**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 Lower Berryessa Creek Flood Protection Project and U.S. Army Corps of Engineers’ Upper Berryessa Creek Flood Risk Management Project will improve about 4 miles of Berryessa Creek. When completed, these two projects will protect approximately 2,400 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.
* Construction on the Upper Berryessa Creek Flood Risk Management Project, which protects 624 parcels and the new Milpitas BART station, began in 2016, and was completed in December 2017.
* The Lower Berryessa Creek project, which will protect approximately 1,800 properties in Milpitas, will build floodwalls, raise levees, widen the creek channel to accommodate high flows and enhance and enlarge tidal and freshwater wetlands and riparian habitat.
* The Lower Berryessa Creek project is underway in three phases. FEMA-certifiable improvements are planned for about 1.7 miles of creek channel through Milpitas, from Lower Berryessa Creek’s confluence with Lower Penitencia Creek, south to Calaveras Boulevard. Work will also occur along 2.1 miles of Calera and Tularcitos creeks, two smaller creeks that flow into Berryessa Creek.
  + The water district completed Phase 1 – from the confluence at Lower Penitencia Creek to Abel Street – in December 2016.
  + Phase 2 from Abel Street to Calaveras Boulevard is in construction with an expected completion date of December 2018. The second section of Phase 2 – along Lower Calera Creek from Lower Berryessa Creek to approximately 800 feet upstream of Arizona Avenue – is scheduled to begin construction in 2019.
  + Phase 3 includes the upper portion of Calera Creek and Tularcitos Creek. Work on these creeks has yet to be scheduled.

Features:

* Floodwalls. These reinforced concrete walls help contain waters of the creek when they rise to unusual levels. Along the south bank of Lower Berryessa Creek, the floodwalls rise between 12- to 14-feet from existing ground from Abel Street to North Milpitas Boulevard, 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, are being built and raised 5- to 6-feet along 1.2 miles of the north bank of the creek from Abel Street to Calaveras Boulevard.
* A widened channel. The water district is widening the channel over 1.2 miles, which will increase channel flow capacity, reduce the potential for streambed erosion and lessen the risk of flooding.
* Enhanced riparian habitat. To complete the project, some areas of native habitat had to be removed. To make up for that loss, the water district is planting roughly 3.54 acres of native riparian plants in the channel, almost three times the amount of area that was impacted.
* Restored recreational trails. About 1.1 miles of recreation trail will be reconstructed.

Benefits:

* Flood protection. The Lower Berryessa Creek project will provide flood protection to approximately 1,800 properties in Milpitas.
* Environmental. The project will enlarge and enhance the quality of wetlands and riparian habitat.
* Recreation. The community will have improved access to the City of Milpitas designated trails along the north bank of the creek.
* Flood protection equals cost savings. The work will save Milpitas residents thousands of dollars annually on required flood insurance.

**Frequently Asked Questions**

1. How did 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 how water would 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. Army 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 water district must follow the Federal Emergency Management Agency (FEMA) freeboard criteria. Freeboard is 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, 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 street-facing 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.

1. 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.

1. Can the water district reduce the visual impact of floodwalls?

* Yes. The water district has applied an aesthetic surface treatment to the floodwall that deters graffiti. Vegetation planting to shield the wall is an opportunity along sections of the floodwall where there is enough planting space.

1. Are the wetland planting areas required?

* Regulatory agencies, including the California Department of Fish and Wildlife and the San Francisco Bay Regional Water Quality Control Board, have issued permits for this flood protection project. The permits require a minimum amount of mitigation to compensate for removal of vegetation and habitat disturbance during project construction. Without the wetland planting areas of the current project, the project would not be compliant and regulatory agencies would be unlikely to grant permits for the work.

1. 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 Phase 3 improvements along Calera and Tularcitos creeks can’t proceed. Together, the Lower Berryessa Creek Phases 1 to 3 with the recently completed Upper Berryessa Creek Project (from Calaveras Blvd. to I-680) will 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. If the Phase 2 improvements are not completed, the increased flows resulting from the additional projects could cause flooding in this area in a heavy rainstorm. The project is essential to ensuring all communities are provided adequate flood protection and that no neighborhoods are left with an increased flood risk.

1. 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 and three construction seasons, the water district held 18 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.
* The project Environmental Impact Report (EIR) was available for public comment for 46 days from June 28, 2011 through August 12, 2011. On Dec. 13, 2011, the Santa Clara Valley Water District’s Board of Directors certified the project EIR.

1. How do we stay informed of the project’s progress?

* Visit the project website, <https://www.valleywater.org/project-updates/creek-river-projects/lower-berryessa-creek-flood-protection>
* Clink on the link at the bottom of the “News and Updates” section of the web page to sign up to receive project email updates.
* Submit inquiries through Access Valley Water. Download the mobile app, or visit [www.valleywater.org](http://www.valleywater.org) and click on “Access Valley Water” at the bottom of the page.
* Contact Public Information Representative Emily Gross with the Santa Clara Valley Water District at (408) 630-2415 or [egross@valleywater.org](mailto:egross@valleywater.org)