

**Lower Berryessa Creek Flood Protection Project**  
**Phase 2: Downstream of Abel Street to Calaveras Boulevard**  
**Status: Construction**



**About the project**

- The Santa Clara Valley Water District's Berryessa Creek Flood Protection Project, when completed, will protect 2,447 parcels in the city of Milpitas from the threat of a 100-year flood event, which has a 1-in-100 chance of occurring in any given year. The Berryessa Creek Flood Protection Project includes both the Upper Berryessa Creek portion and the Lower Berryessa Creek portion.
- Work on the Upper Berryessa Creek portion of the project, which will protect 624 parcels, began in 2016, with an anticipated completion date of December 2017. Lower Berryessa, which includes Calera and Tularcitos creeks, will protect 1,823 parcels and is underway in three phases.
- The Lower Berryessa Creek portion of the project, which includes Calera and Tularcitos creeks, will protect 1,823 properties in Milpitas, between Milpitas High School and E. Calaveras Boulevard (north to south) and the Union Pacific Railroad to Highway 680 (east to west). These neighborhoods include Curtner Estates, Milpitas Starlite, Reflections and Images, Beresford, Hidden Lake, Beresford Estates, Hillview, Martil Way, Hamilton Avenue and Convetry.
- The Lower Berryessa Creek project is underway in three phases. FEMA-certifiable improvements are planned about 1.7 miles through Milpitas, from its confluence with Lower Penitencia Creek, south to Calaveras Boulevard. Work would also occur along 2.1 miles of Calera and Tularcitos creeks, two smaller creeks that flow into Berryessa Creek.
- The project for Lower Berryessa Creek will build floodwalls, improve levees, widen the creek channel to accommodate high flows, and enhance and enlarge tidal and freshwater wetlands and riparian habitat.
- The status of its three phases:
  - The district completed Phase 1 – the confluence at Lower Penitencia Creek to Abel Street – in December 2016.
  - Phase 2, from Abel Street to Calaveras Boulevard is in construction.
  - Phase 3 includes a portion of Calera Creek and Tularcitos Creek. Work on these creeks will take place in two phases following completion of the second phase.

**Features**

- Floodwalls. These artificial walls help contain waters of a waterway when they rise to unusual levels. Along the south bank of Lower Berryessa Creek, they would rise between 12- to 14-feet from existing ground from Abel Street to North Milpitas Boulevard (13- to 14-feet from existing

ground along Edgewater Drive); 4- to 8-feet from existing ground from North Milpitas Boulevard to North Hillview Drive and 3- to 4-feet from existing ground from North Hillview Drive to Calaveras Boulevard.

- Improved levees. These embankments, built to prevent the creek's overflow, would be built along 1.2 miles of the north bank of the creek from Abel Street to Calaveras Boulevard.
- A widened channel. The water district would widen the channel over 1.2 miles, which reduce streambed erosion and lessen the risk of flooding.
- Enhanced riparian habitat. Roughly 3.54 acres, mitigating for project impacts at nearly a 3:1 ratio.
- Restored recreational trails, about 1.1 miles.

#### Benefits

- Flood protection equals cost savings. The work will save Milpitas residents thousands of dollars annually on required flood insurance.
- Environmental. The project will enlarge and enhance the quality of wetlands and riparian habitat.
- Recreation. The community will have improved access to trails along the north bank of the creek.

#### Frequently Asked Questions

1. How does the water district determine the floodwall's height?
  - Hydraulic models and calculations. The water district's hydraulic experts and consultants performed rigorous calculations and modeling of water flow in the creek channel during a 100-year flood. The calculations and models are based on detailed survey data of topography and structures throughout the Berryessa Creek system; final design of the U.S. Corps of Engineers' Upper Berryessa Creek project; up-to-date guidance from the National Oceanic and Atmospheric Administration on effects of climate change and storm intensities; data on land use and development in the watershed; channel roughness coefficients; and requirements set by the regulatory agencies.
  - FEMA's required "freeboard." To remove properties from the floodplain, the district must follow the Federal Emergency Management Agency (FEMA) freeboard criteria; the vertical distance between the projected water surface and the elevation of the levee or floodwall during the design flood event (in this project, a 100-year flood). FEMA requires 3 feet of freeboard along the creek channel and 4 feet within 100 feet of bridges to provide a safety margin.
  - Floodwall heights. As viewed from the outside of the creek channel, the floodwall heights vary. They stretch between 12- and 14-feet high from the existing ground between Abel Street and North Milpitas Boulevard (13- to 14-feet high from the existing ground along Edgewater Drive), 4- to 8-feet high above existing ground between North Milpitas Boulevard to North Hillview Drive and 3- to 4-feet high above existing ground between North Hillview Drive and Calaveras Boulevard. Ground surface elevation from the outboard side of the channel determines floodwall heights. The floodwalls are shorter at areas with higher ground surface elevation, and taller at areas with lower ground surface elevation. Consistent with planning standards, the project's planning documents reference the typical floodwall heights.

2. Is the project's hydrology sound?
  - The project's hydrology was verified by the federal and local flood control authorities, the United States Army Corps of Engineers and the Santa Clara Valley Water District. The project hydrology (flow analysis) was conducted and certified by the United States Army Corps of Engineers. The project hydraulics (water surface elevation and freeboard analysis) was conducted by the water district, and reviewed and accepted by the Corps.
3. Can the water district reduce the visual impact of floodwalls?
  - Yes. The district has shown an aesthetic surface treatment to the floodwall, vegetation planting to shield the wall and creating vegetated soil berms to improve the floodwall's appearance.
4. Can the district replace the south floodwall with a levee?
  - A levee requires more area the higher it is built, which decreases the size of the creek channel and constricts the flows.
  - A narrower creek channel would result in higher water levels, which would require taller levees and modifications at the railroad bridges. The narrower creek channel would also reduce the area available for riparian plantings.
  - If the floodwall on the south bank was replaced with a levee within the existing right-of-way, there would not be adequate room for planting a riparian corridor which could compensate for the project impacts. Regulatory agencies would not authorize a project without adequate mitigation measures.
  - To design a levee on the south side with adequate riparian corridor plantings, the water district would need to move 45 feet onto Edgewater Drive, which is 40 feet wide.
5. Are the riparian areas required?
  - Regulatory agencies, such as the U.S Fish and Wildlife Service and the Regional Water Quality Control Board, issue the permits for flood protection projects and require a minimum amount of mitigation for building a project. Without the riparian areas of the current project, the regulatory agencies would be unlikely to grant permits for the work.
6. What happens if the water district does not build the project?
  - The project is critical to the safety of the Milpitas community. If the project (Phase 2) is not completed, then the Upper Berryessa Creek Project (from Calaveras Blvd. to I-680) and Phase 3 improvements along Calera and Tularcitos creeks can't proceed. Together, the Lower Berryessa Creek Phases 1 to 3 with the Upper Berryessa Creek Project provide flood protection for approximately 2,400 homes, schools and businesses in Milpitas. If the Lower Berryessa Creek Phases 1 to 3 with the Upper Berryessa Creek Project are not completed, those 2,400 parcels will be required to pay costly required flood insurance each year.
  - The project (Phase 2) is designed to work with the additional flood protection projects throughout the Berryessa watershed, which are completed or underway. The project is essential to ensuring all communities are provided adequate flood protection and that no neighborhoods are left with an increased flood risk.

7. What did the water district do to gather the public's opinion about the project?
- The water district recognizes community input is critical toward successfully developing a project that captures the public's priorities while meeting the agency's objective for flood protection.
  - During the 12-year span of planning and designing the project, the district held several public meetings at key project milestones to consult the community and solicit feedback. It also consistently mailed project updates throughout the process to keep the community informed.
  - On April 21, 2009, the Milpitas City Council endorsed the proposed alternatives during the design phase.
  - On December 13, 2011, the Santa Clara Valley Water District's Board of Directors certified the project EIR.
8. Why did the height of the floodwall change throughout the planning documents?
- Consistent with planning standards, the project's planning documents reference the typical floodwall heights because the floodwall heights vary throughout the project. The typical floodwall height is 5-8 feet.
    - The length of the 14-foot floodwall along Edgewater Drive is about 1,600 feet or 10% of the entire Lower Berryessa project. This includes Phase 1 (Lower Penitencia Creek confluence to Abel Street), Phase 2 (Abel Street to Calaveras Blvd), and Lower Calera Creek (currently in design).
  - The 2011 Final EIR analyzed a 12-foot high floodwall along Edgewater Drive based on the conceptual design plans at that time.
  - Since 2011, the District proceeded with preparation of 30%, 60%, 90% and 100% design plans, each adding additional detail to the design. During the detailed design effort, the District determined that the floodwall along Edgewater Drive would have to be 14 feet in height to provide protection against the 1% flood. The slight increase in floodwall height from 12 to 14 feet would not result in new significant environmental effects not analyzed in the 2011 EIR; therefore modification of the 2011 EIR was not required.
  - The 14-foot tall floodwall was approved by the Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW) and U.S. Army Corps of Engineers when they issued permits allowing construction of the Lower Berryessa Creek Flood Protection Project.
9. How do we stay informed of the project's progress?
- Visit the project website, [www.valleywater.org/services/LowerBerryessaCreek.aspx](http://www.valleywater.org/services/LowerBerryessaCreek.aspx)
  - Click on the link at the bottom of the web page to receive project email updates.
  - Submit inquiries through Access Valley Water. Visit [www.valleywater.org](http://www.valleywater.org) and click on the "Access Valley Water Go" button or download the mobile app.
  - Contact Public Information Representative Kristen Yasukawa with the Santa Clara Valley Water District at (408) 630-2876 or [kyasukawa@valleywater.org](mailto:kyasukawa@valleywater.org)