



KNOW YOUR RISK

LEVEE INSPECTION RESULTS GUIDE FLOOD RISK PRIORITIES

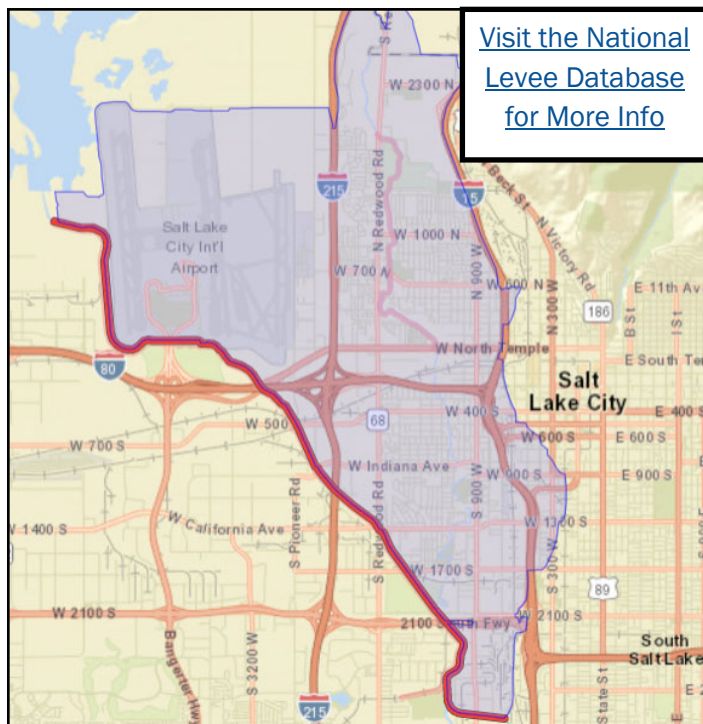
UNDERSTANDING YOUR RISK

What Was Inspected?

The Surplus Canal Right Bank - Salt Lake City, UT Levee System was inspected in October 2019. This system is a portion of the Jordan River Project and reduces flooding from Surplus Canal to certain areas of Salt Lake City.

What Did We Look For?

Anything that may negatively impact the levee integrity, inhibit operations and maintenance, or prevent emergency response personnel from conducting their operations (such as flood fighting) when required. Flood risk and levee condition are dynamic. Levees change over time: banks erode, closures rust, animals burrow, and pipes wear out. Ongoing vigilance is needed to reduce the risk associated with flooding.



Levee Inspection Findings

An engineering determination by USACE concluded that unacceptable observations may prevent the system from functioning as intended during the next flood event; although past performance is not an indicator of future performance, the levee system was able to perform as intended during past flood events. The unacceptable rating is due to encroachment, vegetation growth, erosion/bank caving, and sod cover related issues. The system remains active in the Public Law 84-99 Rehabilitation Program. Activities underway to improve the levee system can be found in **REDUCING YOUR RISK**.

Example Inspection Observations



Erosion:

Erosion of the ground near the levee could undermine the stability of the levee, as shown above. This erosion can become obscured during flood events, which can lead to unexpected failure.



Vegetation:

Heavy vegetation like the reeds and brush above can inhibit an inspectors view of the levee slope and toe, potentially obscuring any problems that may be present.

Example Inspection Observations—Continued



Unprotected Slopes:

The earthen levee slope has deteriorated as a result of the lack of grass cover. Grass roots hold the surface soil together preventing water from deteriorating the surface, as shown above.



Pipes Through the Levee:

Every pipe that extends through the levee needs a riverside closure, such as a valve. This is to prevent possible flow of water from the riverside of the levee to the landside. Open pipes like this without closure can lead to potential flooding.

REDUCING YOUR RISK

Corrective Actions Underway by Salt Lake County (SLCo)

SLCo conducts weekly visual inspections of the entire levee system to monitor for issues such as vegetation, erosion, settlement, or new encroachments. SLCo also conducts weekly internal meetings to discuss ongoing project activities and coordinate with affected entities such as utility companies, private property owners, city engineers, and the Salt Lake International Airport. Since the last USACE inspection in 2019, SLCo has performed routine maintenance such as mowing vegetation, repairing surface damages and grading, and removing debris that may impede flood flows, and non-routine maintenance such as removing or relocating encroachments and removing large trees and stumps. SLCo has coordinated and is in the process of coordinating additional real estate acquisition and purchase of land within the levee right-of-way to provide better access during potential flooding events. SLCo is working with USACE to retroactively permit existing encroachments in place (i.e. utility poles, pipe crossings, and structures). SLCo is working with property owners to upgrade existing infrastructure (i.e. storm water outfalls) to meet USACE standards. All work is conducted in accordance with a System Wide Improvement Framework (SWIF), which outlines the plan to address the identified deficiencies in order to bring risks associated with the levee system to an acceptable level.

Challenges

The greatest challenges in bringing the levee system up to USACE standards include the time required for coordination between SLCo, encroachment owners, and the USACE; the costs of management, maintenance, inspections, and planning; and relying on funding by encroachment owners to repair or upgrade their deficiencies.

What You Can Do

Understanding your risk is important. But it's also important to know that when you live behind a levee there will always be flood risk. Here are some tips to help you prepare for a potential emergency.

- Make a plan for your family
- Build an emergency supply kit
- Visit [Ready.gov](https://www.ready.gov) for more ideas and resources

For more information on the USACE Sacramento District Levee Safety Program, please visit: www.spk.usace.army.mil/Missions/Civil-Works/Levee-Safety-Program

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