



SPN SURVEYOR

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Flood project completed!

— New BART station set to open in Milpitas —

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COMMANDER'S CORNER

District employees tackle present and future threats

By Lt. Col. Travis J. Rayfield
San Francisco District Commander

I know what you're thinking. You haven't seen me in a while. I'll explain. But having completed my first year as San Francisco District commander, I first want to say I'd be hard pressed to think of another time in recent memory when the Corps motto of 'building strong and taking care of people' has been more relevant to the work we do, and also to the challenges we face in the Bay Area.

Nine months after the most damaging wildfires in California history, we've turned a corner, having largely completed the removal of fire debris across multiple counties and thousands of properties. You haven't seen me around lately because I've been up in Santa Rosa leading our emergency response to the fires. Having returned, I am proud to say the dedication, sacrifice and commitment that this district has displayed in helping to restore normal life to those hard hit by this sudden tragedy has been absolutely impressive, and I want to take this opportunity to thank all of you for going beyond the call of duty and truly exemplifying why the Army Corps of Engineers remains so integral to the nation's



strength and quality of life. That commitment didn't end with our response to the wildfires; many of you also volunteered to deploy around the country to help communities still recovering from last year's hurricanes. For that, the nation and I are truly grateful.

As you're about to read in this issue of The Surveyor, many of us will be turning our attention to another threat that has long faced the region – flooding. The recent completion

of the Berryessa Creek Flood Risk Reduction Project in Milpitas, Calif., is another example of how we are fulfilling our mission of building strong and taking care of people by working to safeguard flood-prone areas from future threats. Such work is taking place this summer in Santa Cruz County in the City of Watsonville, where our Construction Branch is overseeing a \$6 million project to repair levees along Salsipuedes Creek and Pajaro River that were damaged during last year's winter storms.

Down the road, we're also likely to be playing a role in safeguarding the faltering San Francisco seawall along the Embarcadero. It's more than 100 years old and in danger of collapsing in a major earthquake and leaving the city's waterfront vulnerable to a surging sea. We expect to sign a feasibility cost-sharing agreement with the Port of San Francisco in September, and then will be off and running on this important feasibility study. This project is a high priority for the Corps, evidenced by the fact that it is one of just six new starts in the nation this year.

So as I complete my first year as your commander, let me reemphasize that a year on, I continue to be amazed at all we are accomplishing and grateful for the work all of you do every day.

Veterans tour SF Bay, visit ballpark

By Larry Quintana
District Public Affairs

On April 19, the Department of California Disabled American Veterans and the U.S. Army Corps of Engineers San Francisco District hosted 24 disabled veterans and their caregivers for a tour of the Bay, followed by a final stop at AT&T Park for a Giants-Nationals baseball game. The group included veterans who served in Korea, Vietnam, Iraq and Afghanistan. Many were from the Veterans Community Service Rehab Center in nearby Martinez, Calif.

The group boarded the M/V Dillard at the Bay Model dock for the trip to the Marina Entrance at AT&T Park, passing under the Golden Gate Bridge, Alcatraz Island and the SF Waterfront along the way.



Military veterans take in the views of the San Francisco Bay during a tour onboard the district's M/V Dillard April 13.

This is the fifth year the California DAV has teamed with the Corps to provide disabled veterans of local rehabilitation facilities a chance to enjoy a day out on the Bay. Special thanks to M/V Dillard Captain Kixon Meyer and the crew for another successful outing!

SPN SURVEYOR

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2018 Lake Sonoma Steelhead Festival



Beach

On the cover

In May, the U.S. Army Corps of Engineers San Francisco District and Santa Clara Valley Water District marked the completion of the Berryessa Creek Flood Risk Management Project following two years of construction. The project consists of approximately two miles of channel improvements, flood walls, box culverts (pictured on cover), and a railroad bridge replacement. (Photos by Beach)

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STEM News

Bay Model hosts Marin Science Fair



Andrew Smith, San Francisco District civil engineer, Anne Zwerner, and Chris Gallagher, pictured below, Bay Model Visitor Center park manager, help judge science projects April 2.

By Brandon Beach
District Public Affairs

The annual Marin County Elementary School Science Fair has been hosted by the San Francisco District at the Bay Model Visitor Center in Sausalito for nearly 20 years and has been successful because of the great partnership fostered by Chris Gallagher, BMVC park manager, and Col. (USA-RET) Larry Lack, who is a science teacher at one of the local Marin County schools.

This year's fair involved some 60 project entries. Nearly 20 judges participated, and the event included leaders in academia, private industry, government agencies, and also employees from the San Francisco District. It is also a tradition each year that the district presents an award to the project that best exemplifies a USACE mission. This year's winner was Charles Haslett, a 6th-grader at Ross Elementary School, whose project examined the effects of tides on coastlines.



Revisiting the Hamilton Wetland Restoration Project



The Hamilton Army Airfield Wetland Restoration Project is located on San Pablo Bay, four miles east of the city of Novato, Calif. The project includes a 988-acre parcel with a former military airfield, adjacent California State Lands Commission areas, and the 1,612-acre Bel Marin Key Unit parcel. This project allowed for the beneficial use of 24.4 million cubic yards of dredged material, including 3.5 million cubic yards from the Port of Oakland 50' Deepening Project. In April of 2014, the first phase of restoration was completed. The airfield's bayside levee (shown in the bottom left photo) was breached, opening the site to bay waters for the first time in over 100 years, resulting in 648 acres of restored wetland habitat. The site is currently in the monitoring and adaptive management phase of the project. (Photos taken by Brandon Beach on April 24, 2018.)

Dry Creek project team earns Sustainability Award

By Brandon Beach
District Public Affairs

The Dry Creek Continuing Authorities Program (CAP) received the 2018 USACE Sustainability Award for what the Corps said were efforts welcomed by local landowners to promote species recovery on vineyard property. The award

signals a big turnaround for a project underway in a community that had a distrust of government following the construction of Warm Springs Dam in the 1980s, as well as assorted regulatory activities impacting land use in Dry Creek Valley.

“This CAP project is the result of a team working exceptionally well with a variety of stakeholders to deliver what promises to be

an enduring and essential water resource solution given the challenges of a degraded habitat and a species of fish that had been nearing extinction,” said Mark Bierman, the district’s CAP Program Manager.

The Sustainability Award recognizes projects that make significant contributions to energy efficiency and sustainable solutions.



SPN archives

In 2013, SPN completed channel restoration of Dry Creek Reach 15 near Warm Springs Dam.

NAVIGATION NEWS

Crew members rescue distressed swimmers in SF Bay

By Nick Simeone
District Public Affairs

Three swimmers in the San Francisco Bay were rescued by members of the U.S. Army Corps of Engineers April 12, as they were being pulled out to sea by an ebbing tide.

The crew aboard the San Francisco District's debris collection vessel, the Dillard, were on a routine patrol of the Bay when they received a call from the Coast Guard to investigate swimmers near the Raccoon Straits. Upon arrival, those in the water told the Dillard's crew they wanted to continue swimming toward Tiburon Landing despite being advised that they

were likely to be overtaken by the ebbing tide. The Dillard decided to stand by to ensure the swimmers' safety and keep the local vessel traffic advised of their position.

But soon the swimmers' pace began to slow and it became apparent that they were being overtaken by the strong current and were being pulled toward the Golden Gate Bridge faster than they could swim. After requesting assistance, the Dillard deployed rescue swimmer Sgt. Gerald Chavez (pictured left), to help bring those in distress on board. All three swimmers were cold and tired but alert and very glad to be on board.

The Dillard then transported them to Tiburon Landing.



Sgt. Gerald Chavez, a crew member for the San Francisco District's M/V John A. B. Dillard, Jr., helped rescue three distressed swimmers discovered near Golden Gate Bridge April 12.

Beach



Kixon Meyer

Dillard crew trains with local Coast Guardsmen

Story & photos by Brandon Beach
District Public Affairs

Crew members from the M/V John A. B. Dillard, Jr., a San Francisco District command and control vessel, conducted emergency towing exercises with U.S. Coast Guard Cutter Pike Feb. 18.

The two crews met just south of the Bay Bridge near Treasure Island, where they completed a series of tow and be-towed maneuvers. The Pike, which is based on Yerba Buena Island, is an 87-foot patrol boat responsible for law enforcement missions in the San Francisco Bay Area.



A photograph showing two workers in safety gear (hard hats, high-visibility vests, and waders) working in a flooded area. One worker is standing on the bank, while the other is wading in the water, using a tool to inspect a large, dark pipe. Blue hoses are connected to the pipe. The background shows a body of water and some vegetation.

Reducing Flood Risk

District tackles multiple Bay Area flood challenges

Story & photos by Nick Simeone

District Public Affairs Office

The San Francisco Bay Area has not had a major flood since 1997. That situation changed with the 2017 California winter storms which caused millions of dollars in damage, and triggered a renewed sense of urgency about the threats posed by sea level rise.

Continued next page >

Flood continued ...

It's a risk compounded by the amount of low-lying shoreline around the bay that is dense with expensive real estate including homes, sports stadiums and multi-billion dollar businesses all at risk of flooding by torrential rains and rising seas. Some estimates predict sea levels in the Bay Area could rise by as much as 66 inches over the next century.

To highlight the urgency of the threat, the Corps' South Pacific Division now considers the San Francisco waterfront, protected by a seawall more



The San Francisco waterfront along the Embarcadero is protected by a seawall more than a century old.

than a century old and deemed likely to falter during a major storm surge or earthquake, to be the highest priority for new federal dollars, or what is known as new start investigations. The structure provides flood protection for downtown neighborhoods and if it fails, the city estimates water damage to property and business could run as high as \$35 billion.

"The San Francisco seawall is our last defense against the rising sea levels brought on by climate change and if we do not act now, our city will feel the impact for generations

to come," said former Mayor Mark Farrell. City voters will be asked in November to approve a bond measure that would raise hundreds of millions of dollars for the project.

South of the city in Silicon Valley, some of the world's most expensive real estate and highly valued companies are considered especially vulnerable, so much so that the Corps' San Francisco District and Santa Clara County are among those conducting a feasibility study to determine the best way to mitigate against the considerable risk of tidal flooding across areas of land protected

by little more than non-engineered dikes. Major transportation hubs and highways are among the vital infrastructure considered vulnerable. Runways at San Francisco's main

airport jut out into the Bay with little defense against a sea

"Agencies in the Bay Area recognize that sea level rise will cause coastal flooding in the near future if no action is taken."

Craig Conner
District FRM Program Manager

Construction crews, pictured right and on the previous page, work to repair levee damage June 11 at Salsipuedes Creek near Watsonville in Santa Cruz County.



Summer 2018

District, water agency hold public ceremony for Berryessa project



Maj. Kevin McCormick, SPN deputy commander, gives remarks at the May 18 Berryessa Creek project completion ceremony.

By Nick Simeone
District Public Affairs

The chances of a catastrophic flood again threatening a densely-populated South Bay community have been significantly diminished with the completion in May of the Berryessa Creek Project in Milpitas, a \$27 million endeavor that is also critical to the extension of BART's new Milpitas station.

Deputy San Francisco District Commander Maj. Kevin McCormick was on hand for the Santa Clara Valley Water District's May 18 ribbon cutting for a project that will bring flood protection along 2.2 miles of Upper Berryessa Creek and North San Jose, areas that have experienced three major floods since 1982.

The project, whose construction took nearly two years to complete, will bring flood protection to homes, businesses and neighboring communities in the densely-populated region, and will serve to protect the new underground Milpitas BART station located in the Berryessa Creek floodplain.

The project will increase channel capacity, stabilize eroded banks and replace a railroad trestle. It also includes new flood walls to reduce the risk of flooding in what is a heavily populated low lying area.

surge. Nearby is highway 101, a major artery used by hundreds of thousands of motorists daily that is located just feet from the Bay and would likely be submerged during a major tidal surge if predictions of sea level rise are realized.

"Agencies in the Bay Area recognize that sea level rise will cause coastal flooding in the near future if no action is taken," said San Francisco District Flood Risk Management Program Manager Craig Conner. "Because of these issues,

there has been a renewed interest by local agencies to partner with the Corps on flood risk management projects."

BART, the Bay Area's rapid transit system, is also at risk of flooding and the Corps just completed a \$27 million project designed in part to protect the system's Milpitas station which is located on a floodplain. The reinforced levees will also bring flood protection to homes and businesses along

Continued page 8

DISASTER RESPONSE

District planner assists wildfire survivors in Napa

Story & photo by Brandon Beach
District Public Affairs

The dozens of wildfires that swept across four counties in Northern California last October were some of the most destructive in the state's history. Napa County was especially hard hit, with the Atlas fire alone burning upwards of 55,000 acres and destroying some 800 structures, more than half of them homes.

Following containment of the fires, the Federal Emergency Management Agency mobilized the U.S. Army Corps of Engineers to oversee the removal of the millions of tons of private property debris left behind in the aftermath. Hundreds of Corps employees from across the nation answered the call to help with the enormous cleanup effort. Serving as the local government liaison for Napa County was Ed Keller, a rehired annuitant with the San Francisco District Environmental Section, who spent over five months deployed in the area. During that time, he met with homeowners across the county answering questions about the Corps' private property debris removal program.

"A lot of these folks lost everything, and within a month, they are being asked to sign up for a program that's going to clean



Ed Keller, a rehired annuitant with the San Francisco District Environmental Section, inspects a property in Napa burned to ash and debris by a wildfire that swept through the area last October.

up their property and not fully understanding the scope of what that means," he said.

In addition to working directly with homeowners, Keller would meet several times a week with emergency response personnel from FEMA, California Office of Emergency Services, Environmental Protection Agency and the County to discuss issues pertaining to the cleanup effort.

Lack of access to certain properties created challenges for contractors. In some cases, a bridge was burned out and served as the only way to enter a property. In order to clear the site of debris, contractors needed to construct a temporary bridge or find an alternate entry point. Keller recalls one such complex site in the Redwood Road area of Napa

that particularly stood out.

"It was a property built right into the hillside cantilevered out, and there was a foot bridge and a cableway system of getting supplies to the house from the roadway," he said. "[Following the fire], all of the ash was on the hillside, not a flat piece of ground around it. The [debris removal] work had to be done by hand, loading into bags, with a crane to pull the bags out of the canyon."

Keller said he touched base with homeowners at multiple stages throughout the process either on site or via phone helping to explain such things as the Right of Entry form, which grants government contractors access onto private property, or how soil sampling and testing works.

For Keller, this was his first emergency response deployment with the Corps. Typically, volunteers serve 30-day taskers. Keller served as the Napa County government liaison for 140 days in the field, an astonishing period of time given the fact that volunteers maintain a 12 hours a days, seven days a week schedule. He had this advice for those employees considering deploying.

"It can be taxing, sure. You're doing long days for long periods of time, but it's very rewarding to see folks get the closure on their property, get their permits, start the rebuilding process," he said, "They just want to move on with their lives, and you're helping them do that."

Flood projects continued ...



The new BART station in Milpitas is set to open in early 2019.

several miles of densely populated Upper Berryessa Creek and North San Jose, areas that have experienced three major floods since 1982.

Storm damage last year also triggered the repair of the Pajaro River and Salsipuedes Creek levee systems in nearby Santa Cruz County, a \$6 million dollar project expected to be completed in several months.