEC California supports:

- Development of a National Levee Safety Program that includes all of the recommendations of the National Committee on Levee Safety including key recommendations such as expanding and maintaining the National levee database, design and delegation of program responsibilities to states, establishment of a levee safety grant program, and establishment of a National Levee Rehabilitation, Improvement, and Flood Mitigation Fund.
- Incorporation of risk into the basis of design for levees and levee rehabilitation projects, where risk is defined as the product of the probability of failure and the consequence of the failure.
- Utilization of a higher basis of design and increased operation/maintenance requirements for levees used to convey or store water for extended periods of time than those levees intended for flood control due to the higher potential risk to our water supply.
- Utilization of the most recent guidance documents from the State of California Department of Water Resources (DWR) and the United States Army Corps of Engineers (USACE) as a minimum standard for the evaluation, design, and construction of levees until such time as National and/or State standards are available.
- Action by Congress to address the growing potential for public and private liability for future damages resulting from levee failures.

- Consideration of the recommendations from the National Committee on Levee Safety related to liability reforms excerpted below, including:
 - Limitations on third-party liability for engineering firms and public agencies providing engineering services for a levee system.
 - Limitations on liability for state and local agencies that sponsor, and then accept, federal flood control projects due to design and construction deficiencies (extending the current immunity enjoyed by the federal government to state and local agencies sponsoring the same project.)
 - Limitations on liability for state and local agencies that, by implementing levee safety programs, provide oversight, funding, or other services for non-federal levees.
- Replacement of the term “levee certification” in 44 CFR 65.10 with “levee compliance determination” to better communicate to policy makers and the public that FEMA certification does not imply a guarantee of safety from flooding.
- Revision of the current USACE standards for levee vegetation to consider the potential environmental benefits of levee vegetation, specifically with respect to compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

Rationale

- Levees are intended to enhance public safety and provide critical flood control infrastructure and protection for existing and new water supplies. Failure of one or more key levees in the Delta could irreparably impact California’s water supply and harm the fragile Delta ecosystem.
- Levee rehabilitation projects can be cost-effectively designed to provide environmental and water quality benefits, as well as flood protection.
- Innovative funding sources can be used for levee construction or rehabilitation projects by incorporating flood control and water supply benefits into the same project.
- Liability reform would encourage state and local entities to develop state levee safety programs and could motivate more firms to engage in the much needed evaluation, repair, and rehabilitation of California’s levees and levee systems.

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