



Santa Clara Valley Water District Board of Directors Meeting

District Headquarters Board Room
5700 Almaden Expressway
San Jose, CA 95118

9:00 A.M. SPECIAL JOINT MEETING WITH CITY OF SAN JOSE AGENDA

**Wednesday, December 12, 2018
9:00 AM**

District Mission: Provide Silicon Valley safe, clean water for a healthy life, environment and economy.

DISTRICT BOARD OF DIRECTORS

Richard P Santos, Chair, District 3
Linda J LeZotte, Vice Chair, District 4
John L Varela, District 1
Barbara Keegan, District 2
Nai Hsueh, District 5
Tony Estremera, District 6
Gary Kremen - District 7

All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the Office of the Clerk of the Board at the Santa Clara Valley Water District Headquarters Building, 5700 Almaden Expressway, San Jose, CA 95118, at the same time that the public records are distributed or made available to the legislative body. Santa Clara Valley Water District will make reasonable efforts to accommodate persons with disabilities wishing to attend Board of Directors' meeting. Please advise the Clerk of the Board Office of any special needs by calling (408) 265-2600.

NORMA CAMACHO
Chief Executive Officer

MICHELE L KING, CMC
Clerk of the Board
(408) 265-2600
Fax (408) 266-0271
www.valleywater.org

Note: The finalized Board Agenda, exception items and supplemental items will be posted prior to the meeting in accordance with the Brown Act.

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**Santa Clara Valley Water District
Board of Directors**

**9:00 A.M. SPECIAL JOINT MEETING WITH CITY OF SAN JOSE
AGENDA**

Wednesday, December 12, 2018

9:00 AM

District Headquarters Board Room

1. Call to Order and Roll Call.
2. Pledge of Allegiance.

JOINT CITY/SCVWD BOARD

3. Opening Remarks by Chair of the Board and the Mayor.

4. Updates Associated with Coyote Creek.

[18-1075](#)

- Recommendation:
- A. That the District Board and the City Council receive information regarding updates to the joint emergency action plan with the addition of Canoas, Guadalupe and Ross Creeks;
 - B. That the District Board and the City Council receive information on the status of Anderson Dam winter operations;
 - C. That the District Board and the City Council receive information on the Water District's Flood Awareness/Winter Preparedness Campaign for 2018-2019; and
 - D. That the District Board and the City Council receive information on the current status of the Coyote Creek Feasibility Study.

Manager: Tina Yoke, District Chief Operating Officer, 408-630-2385

Attachments: [Attachment 1: PowerPoint](#)
[Attachment 2: Joint Emergency Action Plan](#)

Est. Staff Time: 20 Minutes

5. Update on the South San Francisco Bay Shoreline Project.

[18-1074](#)

- Recommendation:
- A. That the District Board and the City Council receive information on the South San Francisco Bay Shoreline Project;
 - B. That the District Board direct its Chief Executive Officer to work collaboratively with the City Manager to advance the South San Francisco Bay Shoreline Project, including Phase I; and
 - C. That the City Council direct its City Manager to work collaboratively with the District Chief Executive Officer to advance the South San Francisco Bay Shoreline Project, including Phase I.

Manager: Ngoc Nguyen, District Deputy Operating Officer, 408-630-2632
Kerri Romanow, City Director of Environmental Services, 408-535-8550

Attachments: [Attachment 1: PowerPoint](#)

Est. Staff Time: 20 Minutes

6. Update on City and District Efforts Regarding Creek Health and Safety Along Waterways.

[18-1072](#)

- Recommendation: That the District Board and the City Council receive information regarding the respective roles, responsibilities, and coordinated efforts with respect to creek health and waterway safety issues.

Manager: Melanie Richardson, SCVWD Chief Operating Officer, 408-630-2035
Ragan Henninger, City Housing Dept. Deputy Director, 408-535-3860
Casey Fitzgerald, City Env. Services Dept. Interim Deputy Director, 408-793-5378

Attachments: [Handout 6-A, S. Williams](#)

Est. Staff Time: 20 Minutes

7. Public Comment.

Notice to the public: This item is reserved for persons desiring to address the Board on any matter not on this agenda. Members of the public who wish to address the Board on any item not listed on the agenda should complete a Speaker Card and present it to the Clerk of the Board. The Board Chair will call individuals to the podium in turn. Speakers comments should be limited to three minutes or as set by the Chair. The law does not permit Board action on, or extended discussion of, any item not on the agenda except under special circumstances. If Board action is requested, the matter may be placed on a future agenda. All comments that require a response will be referred to staff for a reply in writing. The Board may take action on any item of business appearing on the posted agenda.

8. Adjourn to 12:30 p.m. Closed Session and 1:00 p.m. Special Meeting on December 12, 2018, in the Santa Clara Valley Water District Headquarters Building Boardroom, 5700 Almaden Expressway, San Jose, California.

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File No.: 18-1075

Agenda Date: 12/12/2018

Item No.: 4.

BOARD AGENDA MEMORANDUM

SUBJECT:

Updates Associated with Coyote Creek.

RECOMMENDATION:

- A. That the District Board and the City Council receive information regarding updates to the joint emergency action plan with the addition of Canoas, Guadalupe and Ross Creeks;
- B. That the District Board and the City Council receive information on the status of Anderson Dam winter operations;
- C. That the District Board and the City Council receive information on the Water District's Flood Awareness/Winter Preparedness Campaign for 2018-2019; and
- D. That the District Board and the City Council receive information on the current status of the Coyote Creek Feasibility Study.

SUMMARY:

A. Joint Emergency Action Plan

Outcome

By accepting the report on the additions to the Joint Emergency Action Plan (JEAP), both agencies acknowledge:

- The City and the District committed to an agreement on November 3, 2017 to annually test and update the JEAP as needed;
- Changes are identified by designated staff from the City and District;
- Updates are tested in an annual exercise; and
- Updates are approved by the City Manager and District Chief Executive Officer.

The operational and mobilization elements of the JEAP provide guidelines to the appropriate managers and functional departments of both agencies for joint decision-making and mobilization of resources during all four levels of flood threat. The JEAP outlines roles and responsibilities on public communications and emergency notification. Multilingual messages, methods for communicating, and channels of communication are now pre-determined and in accordance with flood condition and operational levels.

This JEAP provides oversight and guidance. It is not intended to provide ultra-detailed directives of

what to do during storms and flood monitoring and response, as the City and District have independent responsibility with limited resources to accomplish their tasks. Led by the City in coordination with the District, the JEAP is reviewed by staff, updated, and tested by an annual exercise, and presented to Executive Management for approval.

Background

With staff of both jurisdictions participating, the JEAP was developed by a Management Team that organized staff within six Work Groups to prepare the components of the JEAP, as well as to plan and implement other actions to mitigate flood concerns. These Work Groups included:

1. Joint Emergency Action Plan (JEAP)
2. Technical
3. Communications
4. Creek Management
5. Short-Term Projects
6. Action Planning

The Management Team reconvened meetings in June 2018 to identify the key waterways that would be added to the JEAP. Team members recognized the need to add Canoas and Ross Creeks and the Guadalupe River. Staff met in their respective groups to develop review materials for the additional waterways.

On November 5, 2018, designated City and District staff met to evaluate the JEAP materials. An outside consultant conducted the Table Top Exercise, and staff actively participated. The key findings identified that the JEAP remains a viable tool, and the additional materials related to Canoas, Ross and Guadalupe are consistent with the Coyote Creek scenario. The opportunity to access real time data and updated hydraulic maps were identified.

Joint Emergency Action Plan (JEAP) Analysis

The JEAP is operational throughout the year, regardless of conditions. When flooding is not a concern, stakeholders focus on preparedness, which largely entails activities that reduce the risk of flooding and preparedness education in the community. During this period, stakeholders perform such activities consistent with their jurisdictional responsibilities. When flooding becomes a concern, the EAP provides guidance based on three proven, operationalized programs: Multi-Agency Coordination (MAC) Group, Flood Condition Levels, and model data.

Multi-Agency Coordination (MAC) Group. City and District staff agree that operating under the structure of a MAC Group will improve coordinated decision-making, operational response, and communications. Concepts and activities outlined in the EAP are associated with the level of storm or flood threat. To maintain the collaborative nature of a MAC, this EAP is considered active 24/7. The principles and actions of a MAC are integrated at all levels. The intensity and degree of activity will

Flood Condition Levels. Flood condition levels align with four definitions used by the National Weather Service:

1. **Preparedness (Green)** - Stream depth is below 50% of flood stage. Flooding is not expected within the next 72 hours.
2. **Monitoring (Yellow)** - Stream depth is between 50% and 70% of flood stage. Flooding could possibly be reached in 72 hours or more.
3. **Watch (Orange)** - Stream depth is between 70% and 100% of flood stage. Flooding could be reached within 24 to 72 hours.
4. **Warning (Red)** - Stream depth is very close to or at flood stage. This is an urgent situation. Flooding is estimated to occur within 24 hours or is occurring.

- Weather forecasts
- The District's Automated Local Evaluation in Real Time (ALERT) Gauge System, providing data readings at <http://alert.valleywater.org/sgi.php>
[<../.../Users/alexgord/AppData/Local/Microsoft/Windows/INetCache/Content.](C:\Users\alexgord\AppData\Local\Microsoft\Windows\INetCache\Content)
- Hydrologic/Hydraulic Modeling
- Observations by field teams

Model data. From the experience in writing the original JEAP in 2017, the District staff developed hydraulic model data for the Canoas and Ross Creeks and the Guadalupe River, while City staff updated their storm drain system model. From these updated models, staff created stage-based flood inundation maps that include both the creek and storm drain flooding information for reference during future flood events. The additional hydraulic system data and maps were added to the JEAP document.

The City of San José Office of Emergency Management will maintain the plan and provide updates as needed. For 2018, the JEAP went through individual agency review, and a joint Tabletop Exercise (TTX) on November 5, 2018. On an annual basis the EAP will be reviewed, exercised, and updated. When updates are identified, the City Manager and General Manager will be briefed and have the authority to approve the updates.

The methods of how to reach the public were reviewed in a series of public “Winter Storm Resource Fairs” in 2017. The methods on how to communicate with the public and the messages to be disseminated are consistent. Through the City and District public education staff, contact with the public remains paramount and provided during regular meetings with neighborhood associations, public meetings, and activities.

Santa Clara Valley Water District

The development of this memorandum has been coordinated with the Santa Clara Valley Water District, City Attorney's Office, and relevant City Departments.

B. Anderson Dam Winter Operations

The District operates 10 surface water reservoirs throughout the county. The District reservoirs are operated primarily as water supply facilities that provide incidental flood protection, environmental and recreational benefits. Many reservoirs are operated to flood risk reduction rule curves. The volume of water above the rule curve may be released if it is safe to do so, to create additional storage in the reservoir and to reduce flood potential. The curves maximize water supply benefit and reduce flood risk with a high probability of the water being recovered by the end of the season.

The following is a checklist of activities performed by Raw Water Operations/Field Operations staff before a reservoir flood release is initiated;

- Check weather forecast (estimate rainfall runoff)
- Check stream flow
- Check for National Weather Service Advisories/Watches/Warnings
- Coordinate with Watershed Operations (identify any existing blockages or restrictions downstream)
- Notify residents and agencies on creek contacts list

Many of the District's reservoirs are subject to seismic restrictions set by the State Division of Safety of Dams (DSOD) limiting the volume of water stored in the reservoirs. In October of 2017, following an extremely wet winter, the District's Board directed staff to operate the Anderson Reservoir system following a 40% exceedance rule curve to reduce the probability that Anderson Reservoir storage levels would exceed the seismic restriction limits. By operating to stay below the seismic restriction, this also reduces the chances of Anderson reservoir spilling and any associated downstream impacts. The winter of 2017/2018 produced below normal rainfall throughout the state and locally. As a result, local reservoir storage is only a quarter of the total capacity and storage levels in Anderson Reservoir never reached the rule curve to require releases. Anderson Reservoir will continue to be operated following the 40% exceedance rule curve during the winter of 2018/2019.

C. Santa Clara Valley Water District Flood Awareness and Winter Preparedness Campaign for 2018-2019

This winter, the District will continue to deliver flood-safety messages throughout Santa Clara County. The main public education objectives are the following:

- Convey to the general public that flooding can be a serious threat (even if you don't live in the floodplain)
- Explain what people can do to protect themselves and reduce risk to life and property
- Direct the public to appropriate District resources on valleywater.org/floodready for additional information
- Earn credit towards FEMA's Community Rating System through our Program for Public Information, which helps communities earn discounts on flood insurance premiums for residents

In November, a targeted mailing of the annual floodplain mailer was mailed to nearly 53,000 homes and businesses in or near flood-prone areas. The piece provides information on flood-protection projects and flood-safety resources and features a countywide map indicating 100-year FEMA flood zones. The mailer is written in English, Spanish, Vietnamese and Chinese. This year we are running a full-scale paid advertising campaign that launched in November and will continue through the end of March 2019. The campaign may be further expanded if the winter turns out to be particularly wet.

During the winter months, the District will convey flood preparedness messages through a selected range of communications platforms including radio spots, newspaper ads, online ads, social media and web videos. To reach diverse ethnic audiences, media messages will be delivered through Spanish, Chinese and Vietnamese media outlets. The focus of the District's flood awareness campaign is informing the community of flooding hazards in the county and to providing information on what community members can do to protect their family and property before, during and after a potential flooding event. Flood-safety tips and messages will also be heard by callers to the District when placed on hold.

This fall we participated in 14 community events to distribute flood-preparation materials and answer questions about flood safety. We have chosen events that are in areas most prone to flooding. These include parts of South County in Morgan Hill and Gilroy, Sunnyvale and Mountain View along the shoreline, as well as vulnerable areas in San Jose. District staff has pursued partnership opportunities with local community-based organizations in cities with flood-prone areas to identify opportunities for outreach. District staff has also been working with City Council offices to include flood-safety messages in council district newsletters as appropriate throughout the winter months. With the help of City Council staff, the District has been reaching out to neighborhood associations that represent areas in flood zones and is offering a presentation to communities on existing flood risks and winter preparedness. In November, district staff presented to the District 9 Leadership Group on flood risks specifically related to Ross Creek.

Through our outreach, we are also promoting Santa Clara County's AlertSCC emergency notification system and their ReadySCC app. AlertSCC is a free, easy, and confidential way for anyone who lives or works in Santa Clara County to get emergency warnings sent directly to their cell phone, mobile device, e-mail, or landline. It is one of the most effective ways for local jurisdictions to communicate flood hazards and evacuation orders, but it requires residents to opt into the system. The ReadySCC App allows residents to prepare a family emergency plan with five simple questions, send status updates to contacts, receive advisories and alerts via push notifications, and includes a detailed guide with step-by-step instructions for creating an emergency kit. As an incentive to download ReadySCC, residents who download the app receive a free emergency starter kit. These kits were first introduced to the community last year and include basic supplies such as a hand-operated flashlight, mylar blanket, rain poncho, safety whistle, gloves and glow stick. While these kits are basic, they serve as encouragement for residents to begin preparedness on a larger scale. Residents who do not have a mobile phone are encouraged to fill out emergency contact cards to receive their kit.

The District website serves as a one-stop shop for flood-related information, including how to register

for emergency updates, flood safety tips and information on sandbag sites, stream and reservoir gauges in the county. The website also prominently displays the district's Flood Watch Tool. Social media and online publications through our news website, valleywaternews.org [<https://valleywaternews.org/>](https://valleywaternews.org/), will continue to be utilized to provide registered recipients with timely and immediate flood-hazard messages.

D. Coyote Creek Feasibility Study

Over the past year, the District has continued progress on planning and delivering a flood risk reduction project to the Coyote Creek community. The project is currently in the planning phase. The project will develop solutions to protect Coyote Creek communities from Montague Expressway to Tully Road up to at least the level of the February 2017 flood, which was the highest flow event since Anderson Dam was constructed in 1950. The draft problem definition report has been completed and is under review. This will be followed by alternatives development and analysis in the remainder of FY19. The problem definition report is the first step in the planning phase and describes the findings and problems identified along the creek. Public input meetings are currently being scheduled for early in 2019.

Concurrently, the District is also conducting a US Army Corps of Engineers (USACE) feasibility study, with as-needed technical help from the USACE, paid by the District. This is being done to potentially become eligible for federal and state funding for the flood protection project. A Memorandum of Agreement was developed with the USACE in May 2018 and the feasibility study is currently being scoped.

In 2017, the District planned, designed and built a 900-foot long levee/floodwall section to protect the Rock Springs community from a flood similar to the 2017 event. This interim project was completed in January 2018 and is currently in operation. The District will continue to look for similar early implementation opportunities to effectively reduce the risk of flooding to the community as the planning study is being developed.

FINANCIAL IMPACT:

The recommended action has no financial impact.

CEQA:

The recommended action does not constitute a project under California Environmental Quality Act (CEQA) because it does not have a potential for resulting in a direct or reasonably foreseeable indirect physical change in the environment.

ATTACHMENTS:

Attachment 1: PowerPoint

Attachment 2: Joint Emergency Action Plan

File No.: 18-1075

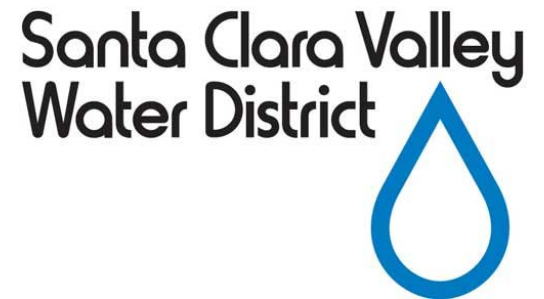
Agenda Date: 12/12/2018
Item No.: 4.

UNCLASSIFIED MANAGER:

Tina Yoke, District Chief Operating Officer, 408-630-2385

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Updates Associated with Coyote Creek



Agenda Item 4.

Joint Meeting with City of San Jose

- ▶ A. Updates to Joint Emergency Action Plan with the addition of Canoas, Guadalupe, and Ross and Creeks
- ▶ B. Anderson Dam Winter Operations
- ▶ C. Water District Flood Awareness/Winter Preparedness Campaign
- ▶ D. Coyote Creek Feasibility Study

Joint Emergency Action Plan (JEAP)

Joint Meeting with City of San Jose

- Original JEAP created in 2017
- Focus on Coyote Creek
- Evolved into overall JEAP between San Jose and District
- Additions of Canoas, Guadalupe, and Ross and Creeks in 2018

**Joint Emergency Action Plan
for
Severe Storm and Flood Response
in
City of San José**

Last Revised:
December 2018



Key Aspects of JEAP

Joint Meeting with City of San Jose

- ▶ Multi-Agency Coordination Group
- ▶ Notification and Communication
 - ▶ Inter-Agency
 - ▶ Public Messaging
 - ▶ Alert and Warning
- ▶ Monitoring and Detection
- ▶ Hot Spots Identified
- ▶ Listing of schools, utilities/transportation and other key locations at risk (per creek)
- ▶ JEAP tested via exercise on Nov. 5 with San Jose and District personnel



JEAP Flood Condition Levels

Joint Meeting with City of San Jose

Roles & Responsibilities of City and District are identified and categorized based on the condition levels.

Green	Preparedness —Flood stage is not estimated within the next 72 hours; and measured stream depth is below 50% of flood thresholds. By nature of a regular physical meeting between agency personnel from multiple agencies, a MAC is formed.
Yellow	Monitoring —Stream depth is estimated to reach flood stage in 72 hours plus, or the measured stream depth is 50% to 70% of flood stage. This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated.
Orange	Watch —Stream depth is estimated to reach flood stage within 24 to 72 hours or measured depths are at 70% to 100% of flood stage. The Stakeholders' would increase staff in their EOCs, if not yet activated, and a MAC facility could be established. A formal EOC AP will be drafted.
Red	Warning —This is an urgent situation when flood stage or greater is estimated to occur within 24 hours, or is occurring. The Stakeholders' EOC will have been activated and would be monitoring the situation, providing notifications and responding according to a written AP.



JEAP Inundation Maps

Joint Meeting with City of San Jose



- Maps added for Canoas, Guadalupe, and Ross Creeks
- Includes flooding locations and monitoring stations

Anderson Dam Winter Operations

Joint Meeting with City of San Jose

Anderson Reservoir



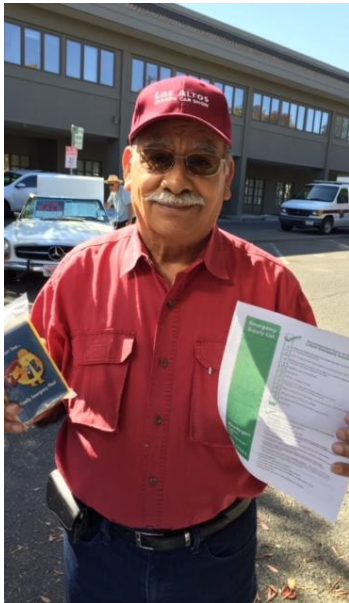
Santa Clara Valley
Water District

Attachment 1
Pg. 7 of 10



Flood Awareness/Winter Prep Campaign

Joint Meeting with City of San Jose



- ▶ Flood Safety Messages
- ▶ Community Events
- ▶ Community Rating System
- ▶ Advertising Campaign
 - ▶ Radio
 - ▶ Newspaper
 - ▶ Online
 - ▶ Social Media
 - ▶ Web Videos
- ▶ Promote AlertSCC and Ready SCC

Annual Floodplain Mailer

Joint Meeting with City of San Jose



- ▶ Sent Mid-November
- ▶ 53,000 homes and businesses
- ▶ Flood protection projects
- ▶ Direct to flood-safety resources
- ▶ County map for 100-year FEMA flood zones
- ▶ English, Spanish, Chinese and Vietnamese

Coyote Creek Feasibility Study

Joint Meeting with City of San Jose



Coyote Creek

Santa Clara Valley
Water District

Attachment 1
Pg. 10 of 10



Joint Emergency Action Plan for Severe Storm and Flood Response in City of San José

Last Revised:
December 2018



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EXECUTIVE SUMMARY—JOINT EMERGENCY ACTION PLAN

The first version of the Joint Emergency Action Plan for Severe Storm and Flood Response in City of San Jose (EAP) was approved by the Santa Clara Valley Water District (District) Board of Directors and San Jose City (City) Council at a joint meeting held on November 3, 2017. The EAP provided guidance on how the District and City would coordinate, communicate, and make decisions during storm and flood events and established a new method of classifying Flood Emergency Operational and Severity Levels. Since there was flooding on Coyote Creek in February of 2017, the EAP included an appendix of specific guidance related to Coyote Creek.

The EAP is to be reviewed and/or exercised annually and updated/revised as appropriate. The District Board of Directors and San Jose City Council delegated approval authority for updates and revisions of the EAP to the City Manager and District Chief Executive Officer (CEO) or their designee. In addition to an annual review and revision of the EAP in 2018, three new appendices are being added to provide specific guidance related to flood risks on Guadalupe River, Canoas Creek and Ross Creek.

The 2018 review and update to the EAP was initiated in April under the direction of a Joint Management Team and continues to be based on the concept of a Multi-Agency Coordination (MAC) Group. The updated EAP, which was drafted by a combined team of City and District staff, tested with independent reviews and reviewed in a multi-agency exercise, is responsive to knowledge gained from past flood events and is meant to serve as guidance during severe storms or flood events.

Three important improvements embodied in the EAP are:

1. The recognition that even though flood projects have been completed to protect the community, continued vigilance is required for those areas during severe storm events.
2. Appendices were added for Guadalupe River, Canoas Creek and Ross Creek that define detailed flood stages and severity of flooding in specific locations. The four threat stages and flood severity levels are keyed to National Weather Service levels of alert. These will be publicly visible at the District FloodWatch website with continually updated situational information.
3. Guadalupe River Temporary Flood Barrier deployment to protect downtown San Jose from flooding has been refined based on new modeling and the new threat and severity classifications.

This EAP will continue to provide oversight and guidance. It is not intended to provide ultra-detailed action lists of what to do during storm and flood monitoring and response, as the Stakeholders are individual jurisdictions and have independent responsibility and discretion on how to accomplish their tasks.

By signing here, on December 12, 2018, the City of San Jose City Manager and the Santa Clara Valley Water District Chief Executive Officer agree that the two primary Agency Stakeholders will respond according to the concepts outlined in this updated EAP and will continue work on maintaining the EAP, associated projects, and continually work to improve preparedness, mitigation and response to the next flood emergency:

David Sykes, City Manager
City of San Jose

Norma J. Camacho, Chief Executive Officer
Santa Clara Valley Water District

Executive Summary—Joint Emergency Action Plan

Joint Emergency Action Plan for Severe Storm & Flood Response



What is the Joint Emergency Action Plan?

The City of San José and the Santa Clara Valley Water District have created a Joint Emergency Action Plan (EAP) for severe storms and flood response. The plan outlines how the City and District manage, prepare for and communicate about flooding issues on Coyote Creek as well as other waterways where flooding might occur.

Here are three elements of the plan that are of public interest:

1

We have improved how we measure water levels in Coyote Creek.

You can see gauges near your neighborhood and monitor water levels at a new website.



The District installed more gauges on Coyote Creek. The gauges are painted or attached to bridges, or are free-standing stakes with markings that show the height of the water at that location.

- At gis.valleywater.org/SCVWDFloodWatch/, there is a chart for each gauge location that shows the levels associated with a Monitor, Watch, or Warning status.
- We will use measurements and field observations at these locations, as well as model predictions, to predict the likelihood of flooding.
- You can look at the stream gauge in your neighborhood to assess the water level yourself. Or visit gis.valleywater.org/SCVWDFloodWatch/ to see a map of the locations of gauges and the water levels in both Anderson Reservoir and Coyote Creek and inflow into Coyote Reservoir.

2

We will communicate every stage of a potential flood using improved data analysis.

District staff improved the analytics to help decision makers and the public understand potential and/or imminent flooding conditions.

- Our preparedness levels match those used by the National Weather Service for specific levels of flood threat.
- Public communications will include current status level.
- See our Public Notification Handout on the appropriate actions to take for each status level.

Preparedness	No storms are forecast within the next 72 hours. Stream depths are below 50% of flood stage. Reservoirs are not spilling.
Flood Monitoring	Storms are forecast. Stream depths are at 50% to 70% of flood stage. This condition is fluctuating and requires monitoring and being alert for potential flooding and possible evacuation notification.
Flood Watch	Storms have occurred. Stream depths may reach flood stage in 24 to 72 hours. Prepare for possible evacuation notice.
Flood Warning	Flooding is imminent, generally within 24 hours or is occurring.

Executive Summary—Joint Emergency Action Plan

3

We will communicate more effectively with you and the community using better tools and improved procedures.



DISTRICT COMMUNICATIONS

As the flood management agency in Santa Clara County, the District (at www.valleywater.org/floodready/) will communicate:

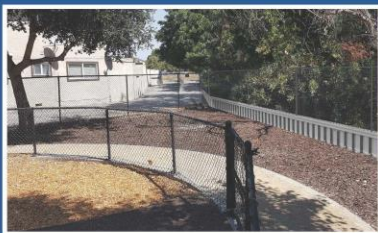
- Flood preparedness.
- Sandbag locations and instructions.
- Water levels in reservoirs and creeks.
- Status of flood improvement projects.

CITY COMMUNICATIONS

The City is responsible for emergency notifications to San José residents, and has trilingual messages that are ready to send for Flood Monitoring, Flood Watch, and Flood Warning conditions. Methods for communicating include:

- AlertSCC, which reaches all landline phones and subscribers who enroll their mobile phones.
- WEA (Wireless Emergency Alerts), which reaches mobile devices in geographically targeted areas.
- Warnings announced through powerful sound systems driven through the affected areas.
- Coordination with radio and TV news outlets.
- Social media such as NextDoor, Twitter and Facebook.
- Flyers and door-to-door alerts as possible.
- Street signage as possible.

Actions to reduce the flood risk of Coyote Creek



Rendering of new flood wall in Rock Springs.

Staff surveyed the creek to analyze why flooding was so severe in 2017. For the coming winter, the City and District are working on near-term projects that can reduce the flood risk of the creek:

- Removing fallen trees and invasive vegetation.
- Construction of a temporary berm and vinyl sheet pile wall near Rock Springs.
- Reinforcement of an earthen levee near mobile home parks.
- Installation of large trash capture device and flap gate on stormwater outfall in Rock Springs.
- Modified operation of Anderson and Coyote reservoirs to reduce winter storage and potential for large spills into Coyote Creek.

Some additional improvements are long-term and will require substantial funding.

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ACRONYMS

Readers of this plan may find it useful to understand the Acronyms used in the document.

Acronym	What is it
AC	Agency Coordinator
ALERT	Automated Local Evaluation in Real Time
AP	Action Plan
AR	Agency Representative
CalOES	California Office of Emergency Services
City	City of San José
District	Santa Clara Valley Water District
DCC	Departmental Command Center
DOC	Department Operations Center
DWR	California Department of Water Resources
EAP	Emergency Action Plan
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPIWCC	Emergency Public Information Warning Core Capability
FEMA	Federal Emergency Management Agency
FIT	Field Information Team
IAP	Incident Action Plan
IC	Incident Command(er)
ICS	Incident Command System
IPAWS	Integrated Public Alert Warning System
JIC	Joint Information Center
JIS	Joint Information System
LFO	Lookout field observation
LHMP	Local Hazard Mitigation Plan
LRAD	Long Range Acoustical Device
MAA	Mutual Aid Agreement
MAC	Multi-Agency Coordination
MAC Group	Multi-Agency Coordination Group
MEOC	Mobile Emergency Operations Center
NWS	National Weather Service
OEM	Office of Emergency Management
OES	Office of Emergency Services
PIO	Public Information Officer
SME	Subject Matter Expert
UC	Unified Command(ers)
vMAC	Virtual Multi Agency Coordination Group

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DISTRIBUTION OF THE PLAN

ELECTRONIC VERSION

A copy of the **Joint Emergency Action Plan** (EAP) is located on a secure intranet server. Access to the intranet electronic materials is granted to those with designated EAP responsibilities.

HARDCOPY DISTRIBUTION

This EAP is readily available to key personnel that have roles and responsibilities in the implementation of the EAP. Portions of the EAP will also be issued to outside response agencies whose familiarity with the EAP is essential to its implementation. This EAP contains potentially sensitive information that identifies critical assets.

Distribution of the EAP is documented in the following Log:

EAP Number	Title	Organization	Number of Copies

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PLAN UPDATES

The City of San José Office of Emergency Management is responsible for EAP review and amendment distribution. Pre-identified staffs from the City, District, and other Stakeholders review the EAP annually. Based on this review, needed updates are prepared and issued. For instance, updates are made to the EAP when there are changes in the contact lists or roles and responsibilities of those involved in response activities. Updates are also included whenever there is an operational change to the facilities or systems that affects EAP content. Every five years the entire plan will be reviewed, revised, re-published, and distributed. Those receiving the update will destroy old copies.

Other EAP review and/or amendment triggers include, but are not limited to, the following:

1. After each incident that requires activation of the EAP.
2. After each exercise testing the effectiveness of the EAP.
3. Changes in the following types of information:
 - Roles or responsibilities of EAP identified positions or departments, and roles and responsibilities of other EAP identified outside agencies or organizations;
 - Facility construction, operation, maintenance, or other circumstances that alter the hazards or methods of response to an incident; or
 - Applicable regulations or laws.

Amendments to the EAP are recorded on the Revision Log. Once a need for EAP changes are identified, the change will be documented in the Revision Log. A hard copy of the log will be attached to the appropriate pages where the changes occurred. The distribution will follow the previous Distribution Log. Electronic updates will be made to the copy on the secure intranet server.

REVISION LOG

Revision No.	Description of Revision	Date Issued	Approved By
1	Joint EAP Adopted	2017	City Council and District Board of Directors
2	Added: Guadalupe River, Canoas and Ross Creek appendices, additional public messaging in Attachment 5, providing flood mapping in Table 2 and Attachment 3; and providing temporary sandbag sites in Table 2 and Attachment 10. Updated Attachment 2—Web-Based Data Sources.	2018	City Manager and District CEO

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1. INTRODUCTION

A. PURPOSE OF THE JOINT EMERGENCY ACTION PLAN

The Federal Emergency Management Agency (FEMA) has identified that floods are the most frequent and costly natural disaster in the United States and estimates that there are about 38,000 parcels in the City of San José (City) subject to flooding in a 100-year flood event (1 percent flood). With this in mind, there exists an opportunity to enhance coordination and communication between the two primary jurisdictions responsible for protecting the people and property in the City from floods.

The City Council (City) and Santa Clara Valley Water District (District) Board of Directors met on April 28, 2017, to discuss how to improve coordination and decision making during flooding events setting out the development of this plan. Development of this Emergency Action Plan (EAP) proceeded jointly with extensive involvement of management and personnel of both jurisdictions. The development was overseen by a Management Team and utilized six workgroups to prepare the EAP and to plan and implement other actions to mitigate the flood concerns:

1. Emergency Action Plan
2. Technical
3. Communications
4. Action Planning
5. Creek Management
6. Short-Term Project

This EAP, which is based on the successful San Francisquito Creek Multi-Agency Coordination (MAC) and Operational Plan, is designed to establish general guidance for the City, the District, and other Stakeholders to facilitate:

1. Pre-incident planning prior to a storm/flood event,
2. Coordination of interagency response and recovery operation, and
3. Collaboration on public messaging for potential, imminent, and actual flooding along the creeks in San José.

B. STAKEHOLDERS

All parcel owners along the water ways within the City of San José are Stakeholders and have responsibilities identified in this EAP. This includes the Agency Stakeholders (City, District, Santa Clara County, and San José Unified School District) and Private Property Stakeholders. Combined these are the Stakeholders responsible for the tasks identified in this EAP. Stakeholders combined have a responsibility to respond to the needs of residents, business, property owners, and the environment when affected by severe storms that create floods within city boundaries. There are other agencies/entities that have a role in preparing and responding to flood events, who may have specified roles to support the response. For example, Santa Clara County Office of Emergency Services provides support for assisting in warning.

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C. STRUCTURE OF THIS EMERGENCY ACTION PLAN

The plan is organized in three sections:

Base Plan	The Base Plan identifies the roles, responsibilities and actions assigned to the Multi-Agency Coordination (MAC) Group.
Attachments	Attachments include information and checklists useful in any Severe Storm or Flood Incident.
Appendices	Provides specific details on each water way.

D. RELATIONSHIP TO OTHER PLANS

This EAP does not supersede existing agreements or internal plans (except to introduce a preference regarding the relationship between a jurisdictional EOC and staffing a MAC Group at a facility). Terms, such as the definition of “disaster” and certain legal and procedural activities, are found in the Agency Stakeholders Emergency Operations Plans (EOPs). Therefore, they are not repeated in this EAP. Flood maps and other such background material are posted in the Local Hazard Mitigation Plan (LHMP) for the involved jurisdictions.¹

Agency Stakeholders are encouraged to regularly review their internal plans, discuss them with the MAC Group, and review other guidance such as the State of California Guidelines for Coordinating Flood Emergency Operations.²

E. DEFINITION OF A MULTI-AGENCY COORDINATION GROUP

The primary concept used in this EAP is for the City, District and other Agency Stakeholders to operate as a Multi-Agency Coordination (MAC) Group. Per the *California Statewide Multi-Agency Coordination System Guide* (rev. Feb. 2013):

“A Multi-Agency Coordination Group may be convened by an EOC Director ... to establish priorities among multiple competing incidents, provide coordinated decision making for resource allocation among cooperating agencies, harmonize agency policies, and offer strategic guidance and direction to support incident management activities. MAC Groups convene to prioritize incidents for the allocation of scarce resources. Group members should consist of administrators or executives, or their designees, who are authorized to commit agency resources and funds.”³

¹ www.sccgov.org/sites/oes/LHMP/Pages/Local-Hazard-Mitigation.aspx

² www.water.ca.gov/floodmgmt/docs/guidecoorffloodemergops.pdf

³ *California Statewide Multi-Agency Coordination System Guide* (Rev. Feb. 2013)

Introduction

Routinely, field first responders implement a version of a MAC, known as Unified Command. “First responders successfully utilize multi-agency coordination whenever multiple agencies respond to an incident, through Unified Command. Unified Command provides multi-agency support and coordination when an incident grows in complexity or multiple incidents occur in the same period.”⁴

In cases where there are multiple incidents (as is common in storm/flood incidents), there may be multiple Incident Commanders (ICs), in which case an Area Command Incident Command System (ICS) structure may be implemented in addition to this prescribed MAC Group.

FIGURE 1: Coordination Links

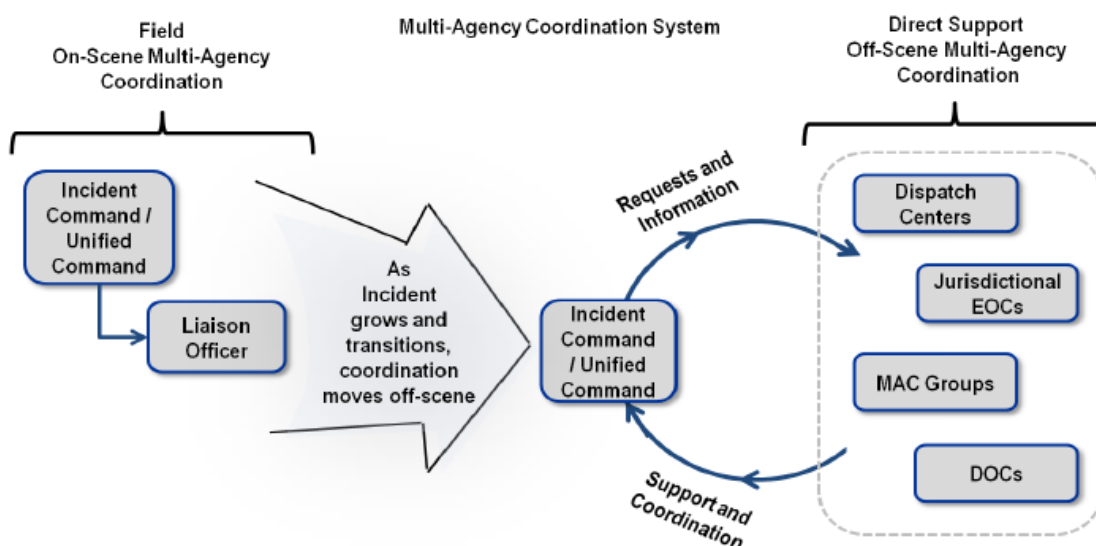


Figure 1 shows coordination links of a MAC can be established to support or facilitate coordination among Incident Commanders, Unified Command, Emergency Operations Centers, Dispatch Center and Department Operations Centers. ***The preferred staffing and operational mode will be to physically co-locate personnel from the City, District and other Agency Stakeholders at a designated facility when feasible,*** particularly in the Watch or Warning phases of response. This will:

1. Economize on staffing, and
2. Improve efficiency and communications.

The need for and use of a MAC is dynamic and depends on the potential and real impacts of a potential or active storm(s). A Virtual MAC (vMAC) can be used during

⁴ California Statewide Multi-Agency Coordination System Guide (Rev. Feb. 2013)

Introduction

Preparedness or Monitoring phases and may be considered for other phases as staff is available to physically co-locate to a MAC facility.

F. INTENTION OF THE ORGANIZATION AND PROTOCOLS NOTED IN THE EMERGENCY ACTION PLAN

This EAP provides guidance on how to staff and organize a MAC Group, and collaborate on preparedness and the response to potential, imminent, and actual flooding along the creeks in the City. To accomplish this, the intent of the plan is to provide:

1. Overarching guidance on how and when to activate a MAC for coordination purposes,
2. Suggested levels of activation of the MAC Group,
3. Suggested participants in each level of MAC activation and their decision authority,
4. Means and methods of collaborative planning, preparedness, and response activities, and
5. A document that will change over time, from experience and updates after an incident.

In the end, this EAP describes MAC mobilization procedures for maximum utilization of all available resources during a severe weather, storm, or flood event that present a risk to public safety or where disruption of transportation, utilities or other services or infrastructure is anticipated or occurs.

“Severe weather” includes situations of extreme temperatures, atmospheric rivers or atypical atmospheric phenomena (tornados, etc.).

G. FOCUS AREA(S) ASSOCIATED WITH THE EMERGENCY OPERATIONS PLAN

The MAC Group includes personnel already assigned a role and responsibility in the Emergency Operations Plan (EOP) for the City, District or other Stakeholders. The EOP responsibilities continue to require attention. The effort of the MAC Group assignments is to insure the response decisions consider what the impact of the storm has on the given focus areas that will arise during a flood scenario. This could include:

- **Identifying Flood Zones:** known flood zones; flash floods
- **Identifying Transportation Routes and Roads Conditions:** blocked roads (trees down, wires down, water, debris)
- **Taking Traffic Control Measures:** signals out, flooded areas
- **Locating Mudslides/Landslides:** especially in the Foothills

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- **Supporting Communications:** loss of telephone, internet, and other systems
- **Identifying Utility Outages:** electrical, telephone, internet, others
- **Addressing Public Health Issues:** mold, disease, etc., particularly after a storm/flood; failure/impairment of wastewater treatment (sewage) or drinking water supply systems
- **Activating Evacuation Sites and Shelters:** instructing community members on which routes to take and where to go for aid (Red Cross, etc.)
- **Responding to Crime:** opportunistic crime, looting, etc.
- **Stabilizing the Economy:** support recovery of private sector, coordinate with regional and Federal resources
- **Addressing Environmental Issues:** damage to ecological and other resources
- **Other Events:** severe weather often can coincide with other events that already stretch local resources, such as San José State planned events, holiday parades, or the holiday shopping season.

H. LIMITATIONS OF THE EMERGENCY ACTION PLAN

This EAP shall not constrain the freedom of an Incident Commander (IC) in the field or others when dealing with the referenced events. This EAP does NOT and will NOT replace or override an Agency's:

- Emergency Operations Plans,
- Department Operations Center Plans,
- Public Safety Authority,
- Public Information Officer role/responsibility,
- Purchasing Authority, nor
- Responsibility for documentation for any state or federal Declaration of Emergency.

Instead this EAP will focus on how the responsible agencies can improve coordination before, during and after a flood incident. This EAP provides oversight and guidance. It is not intended to set precedent or commit resources without knowledge of the conditions that may occur, nor provide ultra-detailed action lists of what to do during storm and flood monitoring and response, as the Stakeholders are individual jurisdictions and have independent responsibility to accomplish their tasks. The conditions of the emergency dictate the response needs and availability of staff and resources as each emergency can be different and updates in stream management and control systems could vary the conditions. The City, District and other Stakeholders will utilize this EAP as needed to develop joint decisions and actions based on the situation and their jurisdictions capabilities, resources and priorities.

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While the EAP or an Appendix may reference an activity related to facility improvements or maintenance, those will be done through separate plans or activities.

I. TRAINING ON THE EMERGENCY ACTION PLAN

To test the concepts and mobilization activities described in the EAP, the City will work with the other Stakeholders to annually engage all appropriate agencies and agency staff to conduct discussion-based exercises such as Workshops, Seminars or Tabletop Exercises. Operational exercises such as Drills can be conducted to test communications or notification systems. Functional Exercises can be conducted to test the relationship between activated Emergency Operations Centers (EOC) and the MAC Group. Each Stakeholder is encouraged to test their participation in the MAC when they conduct exercises.

J. MAINTENANCE OF EMERGENCY ACTION PLAN

The San José Office of Emergency Management (OEM), serving as the chair of the MAC, during preparedness, maintains this EAP. The San José EOC Director is the chair during an emergency. Prior to every winter season, OEM will review this EAP with the District and other agencies, as needed. Following an exercise or an incident, the City of San José will conduct an After-Action Review of the EAP with the participating Agency Stakeholders.

The City OEM Director is responsible for revising the EAP document as agreed upon by the participants in the exercises. Updates to the EAP do not require City Council or District Board approval; however, the San Jose City Manager and District Chief Executive Officer or their designee will approve of revisions and other Agency Stakeholders must be notified of the revision. When revisions occur, the City OEM Director will provide the revised pages and an updated revision summary page to all designated document holders. EAP document holders are responsible for updating outdated copies of the respective documents whenever revisions are received. Outdated pages shall be immediately discarded to avoid any confusion with the revisions.

K. USE OF THE EMERGENCY ACTION PLAN

This document is intended to be used by the Agency Stakeholders for integrating with MAC Group members, before, during and after a storm. Some response data includes restricted or sensitive information. The restricted portions of this document will clearly be indicated on the subject pages and will not be distributed or made available externally to individuals outside of the Agency Stakeholders or not on the original distribution list. The Agency Stakeholders may distribute this internally but are to handle with the same care as other restricted documents.

2. CONCEPT OF OPERATIONS

A. OPERATIONAL LEVELS

The concepts and activities described in this EAP are associated with the level of storm or flood threat. To maintain the collaborative nature of a MAC, this EAP is considered active 12 months of the year, 24 hours a day, and 7 days a week. The principles and actions of a MAC are integrated at all levels. The intensity and degree of activity will increase along with stream and creek conditions. The flood condition levels utilized in this EAP are consistent with the National Weather Service and defined as:

TABLE 1: Flood Condition Levels

Green	Preparedness —Flood stage is not estimated within the next 72 hours; and measured stream depth is below 50% of flood thresholds. By nature of a regular physical meeting between agency personnel from multiple agencies, a MAC is formed.
Yellow	Monitoring —Stream depth is estimated to reach flood stage in 72 hours plus, or the measured stream depth is 50% to 70% of flood stage. This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated.
Orange	Watch —Stream depth is estimated to reach flood stage within 24 to 72 hours or measured depths are at 70% to 100% of flood stage. The Stakeholders' would increase staff in their EOCs, if not yet activated, and a MAC facility could be established. A formal EOC AP will be drafted.
Red	Warning —This is an urgent situation when flood stage or greater is estimated to occur within 24 hours, or is occurring. The Stakeholders' EOC will have been activated and would be monitoring the situation, providing notifications and responding according to a written AP.

B. DETERMINING FLOOD CONDITION LEVELS

While the primary purpose of this EAP is to provide guidance to the Stakeholders during emergencies, **the EAP is in a state of perpetual activation, throughout the year, regardless of the condition.** For the majority of the time Stakeholder operations are focused on preparedness. Preparedness is critical to reduce the risk of flooding and during this period, Stakeholders perform activities consistent with their jurisdictional responsibilities. Table 2 below describes some of the activities performed by the Stakeholders during the flood condition levels including the preparedness period. These are examples and are not all-inclusive and may change based on the situation and needs. In addition, there may be specific activities that should be performed for distinct creeks that are included in Appendices to this EAP.

Concept of Operations

As storm conditions progress, there are four general steps the Agency Stakeholders follow to determine the level at which to activate the EAP, or when to increase the EAP condition level.

Step 1: Event Detection, Evaluation, Classification

Event Detection—There are several detection methods that include weather forecasts, hydrologic/hydraulic modeling, Automated Local Evaluation in Real Time (ALERT) stream/reservoir/precipitation gauge systems, and field observation of stage gauges and other areas of high flow.

Weather Forecasts

The National Weather Service (NWS) provides weather (e.g., precipitation) forecasts in advance of a storm event and the District contracts with a service provider for enhanced forecasting.

During storm events, the NWS will host webinars with affected agencies and utilities to discuss forecasts and share information to enhance regional preparedness. The Stakeholders participate in these webinars and share all current information.

Hydrologic/Hydraulic Modeling

Based on the weather forecast, the District and the NWS River Forecast Center utilize computer modeling of the watershed and creeks to estimate severity of flooding. These models are considered estimates and can vary, sometimes significantly, from the actual flood flows. This is especially true in unmodified stream systems.

To improve the accuracy of the modeling, the District reviews the computer models periodically and determines if additional information can be gathered to update the models. The typical type of information that can be used to update the models includes: surveys of channel geometry, reevaluation of channel roughness due to vegetation or blockages, and data gathered during high flow events.

The NWS has limited modeling capability and generally focuses on broader areas due to their larger area of scope. The District is often more focused and detailed in their modeling and utilizes additional available information for modeling. As modeling results become available, the District and the NWS will share results to help improve accuracy of the estimations.

With the results of modeling, condition levels can be assigned and severity of flooding can be estimated such that appropriate notices can be made. The NWS will issue threat level information, which is similar to the EAP condition levels.

Concept of Operations

ALERT Gauge System

A listing of all ALERT gauges can be found at <http://alert.valleywater.org/cgi.php>. These gauges provide data in near real-time on most creeks in San José and can provide critical data to determine the level of threat for flooding.

The following is a summary of the current stream gauge program:

- (a) Annually sites will be prioritized for manual gauging and teams are assigned to inspect and maintain the gauges.
- (b) After every high flow event, the rule curves (depth versus discharge) are updated/calibrated.

Field Information Teams and Field Operations & Maintenance

As water levels increase in the creeks, rivers, and waterways, City and District Field Information Teams (FITs) are deployed to visually monitor and report back to a DOC or EOC the rate of increase in areas of potential flooding. In addition, FITs can monitor facilities for potential damage, the surface drainage and the effect of landslides to City streets. The City, District and other Agency Stakeholders have individual teams who respond to designated “hot spots.” Deployment of these FIT teams are coordinated between the City’s DOCs and the District’s DOC (or other facility).

Field Operations & Maintenance personnel are typically out in the field inspecting and repairing facilities during storm events. These personnel also provide intelligence back to their agencies regarding facility conditions and any storm related concerns.

Evaluation—After detecting and gathering adequate intelligence regarding the situation, an evaluation of the water way conditions must be performed by appropriate personnel.

Classification—Based on evaluation of the threat, a specific threat level will be identified and documented at the Agency Stakeholder DOC (or other facility) and EOC so all staff recognize the determined level (Monitoring, Watch, or Warning). If possible, the severity of flooding will also be determined and documented. The severity is consistent with the NWS and are: minor, moderate, and major with the affected areas described. The specifics of the severity are included in the Appendices of this EAP.

Step 2: Notification and Communication

After the condition level has been determined, appropriately communicating the situation to responsible agencies, staff, and other identified individuals and groups is critical. Notification will include City, District and other Stakeholders personnel, elected officials, and the National Weather Service, as a minimum. The contact list is in Attachment 1 Emergency Contacts.

Concept of Operations

TABLE 2: Progressive Responsibilities

	Responsibility/Activity	Stakeholder*
Preparedness	Provide technical data on mitigation and preparedness measures.	Each Stakeholder is lead for own agency resources.
	Conduct field inspections of creeks and facilities.	Each parcel owner is lead in own right of way.
	Jointly discuss property management needs and plans.	Each parcel owner is responsible.
	Inventory and Procure Flood Fighting Materials and Equipment.	Each Stakeholder is lead for own materials and equipment.
	Perform mitigation work to reduce flood risk.	Each Stakeholder is lead on own property. By agreement can release to others.
	Involve FEMA Floodplain Manager who maintains the National Flood Insurance Program (NFIP) Community Rating System (CRS) certification.	City is lead.
	Implement and enforce building codes for building in floodplains.	City is lead.
	Provide technical floodplain mapping expertise. Provide City an electronic link to Design Storm (e.g., 10-year, 25-year and/or 100-year) flood maps for creeks included in Appendices.	District is lead.
	Maintain equipment, gauges, telemetry, communications systems, etc.	District lead for stream gauges and District equipment. City lead for city equipment.
	Develop and maintain computer models of watersheds and creeks.	District is lead.
	Participate in winter preparedness workshop.	District is lead.
	Participate in annual EAP review/exercise/updates; ensure plan is functional and up to date.	City is lead.
	Update EAP and Contact/Roles list and provide revisions to Stakeholders.	City is lead.
	Manage flood information websites.	Each Stakeholder manages own site; points to water district for flow.
	Publish Preparedness Public Outreach (e.g., Winter Preparedness) in multiple languages.	District is lead.
	Provide public education in multiple languages.	Each Stakeholder is lead for own agency resources
	Provide resources to support on-going activity to support this EAP and mitigation efforts along waterways in multiple languages.	Each Stakeholder is lead for own agency resources.
	Update Emergency Communications Plan and notification systems.	City is lead. County is key support for warning.

Concept of Operations

Monitoring	Responsibility/Activity	Stakeholder*
	Activate the EAP for "Monitoring."	City is lead.
	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for their staff.
	Conduct formal monitoring, communicate via virtual systems; communicate with Agency Coordinators to determine next level of activation.	Each Stakeholder is lead for own agency resources.
	Communicate risk to EOC/MAC representatives.	Each Stakeholder is lead within their agency.
	Respond to, and mitigate, minor events as needed; coordinate with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Stage equipment at localities likely to be affected as needed; coordinate with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Provide public education in multiple languages.	Each Stakeholder collaborates and is lead to their constituents.
	Provide information to Elected Officials.	Each Stakeholder PIO is lead for own agency.
	Confer with EOC Director on conditions for activating next level.	City is lead.
	Confer with EOC Director for activation of a MAC.	City is lead.
	Identify location for flood fighting resources for the public (e.g. sandbag locations). May begin planning for establishment of special temporary sandbag locations (Attachment 10).	District is lead.
	Review evacuation planning needs.	City is lead.
	Report to designated MAC facility when directed, and available.	Each Stakeholder responds to designated MAC facility.

Concept of Operations

	Responsibility/Activity	Stakeholder*
Watch	Activate the EAP for "Watch."	City is lead.
	Manage information from the Department Operations Center or like facility.	Each Stakeholder is lead within their agency.
	Allow the DOC (or like facility) to manage field response.	Each Stakeholder is lead within agency resources
	Communicate risk to EOC/MAC representatives.	Each Stakeholder is lead within their agency.
	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for own agency.
	Confer with responding Agency Coordinators to determine response coordination needs and resources needs.	Each Stakeholder is equally responsible for cross coordination.
	Respond to, and mitigate, minor events as needed; coordinate with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Stage equipment at localities likely to be affected as needed; coordinated with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Update computer modeling based on forecast and watershed conditions and, if possible and deemed necessary, provide forecast flood maps to City and, if requested, to other Agency Stakeholders.	District is lead
	Update location for flood fighting resources for the public and supply additional resources as needed (e.g. sandbag locations). May establish special temporary sandbag sites that could include those shown in Attachment 10.	District is lead.
	Provide public information in multiple languages.	Each Stakeholder collaborates and is lead to their constituents.
	Provide public warning in multiple languages.	City is lead. County is key support.
	Deploy LRAD and activate other public notification systems, as appropriate.	City is lead.
	Provide information to Elected Officials.	Each Stakeholder is lead for own agency.
	Activate JIS/JIC as appropriate.	City is lead.
	Communicate with media as needed.	Each Stakeholder is lead for own agency.
	Provide information on impact and available resources to and from respective EOCs.	Each Stakeholder is lead for own agency resources
	Provide information to and from respective EOCs, including status reports and briefings.	Each Stakeholder is lead.
	Confer with EOC Director for activation of a MAC, if not already done.	City is lead.
	Report to designated MAC facility when directed, as available.	District is lead.
	Confer with EOC Director on conditions for potential evacuation and shelter support.	City EOC Staff is lead.
	Confer with EOC Director on conditions for activating next level.	City is lead.
	Confer with legal staff on process for proclaiming a Local Emergency.	City EOC Director is lead.

Concept of Operations

	Responsibility/Activity	Stakeholder*
Warning	Activate the EAP for "Warning."	City is lead.
	Report to designated MAC facility when directed, if not already done.	District is lead.
	Communicate risk to EOC/MAC representatives.	Each Stakeholder is lead within their agency.
	Update computer modeling based on forecast and watershed conditions and, if possible and deemed necessary, provide forecast flood maps to City and, if requested, to other Agency Stakeholders.	District is lead
	Provide public information in multiple languages.	Each Stakeholder collaborates and is lead to their constituents.
	Provide public warning and shelter information in multiple languages.	City is lead. County is key support.
	Activate JIS/JIC as appropriate to jointly communicate with media.	City is lead.
	Implement evacuation plans and deploy resources to evacuate.	City is lead.
	Coordinate resources through respective EOCs.	Each Stakeholder is lead for own resources.
	Proclaim Local Emergency as appropriate.	City EOC Director is lead.
*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.		

Step 3: Emergency Activity/Actions

Based on the event and condition classification, activity/actions by the City, District and other Stakeholders will be determined. Table 2 identifies progressive levels of activation and actions.

Step 4: Termination

Following response to an emergency, the City will determine when to enter into recovery activities. The City EOC Director will work with the MAC Group members to determine if the threat no longer exists or if impacts require the engagement of recovery operations. Decisions on how long the EOC remains open depends on the conditions, needs of the community, and need to return to regular operations.

C. PROGRESSIVE RESPONSIBILITIES

As the weather conditions change, the responsibilities of the City, District and other Stakeholders adjust. The list of responsibilities provided in Table 2 illustrate in general terms what actions are needed at each threat level, and whether the City or District have the lead responsibility. More detail on how the action is completed or other creek specific activities performed are provided in additional tables in this document or Appendices to this EAP.

Concept of Operations

D. FACILITIES

The MAC Group is made up of staff from the City, District and other Stakeholders. As the conditions require the use of the MAC Group to respond during Monitoring, Watch or Warning Stages, the following systems and facilities can be considered to provide a meeting location for the MAC Group. A decision on which facility or system to implement will be dependent on, but not limited to, the impact of the incident(s), location of the incidents and the resource needs.

- **Virtual MAC (vMAC):** To facilitate communication between Stakeholders, particularly early on when little impact is felt by the storm, the City will initiate contact with the District and other Stakeholders via an e-mail group. The presenting conditions of the storm will identify when the e-mail will expand to conference calls, Skype, or other means to electronically communicate. If the vMAC transitions to a physical location, vMAC activities may continue to enhance communications between multiple EOCs and Department Operations Centers (DOCs). The storm conditions and availability of MAC personnel will determine the need and efficiency of the vMAC operations.
- **City Emergency Operations Center (EOC):** The City EOC Director will determine when to activate the MAC and make the request to co-locate City, District and other Stakeholders personnel to the City EOC to act as a MAC Group. The success and efficiency of the MAC relies on the co-location of City, District and other Agency Stakeholders. In the event that resources are limited, the City EOC Director can consider other options for where MAC staff co-locate, including continued use of the vMAC or requesting the County to support the MAC.

The City EOC is located in the San José Police Administration and Communications building (a.k.a. PAC). The City EOC can support 30 people in the primary Operations room. It is fully equipped with backup power, radio communications, data systems, etc. The EOC is supplemented by various San José Department Operations Centers (DOC: Fire, Parks Recreation and Neighborhood Services, Police, Public Works, and Transportation).

- **San José Mobile Emergency Operations Center (MEOC):** The MEOC is a Type 1 command vehicle that requires the use of a commercial “tractor” to pull it. It can accommodate 12 staff inside. The SJ MEOC can function as a back up to the EOC or provide support to an Incident Commander in the field. If conditions require the use of the SJ MEOC, notifications will go out to members of the MAC.

Concept of Operations

E. EQUIPMENT AND TOOLS

Whenever a MAC facility is opened, preparedness activities will ensure the availability and operability of internet access, radios, telephones, and hard copy EOC forms. All representatives responding need to bring their own:

- Identification
- Computer (with appropriate software or modeling systems)
- Data on a USB drive such as contact lists, forms, etc.
- Copies of their respective Emergency Operations Plans and relevant annexes (hardcopy or electronic) and this EAP

F. MULTI-AGENCY COORDINATION GROUP PERSONNEL

The effectiveness of the MAC Group relies on the designated level of authority provided to each Stakeholder representative and the level of the MAC Group activation. Based on the event condition level and related potential for flooding, the personnel who staff the MAC may evolve, due to the knowledge and authority required.

Subject Matter Experts: Staff from the City, District and other Stakeholders who have specific knowledge related to the issues of permitting, flood control dynamics, creek flow, potential impacts of flood, geology, hydrology, flood monitoring, engineering and flood response.

- *Personnel:* These may be personnel assigned to the Operations or Planning Section in their respective Emergency Operations Plan/Emergency Operations Center (EOP/EOC).
- *Authority includes:* Represent Agency on technical matters; Confer with Agency Coordinators (AC) regarding activation of next level; and Engage outside resources such as National Weather Service.

Agency Coordinators: Staff from the City, District and other Stakeholders who have specific knowledge that will facilitate modifications to plans and procedures, are knowledgeable of the issues related to flood control conditions and maintenance, and have authority to recommend actions or updates to plans.

- *Personnel:* These may include personnel assigned to the following EOP/EOC positions:
 - City Department managers from:
 - Law Enforcement
 - Fire and Rescue
 - Public Works
 - Transportation

Concept of Operations

- Parks, Recreation and Neighborhood Services
- Emergency Management (EM)
- District managers from:
 - Watersheds
 - Water Utility
- *Authority includes:* Represent Agency in discussion of plans and procedures; Direct access to Agency Representative; Ability to affect Agency operations to support response and mitigation; Ability to affect Agency operations to coordinate with other designated MAC Group members; Represent Agency in MAC Group decision-making; and Communicate with next level of Agency management; and to request activation of next level.

Public Information Officers (PIO): Staff from the City, District and other Stakeholders who have experience with managing and disseminating information to the public via traditional media, social media, electronic methods or other tools with the purpose of distributing preparedness, response, evacuation and recovery information.

- *Personnel:* These may include personnel assigned to the following EOP/EOC positions:
 - Public Information Officer
- *Authority includes:* Ability to create and distribute outreach materials for community awareness and preparedness; Represent each Agency to produce and distribute public notices regarding potential flood, as appropriate; and City PIO initiates activity to disseminate evacuation orders and shelter information.

Agency Representative (AR): Staff from the City, District and other Stakeholders authorized to re-allocate their own agency resources, provide directives and affect emergency orders. City AR makes final decision on the level of activation of the EAP and on evacuation order.

- *Personnel:* These may include personnel assigned to the following EOP/EOC positions:
 - City:
 - City Manager
 - Assistant City Manager
 - Deputy City Manager
 - District:
 - Chief Operating Officer
 - Administration
 - Watersheds
 - Water Utility
 - External Affairs

Concept of Operations

- *Authority includes:* Ability to commit or redirect their own Agency resources to common MAC Group issues. City AR confirms considerations for potential evacuation and evacuation order.

Elected Officials: Through each Agency PIO or Liaison staff, elected officials will be contacted and kept informed of the situation during the Watch and Warning stages and provided with appropriate public messaging. If officials are in contact with affected constituents and receive pertinent information, they will convey that information to the MAC through PIO or Liaison staff.

G. MULTI-AGENCY COORDINATION GROUP CONTACT INFORMATION

With the exception of elected officials, the City, District and other Agency Stakeholders will maintain a roster of who fills each role. Whoever is designated to fill these roles should consider alternate persons to account for vacation, sick leave, etc. When a MAC is convened, anyone filling these roles needs to provide contact information to City of San José Office of Emergency Management. Contact information would include office and mobile phone numbers, e-mail, and other pertinent data.

Within the City EOC, e-mail accounts will be provided that match the role the person is fulfilling. This will allow first shift responders to leave information for incoming staff. It also allows for a common repository for information.

H. PROCEDURES

The Agency Stakeholders, if needed, may develop additional procedures, beyond what is provided herein.

For example, the District may choose to co-locate or assign a liaison to the City's Department of Public Works' and/or Department of Transportation's DOCs. This could facilitate better tracking of their personnel operating in the SJ area.

I. COMMUNICATIONS

An emergency radio plan (ICS-215) shall be developed, along with the above-mentioned vMAC options.

The MEOC and certain other command vehicles have radio interoperability systems that can (1) communicate on just about any radio system and (2) can "patch" (link) disparate systems together.

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3. MOBILIZATION OF EMERGENCY ACTION PLAN

A. PROGRESSIVE TRIGGERS

This EAP is always active because preparedness is a year-round activity. Whether collaborating on flood awareness outreach before an event, responding to a flood event, recovering from an event, or planning for maintenance or improvements after the winter storm season, the need for the City, District and other Stakeholders to communicate and collaborate is important. Once a potential or actual event is detected, responding in a coordinated way and collaborating on post incident recovery follows a progression of activities/actions.

During high flows, creek conditions can change at a moment's notice and may vary significantly from anticipated. This is especially true for more natural creeks with trees and other vegetation or heavy sediment loads that could cause blockages. For example, flood flows may not be anticipated to reach channel capacity, yet flooding may occur due to changes in the channel condition.

Therefore, the level of activity will be guided by dynamic decision or educated judgment based on best information available to the Agency SMEs and AC. The level of activity may mirror those activities of the individual jurisdictional EOCs. As weather conditions merit and monitoring take place, the SMEs and AC may be in their home offices or jurisdiction's EOC, for the Monitoring stage. The "call to action" may be a series of phone calls among the SMEs and AC to determine the next steps. As conditions progress, City, District, or other Stakeholders are encouraged to convene at the designated MAC facility.

B. NOTIFICATION

The City, District and other Stakeholders will initiate contact to the appropriate contacts, based on the prevailing weather conditions. This would include those who have a role to perform in the EAP, dispatch and open EOCs. For city responders, City Dispatch, Office of Emergency Management, or others trained in the Everbridge Notification System will initiate the contact and provide information. For the District, Emergency Services will initiate contact and provide the following information.

- Level of Activation
- Situation Status
- Requested Action
- Reporting Requirements

The prevailing conditions will identify whether additional notification or actions will need to take place outside of the designated Stakeholder contacts.

C. RESPONDER NOTIFICATION

As identified in the following status reporting charts, information from the FIT members deployed in the field, information flows into the Department Operations Center (DOC) or to EOC Operations/Planning & Intelligence. The DOC/EOC staff process the information, track the data, and provide the EOC Operations Section with information.

Mobilization of Emergency Action Plan

D. RECIPROCAL NOTIFICATION

Regardless of activation status, if the City or District opens its EOC, the jurisdiction is encouraged to notify the other that they have activated their EOC. Notification can occur via Skype, phone or e-mail.

E. PUBLIC WARNING

The City has trained city dispatch, OEM personnel and others to activate the Alert SCC and IPAWS systems. Following protocol, the PIO will generate the message, have it approved and the trained staff will activate the warning system. Other tools such as social media shall be used and monitored. The deployment of the IPAWS system will be evaluated for most effectiveness and mobilized.

Mobilization of Emergency Action Plan

Multi-Agency Coordination Information Flow "Green" or "Preparedness": No predicted storm				
Agency Representatives Agency Coordinators Public Info Officers Subject Matter Experts				
Positions are jointly staffed by each involved agency				
Multi-Agency Coordination Group Roles		City of San Jose	District	Others
Subject Matter Expert				
	Provide technical data on mitigation and preparedness measures	Public Works Transportation Environmental Services	Watersheds Operations & Maintenance Division Watersheds Stewardship & Planning Division Raw Water Operations & Maintenance Divisions	
	Provide technical floodplain mapping expertise			
	Maintain equipment, gauges, telemetry, communications systems, etc.			
	Update plans and procedures for plans and activities that support the EAP			
Agency Coordinator				
	Has direct access to Agency Representative or EOC Director of own agency	OEM Director Public Works Director Transportation Director PRNS Director Environmental Services Director Police Chief Fire Chief	Watersheds Operations & Maintenance Division Watersheds Stewardship & Planning Division Raw Water Operations & Maintenance Division	designated staff from: Santa Clara County SJ Unified School District
	Works with SMEs to collect information, develop plans of action, and identify resources required for preparedness effort			
	Meets on regular basis with EAP agencies on preparedness matters			
	Implements respective parts of the EAP as either department lead or representative of activated Emergency Operations Center			

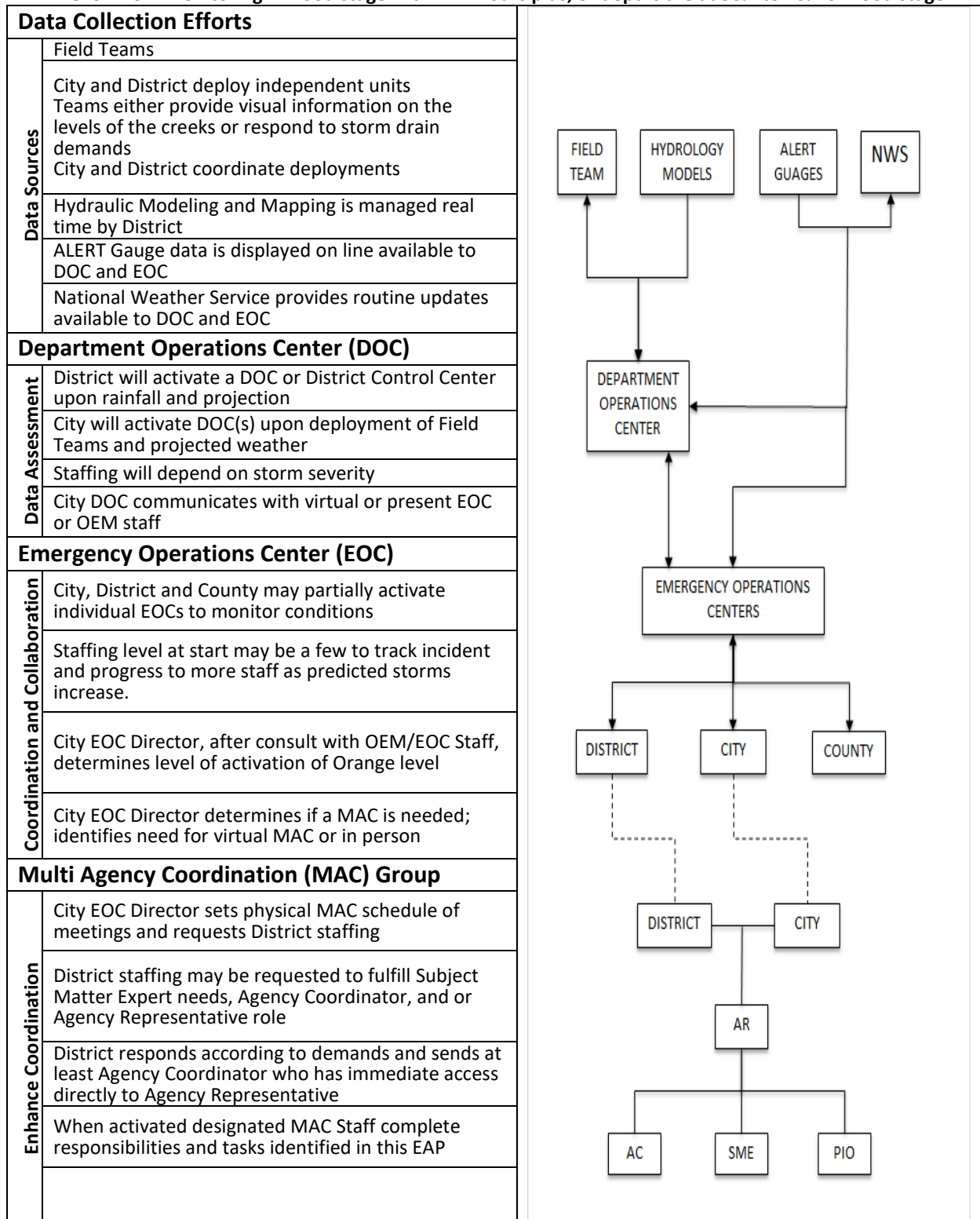
Mobilization of Emergency Action Plan

	Directs/redirects city resources as needed by priorities			
	City OEM in consultation with City EOC Director will determine need to activate to Yellow level			
Multi-Agency Coordination Group Roles		City of San Jose	District	Others
Public Information Officer				
	Provides direction and support on public education jointly with other agencies	Communications Officer E-PIO Team	Public Information Officer	designated Public Information Officer
	Provides coordination to operate a Joint Information System or Center			
Agency Representative				
	Authorizes:	City Manager Assistant CM Deputy CM	Chief Operations Officer for: Administration Watershed Water Operations	County Administrative Officer San Jose Unified School District Superintendent
	Emergency Action Plan Preparedness Planning Mitigation Plans Budget and Resource Allocation	(EOC Director when EOC is activated)		
	Meet Annually for plan review and agency coordination			
	May delegate authorities to Agency Coordinator			

Mobilization of Emergency Action Plan

Multi-Agency Coordination Information Flow

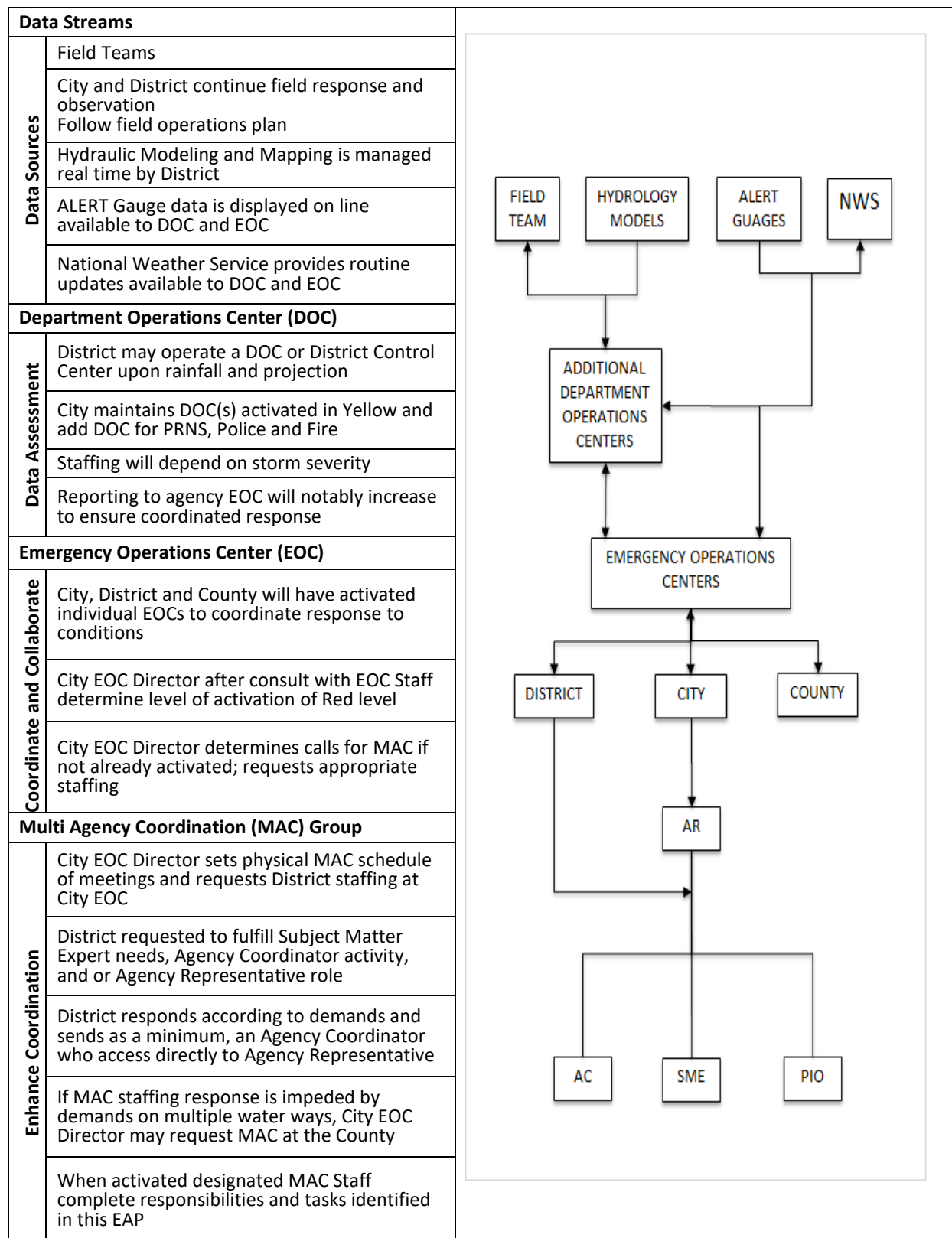
“Yellow” or “Monitoring”: Flood stage within 72 hours plus, or depths are at 50% to 70% of flood stage



Mobilization of Emergency Action Plan

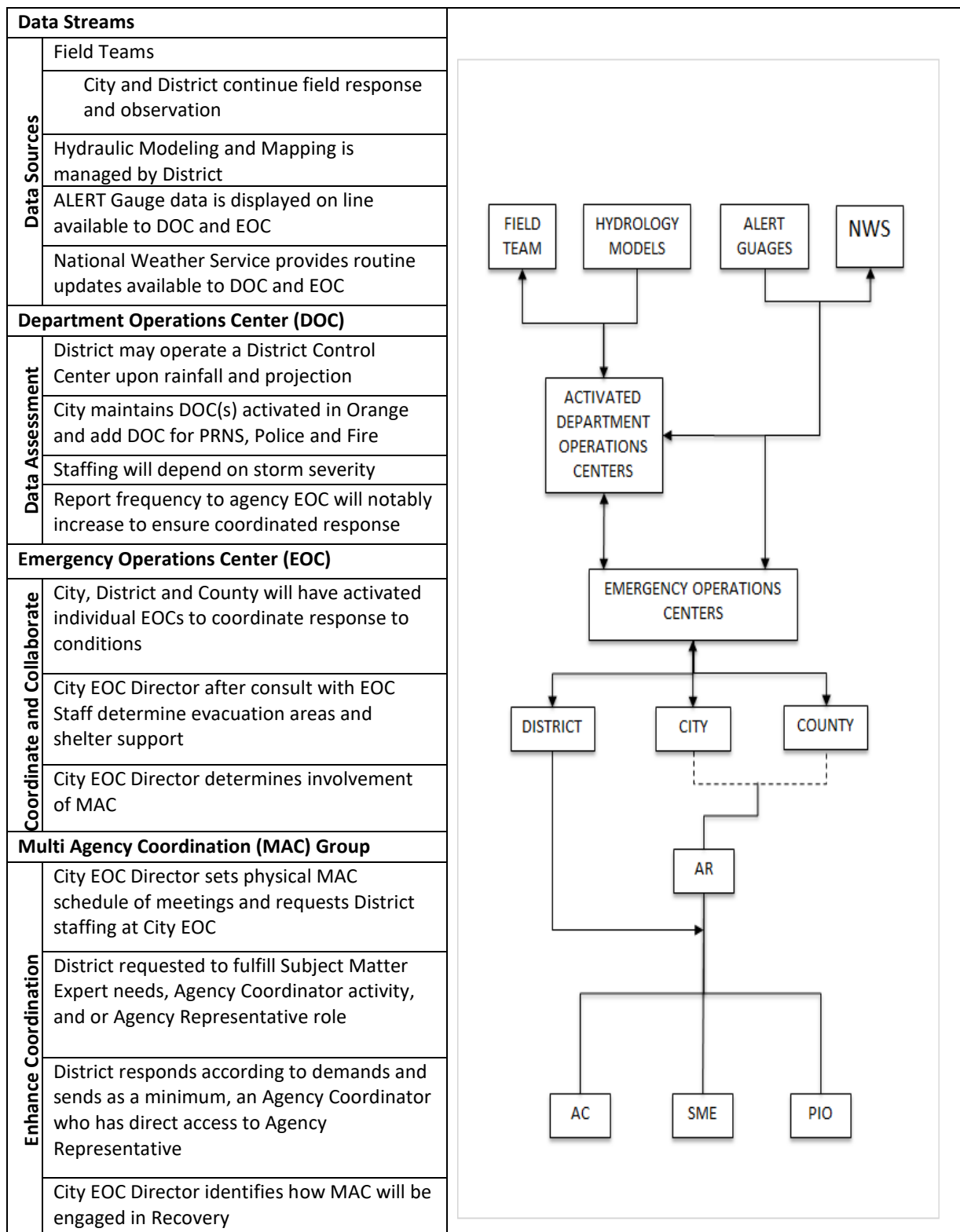
Multi-Agency Coordination Information Flow

"Orange" or "Watch": Flooding within 24 to 72 hours or measured depths are at 70% to 100% of flood stage



Mobilization of Emergency Action Plan

Multi-Agency Coordination Information Flow “Red” or “Warning”: Flood stage is estimated to occur within 24 hours.



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4. EMERGENCY ACTION PLAN OBJECTIVES AND FUNCTIONS

The City, District and other Stakeholders will focus on the following Objectives, Capabilities, and Functions. The following is consistent with the concepts of the National Incident Management System (NIMS) from the Federal Emergency Management Agency (FEMA) and the Standardized Emergency Management System (SEMS) from the State of California Office of Emergency Services (CalOES).

A. OBJECTIVES

The following objectives are in alignment with the purpose of this EAP to coordinate the interagency response, resource management and recovery operations; and to collaborate on public messaging.

- **Objective 1: Identify Conditions, Actions, and Needs**
 - Core Capability: Situational Awareness
- **Objective 2: Notification of Involved Agencies**
 - Core Capability: Activation; Coordination
- **Objective 3: Emergency Public Information**
 - Core Capability: Public Information Officer (PIO) Collaboration in communications
- **Objective 4: Warning**
 - Core Capability: Public Warning
- **Objective 5: Coordination of Field Operations; Resource Sharing**
 - Core Capability: Personnel Accountability; Mutual Aid; Tracking; Finance Issues

B. FUNCTIONS

In keeping with the concepts of SEMS and NIMS, utilizing common functions to maintain the orderly flow of information and responsibility between agencies is important. Consistency in utilizing the SEMS Functions in an activation, similar to those in an EOC, improves the organization and communication flow. They are listed below in the order of when they would be called upon during the progression of the EAP:

- Planning and Intelligence
- Operations Coordination
- Emergency Public Information
- Logistics and Resource Management
- Management

Emergency Action Plan Objectives and Functions

Planning/Intelligence

As with any emergency, it can take some time for an agency to (1) ascertain what has happened, (2) what is likely to happen, and (3) what areas and/or systems are affected. The SEMS and NIMS function of Planning/Intelligence helps gather and shape the information needs.

Documentation

All activity and actions will be documented as best as possible through the use of the ICS Unit Log 214, as a minimum, and other forms available at the EOC Facility. The use of status boards is encouraged and will be adapted from available resources.

Situation Status

The SMEs consolidate all intelligence and create Situational Awareness (SA) regarding weather forecasts, damage assessments, flooding reports, traffic conditions, etc. This is accomplished through reports, documentation on the City EOC status boards and maps, and conveyed through an Action Plan (AP). The AP may be verbal at the Monitoring stage. When the City EOC is activated for a MAC, the AP will be written.

Agency and Resource Status

Determining what agencies have accomplished and what they may need includes identifying what personnel and resources have been deployed, the prevailing condition, the need for mutual aid, and tracking other resource demands or similar requests.

Notification

The Planning/Intelligence activities accomplished by the SMEs lead to the appropriate notification of Stakeholders as described in Section 3, Mobilization of EAP, and are accomplished by the City.

Operations Coordination

- Activities and actions required for responding to and mitigating flood events are reported by FIT teams to the respective DOC.
- The appropriate DOC will monitor respective FIT teams. The DOC will provide operational updates to the appropriate City EOC Operations Section personnel.
- Critical life safety concerns in the field may be directly relayed from the field to the EOC as needed.

Emergency Action Plan Objectives and Functions

Emergency Public Information

As the event unfolds there is a constant need of notifying the public of conditions and what to do. The Public Information Officers (PIO) are responsible for identifying with whom to communicate, creating the message, and specifying the format and method of communication to deliver the message public and stakeholders.

The PIOs from each agency will follow the checklists and responsibilities identified in the jurisdiction's EOP. This EAP does not change that responsibility or override the tasks outlined in the plan. The purpose is to coordinate the Public Affairs and/or designated Public Information Officers (PIOs) from each agency to create a common message to avoid confusing the public, which can occur when each of the agencies sends out disparate messages.

Warning

As part of the Emergency Public Information and Warning Core Capability comes the need to let the public know to prepare for the expected impacts of imminent flooding. This is accomplished through use of the Alert SCC, IPAWS, and deployment of LRADs. Door to door contact with volunteers or employees will also be employed.

Special attention to multi-lingual or mono-lingual needs will be considered.

The PIOs should consider the activation of mutual aid and establishment of a Joint Information System (JIS) or Joint Information Center (JIC).

Logistics and Resource Management

As the incident unfolds and resources respond to the prevailing conditions, skilled or scarce resources will be tapped-out and require backfill, replacement or additional support. The support can come in the form of mutual aid assistance, contractors, vendors, or other sources. Resource requests will be noted and coordinated as much as possible through the EOCs or DOCs. The method of request, including the form, will be coordinated with the Agency fulfilling the need. If resources cannot be met by local Agency Stakeholders, a request for assistance can be sent to the Santa Clara County Operational Area.

Reimbursement

As resources from one Agency are shared with another Agency, the use of equipment, personnel or other resources may be reimbursable, based upon agreement.

Emergency Action Plan Objectives and Functions

Management

As conditions warrant or progress, the City, District and other Stakeholders Authorized Representatives by definition have the ability to make policy decisions, including those on matters of cost and/or liability. The City, District and other Stakeholders may confer on:

- Critical conditions
- Agency priority responses
- Common resource needs
- Resource request processing
- Managing any conflicting policy issues

C. PROGRESSION

The checklists in the Attachments demonstrate how the City, District and other Stakeholders Functions grow from Pre-Incident Preparedness to Monitoring, Watch, and Warning. The overall change in level of participation, number of participants, and staffing needs is incident specific, because not all potential or actual incidents are the same.

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ATTACHMENT 1

Web-Based Data Sources

- <https://gis.valleywater.org/SCVWDFloodWatch/>
- <http://valleywater.org/>
- <https://www.valleywater.org/floodready>
- <https://www.valleywater.org/floodready/sign-up-for-emergency-alerts>
- <http://alert.valleywater.org/>
- <https://www.valleywater.org/floodready/sandbags>
- <https://www.valleywater.org/floodready/flood-safety-tips>
- <http://water.weather.gov/ahps2/index.php?wfo=mtr>
- <http://water.weather.gov/ahps2/forecasts.php?wfo=mtr>
- <http://www.sanjoseca.gov/index.aspx?NID=751>
- <https://msc.fema.gov/portal/search>

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ATTACHMENT 2

Subject Matter Experts Action List

PURPOSE:

- Provide hydrological, geological and water way estimated assessments.
- Provide expertise on flood fight operations and estimated impacts on critical infrastructure including utilities and transportation.

WHO DESIGNATED:

City	District and Other Stakeholders
Public Works Transportation	Watersheds Operations & Maintenance Division Watersheds Stewardship & Planning Division Raw Water Operations & Maintenance Division

ACTIONS:

	Responsibility/Activity	Stakeholder
Preparedness	Provide technical data on mitigation and preparedness measures.	Each Stakeholder is lead for own agency resources.
	Conduct field inspections of creeks and facilities.	Each parcel owner is lead in own right of way.
	Jointly discuss property management needs and plans.	Each parcel owner is responsible.
	Perform mitigation work to reduce flood risk.	Each Stakeholder is lead on own property. By agreement can release to others.
	Provide technical floodplain mapping expertise. Provide City an electronic link to Design Storm (e.g., 10-year, 25-year and/or 100-year) flood maps for creeks included in Appendices.	District is lead.
	Maintain equipment, gauges, telemetry, communications systems, etc.	District lead for stream gauges and District equipment. City lead for city equipment.
	Develop and maintain computer models of watersheds and creeks.	District is lead.
	Participate in winter preparedness workshop.	District is lead.
	Participate in annual EAP review/exercise/updates; ensure plan is functional and up to date.	City is lead.
	Manage flood information websites.	Each Stakeholder manages own site; points to Water District for flow.

Attachment 3—Subject Matter Experts Action List

	Responsibility/Activity	Stakeholder
Monitoring	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for their staff.
	Conduct formal monitoring, communicate via virtual systems; communicate with Agency Coordinators to determine next level of activation.	Each Stakeholder is lead for own agency resources.
	Communicate risk to EOC/MAC representatives.	Each Stakeholder is lead within their agency.
	Report to designated MAC facility when directed, and available.	Each Stakeholder responds to designated MAC facility.
	Review evacuation planning needs.	City is lead.
Watch		
	Communicate risk to EOC/MAC representatives.	Each Stakeholder is lead within their agency.
	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for own agency.
	Provide information to and from respective EOCs, including status reports and briefings.	Each Stakeholder is lead.
	Report to designated MAC facility when directed, as available.	District is lead.
	Update computer modeling based on forecast and watershed conditions and, if possible and deemed necessary, provide forecast flood maps to City and, if requested, to other Agency Stakeholders.	District is lead.
Warning		
	Report to designated MAC facility when directed, if not already done.	District is lead.
	Communicate risk to EOC/MAC representatives.	Each Stakeholder is lead within their agency.
	Update computer modeling based on forecast and watershed conditions and, if possible and deemed necessary, provide forecast flood maps to City and, if requested, to other Agency Stakeholders.	District is lead.
*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.		

ATTACHMENT 3

Agency Coordinators Action List

- Agency Coordinators are designated Agency Stakeholder staff who may normally be assigned roles in an EOC Management or Operations Section.
- Agency Coordinators should have authority to recommend actions or updates to plans.

PURPOSE:

- Agency Coordinator primary role is to coordinate actions between the Stakeholders to resolve questions on response and assign resources from their respective agency for comprehensive support to the storm condition.

WHO DESIGNATED:

City	District and Other Owners
EOC Operations Section staff for: • Public Works • Transportation • Utilities • Police • Fire • Parks, Recreation and Neighborhood Services • Emergency Management	• Watersheds Operations & Maintenance Division • Watersheds Stewardship & Planning Division • Raw Water Operations & Maintenance Division

ACTIONS:

	Responsibility/Activity	Stakeholder
Preparedness	Provide technical data on mitigation and preparedness measures.	Each Stakeholder is lead for own agency resources.
	Jointly discuss property management needs and plans.	Each parcel owner is responsible.
	Inventory and Procure Flood Fighting Materials and Equipment.	Each Stakeholder is lead for own materials and equipment.
	Involve FEMA Floodplain Manager who maintains the National Flood Insurance Program (NFIP) Community Rating System (CRS) certification.	City is lead.
	Implement and enforce building codes for building in floodplains.	City is lead.
	Participate in winter preparedness workshop.	District is lead.
	Participate in annual EAP review/exercise/updates; ensure plan is functional and up to date.	City is lead.
	Update EAP and Contact/Roles list and provide revisions to Stakeholders.	City is lead.
	Update Emergency Communications Plan and notification systems.	City is lead. County is key support for warning.

Attachment 4—Agency Coordinators Action List

	Responsibility/Activity	Stakeholder
Monitoring	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for their staff.
	Communicate risk to EOC/MAC representatives.	Each Stakeholder is lead within their agency.
	Respond to and mitigate minor events as needed; coordinate with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Stage equipment at localities likely to be affected as needed; coordinated with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Report to designated MAC facility when directed, and available.	Each Stakeholder responds to designated MAC facility.
	Confer with EOC Director on conditions for activating next level.	City is lead.
	Confer with EOC Director for activation of a MAC.	City is lead.
	Identify location for flood fighting resources for the public (e.g. sandbag locations). May begin planning for establishment of special temporary sandbag locations (Attachment 10).	District is lead.
	Review evacuation planning needs.	City is lead.
Watch		
	Manage information from the Department Operations Center.	Each Stakeholder is lead within their agency.
	Allow the DOC to manage field response.	Each Stakeholder is lead within agency resources.
	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for own agency.
	Confer with responding Agency Coordinators to determine response coordination needs and resources needs.	Each Stakeholder is equally responsible for cross coordination.
	Respond to and mitigate minor events as needed; coordinate with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Stage equipment at localities likely to be affected as needed; coordinated with each responding agency.	Each Stakeholder is lead for own materials and equipment.
	Update location for flood fighting resources for the public and supply additional resources as needed (e.g. sandbag locations). May establish special temporary sandbag sites that could include those shown in Attachment 10.	District is lead.
	Deploy LRAD and activate public notification as appropriate.	City is lead.
	Provide information on impact and available resources to and from respective EOCs.	Each Stakeholder is lead for own agency resources.
	Provide information to and from respective EOCs, including status reports and briefings.	Each Stakeholder is lead.
	Confer with EOC Director for activation of a MAC.	City is lead.
	Report to designated MAC facility when directed, as available.	District is lead.
	Confer with EOC Director on conditions for potential evacuation and shelter support.	City EOC Staff are lead.

Attachment 4—Agency Coordinators Action List

	Responsibility/Activity	Stakeholder
Warning	Report to designated MAC facility when directed, if not already done.	District is lead.
	Implement evacuation plans and deploy resources to evacuate.	City is lead.
	Coordinate resources through respective EOCs.	Each Stakeholder is lead for own resources.
*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.		

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ATTACHMENT 4

Public Information Officer Action List

PURPOSE:

- Provide public communications before, during and after a flood emergency.
- Prepare and coordinate public message between agencies
- Provide public notification.

WHO DESIGNATED:

City	District and Other Stakeholders
Communications Director	External Affairs
Designated city reps	Office of Communications

ACTIONS:

	Responsibility/Activity	Stakeholder
Preparedness	Participate in winter preparedness workshop.	District is lead.
	Participate in annual EAP review/exercise/updates; ensure plan is functional and up to date.	City is lead.
	Update EAP and Contact/Roles list and provide revisions to Stakeholders.	City is lead.
	Publish Preparedness Public Outreach (e.g., Winter Preparedness).	District is lead.
	Provide public education regarding flooding. Stakeholders should communicate on outreach.	Each Stakeholder is lead for own agency resources.
	Update Emergency Communications Plan and notification systems.	City is lead. County is key support for warning.
Monitoring	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for their staff.
	Report to designated MAC facility when directed, and available.	Each Stakeholder responds to designated MAC facility.
	Provide public education regarding flooding. Stakeholders should communicate on outreach.	Each Stakeholder collaborates and is lead to their constituents.
	Provide information to Elected Officials.	Each Stakeholder is lead for own agency.
Watch	Notify staff of own agency about the increased condition level.	Each Stakeholder is lead for own agency.
	Provide public information in multiple languages.	Each Stakeholder collaborates and is lead to their constituents.
	Provide public warning in multiple languages.	City is lead. County is key support.

Attachment 5—Public Information Officer Action List

	Responsibility/Activity	Stakeholder
	Deploy LRAD and activate public notification as appropriate.	City is lead.
	Provide information to Elected Officials.	Each Stakeholder is lead for own agency.
	Activate JIS/JIC as appropriate.	City is lead.
	Communicate with media as needed.	Each Stakeholder is lead for own agency.
	Report to designated MAC facility when directed, as available.	District is lead.
Warning	Report to designated MAC facility when directed, if not already done.	District is lead.
	Provide public information in multiple languages.	Each Stakeholder collaborates and is lead to their constituents.
	Provide public warning and shelter information in multiple languages.	City is lead. County is key support.
	Activate JIS/JIC as appropriate to jointly communicate with media.	City is lead.
	Coordinate resources through respective EOCs.	Each Stakeholder is lead for own resources.
*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.		

Attachment 5—Public Information Officer Action List

PUBLIC COMMUNICATIONS MESSAGING FLOOD EMERGENCY MESSAGES



WHEN YOU HEAR “FLOOD MONITORING” <i>Stream depths are 50% to 70% to flood stage</i>	WHEN YOU HEAR “FLOOD WATCH” <i>Stream depths are 70% or more to flood stage</i>	WHEN YOU HEAR “FLOOD WARNING” <i>Stream depths are near flood stage</i>
DO THIS: • Be alert, listen to news channels. • Tell neighbors to be alert. • Locate sandbags: visit www.valleywater.org/floodready. • Arrange for a place to stay in case of an evacuation. • Seniors or mobility-impaired: Ask family or friends to help you if needed. • Be ready to move your pets to another location. • Be ready to move valuable items to a secure place. • Be ready to gather important documents, medicines, spare clothes. 	DO THIS: • Listen to the news. • Be ready to evacuate. • Protect your property with sandbags. • Seniors or mobility-impaired: Ask family or friends to get you NOW. • Move valuable items to a higher or secure place. • Consider moving pets NOW. • Be ready to move your car/s. • Pack a bag with important documents, medicines, spare clothes. 	DO THIS: • Keep listening to the news. • Calmly evacuate NOW. • Tell your neighbors to evacuate. • Take your bag with important documents, medicines, spare clothes. • Move your car/s to high ground. • Go to a City Shelter if needed. Find shelters at www.sanjoseca.gov. • Take pets to the San José Animal Shelter for a temporary stay during disasters. 

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Attachment 5—Public Information Officer Action List

MENSAJES DE EMERGENCIA EN INUNDACIONES



PREPARACIÓN: <i>Las profundidades de la corriente están por debajo del 50% de la etapa de inundación.</i> Prepárese para los desastres antes de que sucedan. Haga un plan con su familia, o descargue ReadySCC , una aplicación móvil eso te ayuda a crear un plan, armar un kit y saber qué hacer en caso de emergencia.		
CUANDO ESCUCHE "MONITOREO DE INUNDACIONES" <i>Las profundidades de la corriente son 50% a 70% a la etapa de inundación</i>	CUANDO ESCUCHE "VIGILANCIA DE INUNDACIÓN" <i>Las profundidades de la corriente son 70% o más a la etapa de inundación</i>	CUANDO ESCUCHE "ADVERTENCIA DE INUNDACIÓN" <i>Las profundidades de corriente están en o cerca de la etapa de inundación</i>
HAZ ESTO: ☐ Esté alerta, escuche los canales de noticias. ☐ Diga a los vecinos que estén alertas. ☐ Localice sacos de arena: visite www.valleywater.org/floodready. ☐ Identifique un lugar para permanecer en caso de una evacuación. ☐ Personas mayores o con problemas de movilidad: pida ayuda a su familia o amigos si es necesario. ☐ Esté listo para mover sus mascotas a otra ubicación. ☐ Esté listo para mover artículos valiosos a un lugar seguro. ☐ Esté listo para reunir documentos importantes, medicamentos, cambios de ropa. 	HAZ ESTO: ☐ Escuche las noticias. ☐ Esté listo para evacuar. ☐ Proteja su propiedad con sacos de arena. ☐ Personas mayores o con problemas de movilidad: pida ayuda INMEDIATA a su familia o a sus amigos. ☐ Mueva los artículos valiosos a un lugar más alto o seguro. ☐ Considere mover mascotas AHORA. ☐ Esté listo para mover su vehículo/s. ☐ Empaque una bolsa con documentos importantes, medicinas, cambios de ropa. 	HAZ ESTO: ☐ Siga escuchando las noticias. ☐ Evacue tranquilamente ahora. ☐ Diga a sus vecinos que evacuen. ☐ Lleve su bolso con documentos importantes, medicinas, cambios de ropa. ☐ Mueva su vehículo/s a un terreno alto. ☐ Vaya a un refugio de la ciudad si es necesario. Encuentra refugios en www.sanjoseca.gov. ☐ Lleve animales domésticos al refugio de animales San José para una estadía temporal durante los desastres. 

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CÁC THÔNG TIN KHẨN CẤP VỀ LŨ LỤT



SỰ CHUẨN BỊ: Bề sâu con suối nằm dưới 50% của mức lụt. Chuẩn bị cho thiên tai trước khi chúng xảy ra. Lập kế hoạch với gia đình quý vị, hoặc tải xuống ReadySCC , một ứng dụng di động giúp quý vị lập một kế hoạch, gồm các đồ trang bị, và hiểu biết phải làm gì trong một tình trạng khẩn cấp.		
KHI QUÝ VỊ NGHE THÔNG TIN “GIÁM SÁT LŨ LỤT” Chiều sâu dòng suối 50% đến 70% dẫn đến lũ lụt	KHI QUÝ VỊ NGHE THÔNG TIN “CANH PHÒNG LŨ LỤT” Chiều sâu dòng suối 70% hay hơn dẫn đến lũ lụt	KHI QUÝ VỊ NGHE THÔNG TIN “CẢNH CÁO LŨ LỤT” Chiều sâu dòng suối đã gần kề lũ lụt
LÀM NHƯ SAU: ☐ Hãy cảnh giác, lắng nghe các chương trình tin tức. ☐ Mách bảo hàng xóm nên cảnh giác. ☐ Tìm các báo cáo: viếng trang mạng www.valleywater.org/floodready. ☐ Dàn xếp một chỗ để cư ngụ nếu lỡ phải di tản. ☐ Các bậc cao niên hoặc khuyết tật về di chuyển: Hỏi sự giúp đỡ cho quý vị từ gia đình hoặc bạn bè nếu cần thiết. ☐ Sẵn sàng để di chuyển các thú nuôi trong nhà đến một nơi khác. ☐ Sẵn sàng để di chuyển các đồ vật quý giá đến một nơi an toàn. ☐ Sẵn sàng để gom lại tất cả các giấy tờ quan trọng, thuốc men, quần áo dự bị. 	LÀM NHƯ SAU: ☐ Lắng nghe các chương trình tin tức. ☐ Sẵn sàng để di tản. ☐ Bảo vệ các tài sản của quý vị bằng bao cát. ☐ Các bậc cao niên hoặc khuyết tật về di chuyển: Hỏi gia đình và bạn bè đến rước quý vị NGAY BÂY GIỜ. ☐ Di chuyển các đồ vật quý giá đến một nơi cao và an toàn hơn. ☐ Cần nhắc việc di chuyển các thú nuôi trong nhà bây giờ. ☐ Sẵn sàng để di chuyển xe của quý vị. ☐ Chuẩn bị một túi sách tay với các giấy tờ quan trọng, thuốc men, quần áo dự bị. 	LÀM NHƯ SAU: ☐ Tiếp tục theo dõi tin tức. ☐ Bình tĩnh khi di tản ngay. ☐ Bảo các hàng xóm quý vị phải di tản. ☐ Lấy theo túi sách tay với các giấy tờ quan trọng, thuốc men, quần áo dự bị. ☐ Lái xe quý vị đến một nơi cao hơn. ☐ Dời đến Nơi Tạm Trú Của Thành Phố nếu cần thiết. Truy cập các nơi tạm trú tại www.sanjoseca.gov. ☐ Đem các thú nuôi trong nhà đến cơ quan San José Animal Shelter để tạm trú trong cơn tai họa. 

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Prepare for Winter Storms

Are you flood safe? Santa Clara County has had several damaging floods over the years. It is important that you make the necessary plans to protect your family and property from flooding. Most homeowner's and renters insurance do not cover flood damage; and typically there is a 30-day waiting period for a policy to go into effect.

Floodwater can flow swiftly through neighborhoods and away from streams when creeks "overbank" or flood. Dangerously fast-moving floodwaters can flow thousands of feet away from the flooded creek within minutes.

Don't wait for the damage to happen. Plan ahead to keep your family and property safe.

www.valleywater.org/Floodready

Report street flooding or blocked storm drains or contact your local floodplain manager to learn if your home is in a floodplain:

Campbell	(408) 866-2145	*Palo Alto	(650) 496-6974
*Cupertino	(408) 777-3269	*San José	(650) 329-2413†
	(408) 299-2507†		(408) 794-1900
*Gilroy	(408) 846-0444		(408) 277-8956†
	(408) 846-0350†	*Santa Clara	(408) 615-3080
*Los Altos	(650) 947-2785		(408) 615-5640†
	(650) 947-2827†	Saratoga	(408) 868-1245
Los Altos Hills	(650) 941-7222		(408) 299-2507†
Los Gatos	(408) 399-5770	*Sunnyvale	(408) 730-7400
*Milpitas	(408) 586-2600	*Unincorporated	(408) 494-2750
	(408) 586-2400†		(East Yard)
Monte Sereno	(408) 354-7635		(408) 366-3100
	(408) 299-2507†		(West Yard)
*Morgan Hill	(408) 776-7333		(408) 683-1240
	(408) 779-2101†	Santa Clara Valley	
*Mountain View	(650) 903-6329	Water District	(408) 630-2378
	(650) 903-6395†		

***Participating CRS communities** † Use this number after business hours



Keep floodsafe with tips from the Santa Clara Valley Water District!

Keep this information handy!

WHAT TO DO

Protect your family and property from flooding

before

- Consider flood insurance. To get insured, call **1-888-379-9531** or go to www.floodsmart.gov.
- Prepare a family emergency plan and emergency kit for your home and car with supplies. Store important documents and valuables in a safe deposit box. For more information, visit: www.ready.gov/make-a-plan
- Designate a family meeting spot.
- Examine your house for cracks in the foundation, exterior walls and small openings around pipes. Seal them.
- Build a sandbag barrier to block shallow water from entering structures. Use of sandbag guidelines: valleywater.org/sandbags/
- Place valuables in a high place (2nd floor, if possible) and move vehicles to higher ground.
- Keep rain gutters and drainage channels free of debris.

during

- Be aware that flash flooding can occur. If a flood is imminent, avoid low-lying areas and seek shelter in the highest area possible.
- Tune to radio station KCBS (740 AM) for emergency information.
- If advised to evacuate, do so immediately. Turn off utilities at the main switches or valves. Disconnect electrical appliances. Do not touch electrical equipment if you are wet or standing in water.
- DO NOT drive into flooded areas. If floodwaters rise around your car, abandon the car and move to higher ground. A foot of water will cause many vehicles to float. Two feet of rushing water can carry away most vehicles, including SUVs and pick-ups.

after

- Listen for news reports on whether the community's water supply is safe to drink.
- Never drive through flooded roadways. Play it smart, play it safe. Whether driving or walking, any time you come to a flooded area, **Turn Around Don't Drown®**. bit.ly/2hBE7WD Don't walk, swim, drive or play in floodwater.
- DO NOT walk in floodwaters. Water may be contaminated from oil, gasoline or raw sewage. Underground or downed power lines may also have electrically charged the water. Stay away from downed power lines and report them to your power company.
- Return home only when authorities indicate it is safe.



Download the free Flood App! Visit www.redcross.org/prepare/mobile-apps/flood or search "Red Cross Flood" in the Apple App Store or Google Play.



Sign up for the free "Alert SCC" Santa Clara County emergency alert system at www.alertscc.com.



Download the ReadySCC app to get emergency notifications, create your emergency plan, follow a detailed guide for preparedness and more.

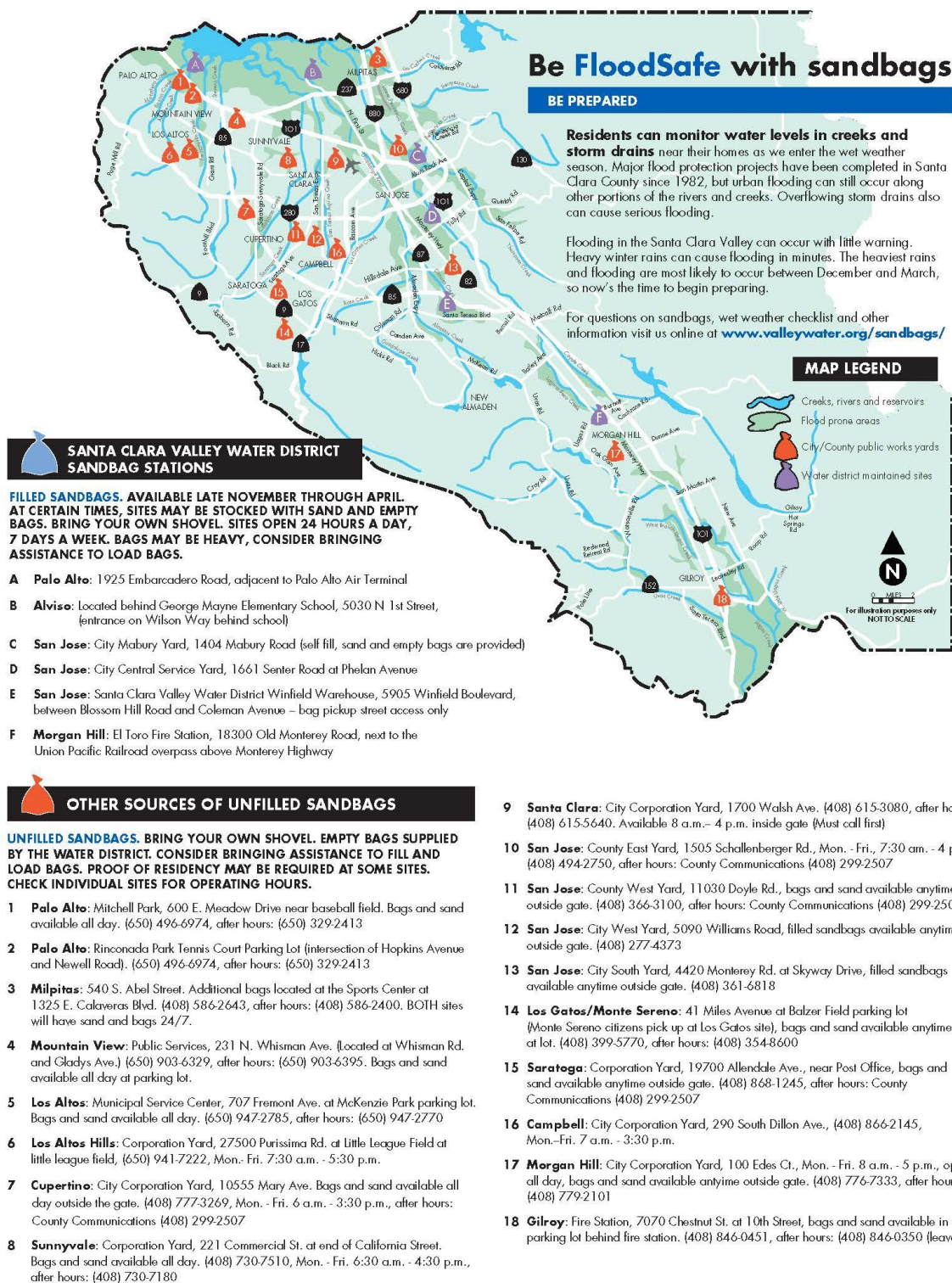




CONTACT US

See trash or downed trees in a creek? Want to report dumping or other problems? Let us know. Use our Access Valley Water customer request and information system to submit requests directly to a water district staff person. Go to Valleywater.org or download the **Access Valley Water App**.

Attachment 5—Public Information Officer Action List



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Attachment 5—Public Information Officer Action List

PUBLIC COMMUNICATIONS DELIVERY METHODS

1. ALERT SCC and IPAWS if warranted.
2. MEDIA NEWS RELEASE including ethnic media.
3. RADIO & TV STATIONS – Provide specific broadcast information.
4. SOCIAL MEDIA: Post message to NEXTDOOR, FACEBOOK, TWITTER, CITY WEBSITE.
5. HOMELESS ENCAMPMENTS: XX to walk encampments and share above warnings.
Contact and provide downloadable flyer:
6. Inform administrators at SCHOOLS, CHURCHES, SJSU, SCOUT TROOPS IN FLOOD ZONE.
7. Contact managers at MOBILE HOME PARK OFFICES.
8. Contact leaders at Chamber of Commerce, Downtown Association to engage BUSINESS DISTRICT.
9. Place SANDWICH BOARD SIGNS ON MAJOR CORNERS: **Be alert to the likelihood of flooding in 24-72 hours.**
10. KNOCK-AND-TALK in at-risk neighborhoods. Staff prepared with numbers to call and basic info if asked.
11. Implement NO PARKING zones.

ATTACHMENT 5

Agency Representative Action List

PURPOSE:

- Direct actions to facilitate the EAP.
- Re-allocate agency resources to address EAP as needed.
- Provide directives and affect emergency orders.
- City AR makes final decision on the level of activation of the EAP and on evacuation order.

WHO DESIGNATED:

City	District and Other Owners
• City Manager • Assistant City Manager • Deputy City Manager	• Chief Operating Officer ○ Administration ○ Watershed ○ Water Utility

ACTIONS:

	Responsibility/Activity	Stakeholder*
Preparedness	Participate in winter preparedness workshop.	District is lead.
	Participate in annual EAP review/exercise/updates; ensure plan is functional and up to date.	City is lead.
	Update EAP and Contact/Roles list and provide revisions to Stakeholders.	City is lead.
	Provide resources to support on-going activity to support this EAP and mitigation efforts along waterways.	Each Stakeholder is lead for own agency resources.
Monitoring	Activate the EAP for "Monitoring."	City is lead.
	Determine level of EOC staffing after consult with OEM.	City is lead.
	Report to designated MAC facility when directed, and available.	Each Stakeholder responds to designated MAC facility.
	Provide public education.	Each Stakeholder collaborates and is lead to their constituents.
	Provide information to Elected Officials.	Each Stakeholder is lead for own agency.
	Identify conditions for activating next level after consult with OEM.	City is lead.
	Determine need for activation of a MAC.	City is lead.

Attachment 6—Agency Representative Action List

	Responsibility/Activity	Stakeholder*
Watch	Activate the EAP for “Watch.”	City is lead.
	Allow the DOC to manage field response.	Each Stakeholder is lead within agency resources.
	Provide information on impact and available resources to and from respective EOCs.	Each Stakeholder is lead for own agency resources.
	Report to designated MAC facility when directed, as available.	District is lead.
	Confer with EOC Director on conditions for activating next level.	City is lead.
	Confer with legal staff on process for proclaiming a Local Emergency.	City EOC Director is lead.
Warning	Activate the EAP for “Warning.”	City is lead.
	Report to designated MAC facility when directed, if not already done.	District is lead.
	Provide public warning and shelter information in multiple languages.	City is lead. County is key support.
	Implement evacuation plans and deploy resources to evacuate.	City is lead.
	Proclaim Local Emergency as appropriate.	City EOC Director is lead.
*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.		

ATTACHMENT 6 Elected Officials Action List

PURPOSE:

- Coordinate with constituents.
- Check with respective EOC Director on conditions.
- Coordinate information through the Public Information Officer/Liaison.

WHO DESIGNATED:

City	District and Other Owners
• City Councilmember	• Board of Directors

ACTIONS:

	Responsibility/Activity	Stakeholder*
Preparedness	Participate in winter preparedness workshop as requested	District is lead.
	Provide resources to support on-going activity to support this EAP and mitigation efforts along waterways	Each Stakeholder is lead for own agency resources.
Monitoring	Communicate with PIO personnel regarding situation and public/media messages	Each Stakeholder is lead for own agency resources.
	Respond to constituents	Each Stakeholder is lead for own agency resources.
	Report any constituent concerns or observations to PIO	Each Stakeholder is lead for own agency resources.
Watch	All Monitoring Responsibilities/Actions	Each Stakeholder is lead for own agency resources.
	Communicate with PIO at designated MAC facility for more detailed briefing when requested, as available	Each Stakeholder is lead.
Warning	Respond to media and constituents with agreed upon messages	Each Stakeholder is lead.
	Proclaim Local Emergency as appropriate	City is lead.

*If only one Stakeholder is noted as lead, all other Stakeholders support the effort.

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APPENDIX A Coyote Creek

PURPOSE

This Appendix to the City, District and other Stakeholders Joint Emergency Action Plan (EAP) for Severe Storms and Flooding is meant to provide additional guidance specific to Coyote Creek. It will not duplicate information already in an EOP or the EAP, but will provide Coyote Creek specifics for:

1. Incident detection
2. Evaluation and condition level classification
3. Notification and communications
4. Emergency actions

COYOTE CREEK DESCRIPTION

The Coyote watershed is located on the east side of Santa Clara County and encompasses an area of over 320 square miles, including three reservoirs located in the upper watershed areas. The watershed drains from south to north and includes the entire City of Milpitas, eastern portions of San José, portions of Morgan Hill and unincorporated lands within eastern Santa Clara County. Water flows into Coyote Creek through local drainage systems and through 29 tributaries, of which Upper Penitencia Creek, Berryessa Creek, Lower Silver Creek, Upper Silver Creek and Fisher Creek flow directly into Coyote Creek below the reservoirs.

Below the reservoirs, Coyote Creek is about 42 miles in length and is crossed by Highways 101 and 237, Interstates 880 & 280, Metcalf Road, Silver Creek Valley Road, Yerba Buena Road, Capitol Expressway, Tully Road, Story Road, East William Street, San Antonio Road, Santa Clara Street, Julian Street, Mabury Road, Berryessa Road, Oakland Road, Brokaw Road, Montague Road, and Tasman Drive.

About 32 miles of Coyote Creek is unimproved, much of it heavily vegetated, with a variety of adjacent land uses, such as, golf courses, open space, parks, residences and businesses. Over 5 miles of improvements between the San Francisco Bay and Montague Expressway were constructed in 1995 to protect North San José, Alviso, and Milpitas from a 100-year flood. In addition, a short section of levee and floodwall were constructed to provide about 25-year flood protection for the Golden Wheel and South Bay Mobile Home Parks downstream of Berryessa Road. And there have been other modifications that add up to about 5 miles of additional improvements.

COYOTE CREEK FLOOD THREATS

The flood prone areas exist where the creek is in a more natural state, with significant vegetation, and are under a variety of ownerships that include a significant amount of private property. In the improved portions of the creek, there is a comprehensive management program to provide the design objectives of the modified creek. The unimproved areas of the creek do not have a comprehensive management program due to lack of: environmental clearances, public ownership, and a defined level of flood protection.

Appendix A—Coyote Creek

The two most recent flood events along Coyote Creek since the upstream reservoirs were constructed occurred in 1997 and 2017. Both of these floods primarily impacted three flood hotspots along the creek: (1) Golden Wheel and South Bay Mobile Home Parks downstream of Berryessa Road; (2) a single-family residential neighborhood near East William Street; and (3) a high-density residential neighborhood in the Rock Springs Drive area downstream of Tully Road. These floods caused considerable damage requiring evacuations and demonstrated the inherent uncertainty in estimating flood flows in a natural stream system.

In addition to the three main flood hotspots, there are other locations that are considered flood hotspots or may be considered a flood risk requiring attention during high flow events. The main areas of concern are included in the Coyote Flood Thresholds & Condition Levels section, but areas still at risk that are not considered flood hotspots are the improved reaches downstream of Montague Expressway that are protected by levees. Because of the flood risk, these areas are important to monitor and inspect before, during and after storm events. These areas are shown on FEMA Flood Insurance Rate Maps (FIRMs) as Zone X – Area with Reduced Flood Risk due to Levee. The FIRMs can be found at <https://msc.fema.gov/portal/search>.

FLOOD EVENT DETECTION

There are several detection methods that are described in the EAP that include weather forecasts, hydrologic/hydraulic modeling, Automated Local Evaluation in Real Time (ALERT) stream/reservoir/precipitation gauge systems, and field observation of stage gauges and other areas of high flow.

Of these methods, the gauging and field observation methods specific to Coyote Creek are described below:

ALERT Gauge System

A listing of all ALERT gauges in the Coyote Watershed can be found at <http://alert.valleywater.org/sqi.php>. These gauges provide data in near real-time at several locations on Coyote Creek and for all major tributaries downstream of the reservoirs. Upstream gauges will provide valuable information for flood events occurring downstream and may give many hours' notice to take action. Table 1 shows approximate travel times between key points along Coyote Creek.

The following is a summary of the current stream gauge program.

1. Annually sites will be prioritized for manual gauging and teams are assigned.
2. After every high flow event, the rule curves (depth versus discharge) are updated/calibrated. High flow calibration on Coyote Creek gauges was done after the 1997 event and again after the 2017 event.
3. ***The Madrone gauge is considered more accurate for predication downstream flood depths when Anderson reservoir spills due to the channel characteristics.*** The Edenvale gauge is sometimes used and is part of

Appendix A—Coyote Creek

the NWS forecast modeling; however, it has a lower level of confidence due to potential backflow conditions.

Field Observations

Field observations can be critical to verify what is occurring because ALERT gauges are not always a reliable source of information and modeling information can vary from the actual condition. In addition, there are other known hot-spots and facilities that should be visually checked during high flows. Supplementing with visual observations from staff deployed in the field (i.e., Field Information Teams) and other field reporting is an important component to detection.

To allow additional information to be accurately gathered, several visual stream stage monitoring locations have been installed for observations. These are located at:

Rock Springs:

Lookout location is driveway entrance to stables.

The 'circuit' for this monitoring station will include the entire Rock Springs area, including Bevin Brook Court.

East William Street:

Stage gauge installed on pedestrian bridge.

Lookout location will be from the vehicular bridge.

Circuit would include William Street Park, Selma Olinder Park, school, and surrounding neighborhood.

Mabury Road:

Stage gauge installed on middle pier of the bridge.

Lookout location on the northeast side.

Circuit would include Watson Park, City Yard, Trailer Park and Truck Driving School.

Berryessa Road:

Stage gauge installed on bridge pier.

Lookout location on north east side by trailhead.

Circuit would include Industry areas on west side of the creek and the Mobile Home Park.

Appendix A—Coyote Creek

Charcot Road:

Stage gauge installed on bridge pier.

Lookout location can be on either side of the creek.

Circuit would be the bridge location.

The District operates Field Information Teams (FITs) that are assigned to specific locations during storms and high flow events to provide this valuable information. In addition, the City also deploys FIT teams in a coordinated way to assure that all critical locations are being monitored. Locations of FIT deployment by the City and District may overlap during storm and flood events. The MAC Group will coordinate this effort through the Planning/Intelligence Section so that resources are most effectively utilized and information is shared.

District Hot-Spots for possible FIT deployment are:

1. Visual stream gauges—checking for high water and rate of change
2. Known Flood Hot-Spots
3. Real-time Flooding—documenting flooding
4. Bridge Piers—checking for debris blockages
5. Trash Racks—checking for debris blockages
6. Mobile Home Park Levee downstream of Berryessa Road—check for stability
7. Sandbag sites—checking for supply and access issues
8. Previously repaired or other project sites—checking for performance
9. Raw water facilities—dams and canals

COYOTE FLOOD CONDITION LEVELS AND SEVERITY

Sometimes an event is a flash flood that occurs suddenly without much early notice. However, with weather forecasting and Coyote Creek modeling there is often an ability to estimate flood events before they occur. This is extremely valuable when preparing for necessary evacuations and road closures, however, this information should be used as guidance only and not with absolute certainty.

To provide this advanced notice, a threat level will be used to provide an indicator of preparedness for a response and a level of potential severity for areas subject to flooding to assist the Agency's in planning and implementing appropriate actions. Because of the uncertainties of modeling in the future, a condition of Watch will be used when flood stage is estimated about 24 to 72 hours or more in the future. If flooding is estimated within about 24 hours, the threat level will be elevated to Warning.

Appendix A—Coyote Creek

Green	Preparedness —Flood stage is not estimated within the next 72 hours; and measured stream depth is below 50% of flood thresholds. By nature of a regular physical meeting between agency personnel from multiple agencies, a MAC is formed.
Yellow	Monitoring —Stream depth is estimated to reach flood stage in 72 hours plus, or the measured stream depth is 50% to 70% of flood stage. This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated.
Orange	Watch —Stream depth is estimated to reach flood stage within 24 to 72 hours or measured depths are at 70% to 100% of flood stage. The Stakeholders' would increase staff in their EOCs, if not yet activated, and a MAC facility could be established. A formal EOC AP will be drafted.
Red	Warning —This is an urgent situation when flood stage or greater is estimated to occur within 24 hours, or is occurring. The Stakeholders' EOC will have been activated and would be monitoring the situation, providing notifications and responding according to a written AP.

When the threat level is at a Watch or Warning, there is an expectation that flooding will occur or is occurring at some locations. The severity of the situation at specific locations is determined by the flood stage. The areas subject to flooding for of different stream stages are estimated utilizing hydraulic models and flood maps from the 1997 and 2017 floods.

Flood severity categories are defined by the NWS as:

Action	An established gage height which when reached by a rising stream, lake, or reservoir represents the level where action is taken in preparation for possible significant hydrologic activity.
Minor Flooding	Minimal or no property damage, but possibly some public threat (e.g., inundation of roads).
Moderate Flooding	Some inundation of structures and roads near stream, evacuations of people and/or transfer of property to higher elevations.
Major Flooding	Extensive inundation of structures and roads, significant evacuations of people and/or transfer of property to higher elevations.

A 2017 flood inundation map of Coyote Creek is shown in **Figure 1A** and the associated Flood Thresholds **Table 2A** on the following page. The map is the Federal Emergency Management Agency (FEMA) 1 percent flood map. This map is based on the best available information and modeling when it was created and should be considered is approximate due to the difficulty in estimating an actual event and the changing conditions of the creek.

Appendix A—Coyote Creek

Table 3A is a flood severity table for the Madrone Gauge that is used to estimate areas that will be subject to flooding on Coyote Creek. Mapping associated with this table will be provided to Agency Stakeholders. By utilizing the **Table 1A** for travel times and actual measurements at Madrone, the time for a flood flow to reach a given location can be estimated.

The flood stage can either be estimated by using weather forecasts to model stream depths at that location or may be based on actual measurements. This information would be used to establish Condition Levels and Severity Levels for specific areas subject to flooding. The District and City will coordinate with the National Weather Service to be consistent in the threat level and severity category. Below are examples of how the tables should be used.

EXAMPLE 1

Situation: Stream depth at the Madrone gauge is currently at 5 feet and estimated to reach 10 feet in 24 hours.

Analysis: Using Table 3A the 5-foot stage is below flood stage, however, the Flood Severity for a 10-foot stage predicted to occur in 24 hours would be described as **Moderate Flooding**. And, because the 10-foot stage is expected in 24 hours at Madrone Gauge and all travel times to flood hotspots are less than 17 hours from this gauge, the Condition Level would be set as **Flood Watch** (24 to 72 hours). The specific areas subject to flooding are described in Table 3A for 10-foot stage and below.

EXAMPLE 2

Situation: Stream depth at the Madrone gauge is currently measured at 13 feet.

Analysis: Table 3A describes the Flood Severity as **Major Flooding** for a 13-foot stage at the Madrone gauge. And, the Condition Level should be set as **Flood Warning**, since travel times shown on Table 1A are less than 24 hours

EXAMPLE 3

Situation: Stream gauge at William Street Bridge is observed to be at 23 feet.

Analysis: Using information from Table 2A, the Condition Level would be **Flood Warning** for ID#'s 4a & 4b (three low-lying structures on 17th Street along the creek bank and the park east of Coyote Creek), and **Flood Watch** for ID# 4c (low lying homes on the west side of Coyote Creek).

The figures and tables on the following pages identify flood thresholds and triggers for actions at the flood hot-spots.

Notifications and Activity/Actions: Based on the condition level and flood severity level, notification activity/actions will be taken by both the City, District and other Stakeholders. The level of activity will be guided by the best information available to the Agency Subject Matter Experts (SMEs) and Agency Coordinators (ACs). The level of activity may mirror those activities of the individual jurisdictional Emergency Operations Centers (EOCs). As weather conditions merit and monitoring take place, the SMEs and ACs may be in their home offices or

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their jurisdiction's EOC, if activated. The "call to action" may be a series of phone calls among the SMEs and ACs to determine the best approach to coordination.

The following are tables providing guidance on the types of notifications and actions that should take place for Coyote Creek.

INFRASTRUCTURE AT RISK

There are important infrastructure and facilities at risk of flooding. Based on intelligence gathered during the storm event, the MAC will determine the risk and provide notifications as appropriate. The facilities below are within the area where people, property, and infrastructure may be at risk:

FACILITY TYPE	NAME	ADDRESS	PHONE
SCHOOL	Olinder Elementary School San Jose Unified School District	890 East William Street San Jose, CA 95116	(408) 535-6000
	McKinley Elementary School Franklin-McKinley School District	651 Macredes Avenue San Jose, CA 95116	(408) 283-6000
	San Jose High School San Jose Unified School District	275 North 24th Street San Jose, CA 95116	(408) 535-6000
	Empire Gardens Elementary School San Jose Unified School District	1060 East Empire Street San Jose, CA 95112	(408) 535-6000
UTILITIES	PG&E Metcalf Transmission Substation	150 Metcalf Road San Jose, CA 95138	1 (800) 743-5000
OTHER	Hibbit's Family Stables	1896 Senter Road San Jose, CA 95112	(408) 998-2872 or (408) 478-9182

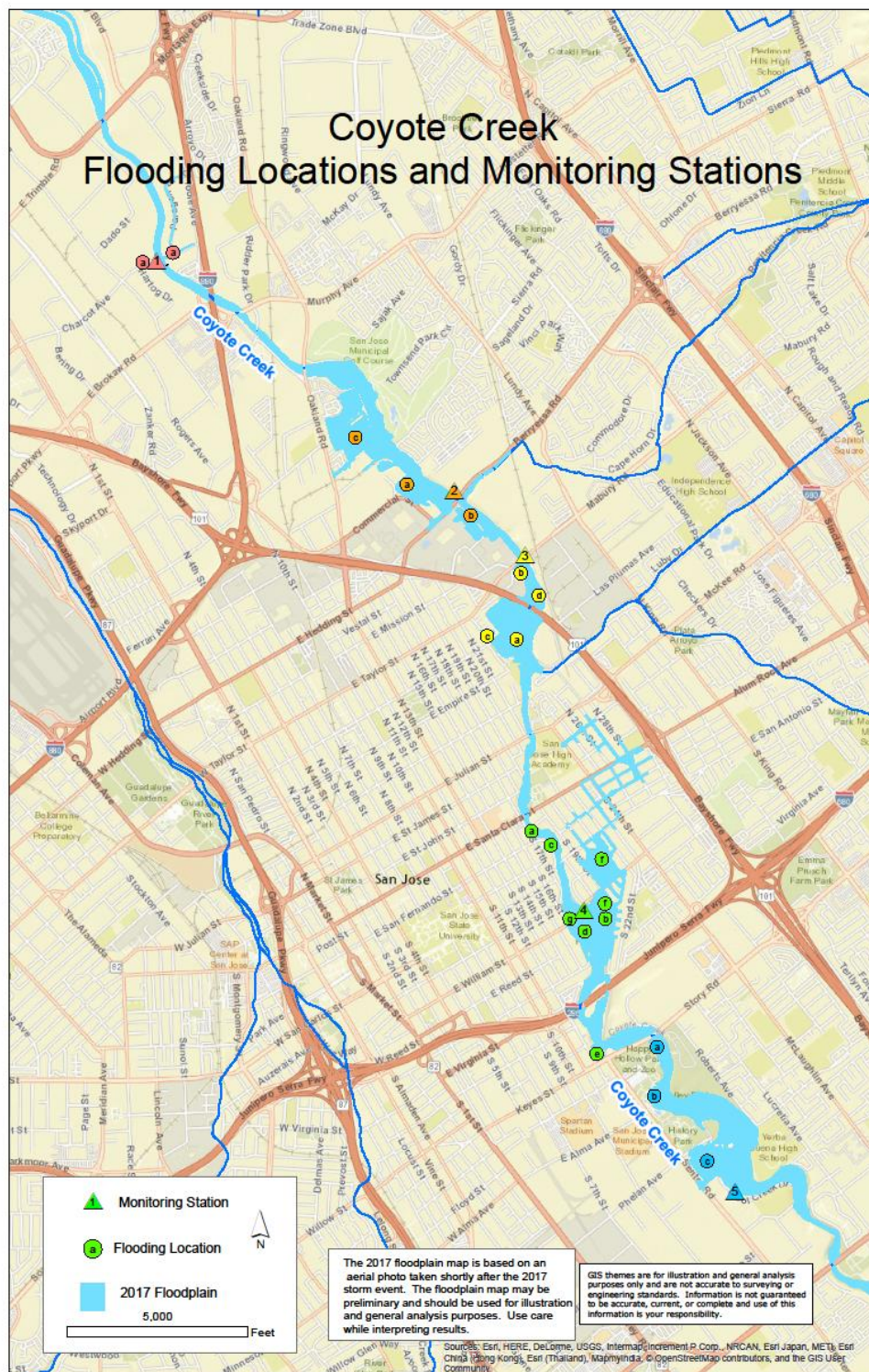
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TABLE 1A: Coyote Creek Travel Times

Estimated Peak Travel Times for 2017 February Flood Event, rounded to the nearest half hour											
	Madrone Gauge (Anderson Spillway)	Coyote Creek Golf Drive	Edenvale Gauge	Singleton Road Crossing	Tully Road	Rock Springs	East William Street	Watson Park	Berryessa Road	South Bay MHP	Charcot Road
Madrone Gauge (Anderson Spillway)	-	-	-	-	-	-	-	-	-	-	-
Coyote Creek Golf Drive	4:00	-	-	-	-	-	-	-	-	-	-
Edenvale Gauge	5:30	1:30	-	-	-	-	-	-	-	-	-
Singleton Road Crossing	8:00	4:00	2:30	-	-	-	-	-	-	-	-
Tully Road	10:00	6:00	4:30	2:00	-	-	-	-	-	-	-
Rock Springs	10:30	6:30	5:00	2:30	0:30	-	-	-	-	-	-
East William Street	13:00	9:00	7:30	5:00	3:00	2:30	-	-	-	-	-
Watson Park	15:00	11:00	9:30	7:00	5:00	4:30	2:00	-	-	-	-
Berryessa Road	15:30	11:30	10:00	7:30	5:30	5:00	2:30	0:30	-	-	-
South Bay MHP	16:00	12:00	10:30	8:00	6:00	5:30	3:00	1:00	0:30	-	-
Charcot Road	17:00	13:00	11:30	9:00	7:00	6:30	4:00	2:00	1:30	1:00	-
Highway 237 USGS Gauge	17:30	13:30	12:00	9:30	7:30	7:00	4:30	2:30	2:00	1:30	0:30
Disclaimer: The peak travel times in this table are based on data collected during the February 2017 flood event. Flood may happen before flow peaks. The data may be preliminary and should be used for general analysis purposes. Use care while interpreting results.											

Appendix A—Coyote Creek

FIGURE 1A: Coyote Creek Flooding Locations and Monitoring Stations



Appendix A—Coyote Creek

TABLE 2A: Coyote Creek Flood On-Site Monitoring Thresholds

ID#	Index Location	Flooding Description	FLOOD THREAT STAGE AT MONITORING LOCATION				MONITORING LOCATIONS	PHOTO
			50% Capacity	70% Capacity	100% Capacity	2017 Flood High Water Mark		
1a	Charcot	Charcot Bridge overtops, flooding in streets and eventually threatening nearby businesses.	14' to 15'	16' to 17'	18' to 19'	18.9'	Charcot Road Bridge	
2a	Downstream Berryessa Rd—Industrial	Businesses west of Coyote Creek floods. Automotive junkyard and concrete plant at risk.	5' to 6'	6' to 7'	8' to 9'	16.1'	Berryessa Road Bridge	
2b	Upstream Berryessa Rd—Industrial	Industrial area west of Coyote Creek floods threatening businesses.	10' to 11'	12' to 13'	13' to 14'			

Appendix A—Coyote Creek

ID#	Index Location	Flooding Description	FLOOD THREAT STAGE AT MONITORING LOCATION				MONITORING LOCATIONS	PHOTO
			50% Capacity	70% Capacity	100% Capacity	2017 Flood High Water Mark		
2c	Mobile Home Parks	Levee to the west of Coyote Creek overtops, flooding streets and homes. Businesses near the railroad tracks at risk.	12' to 13'	14' to 15'	15' to 16'			
3a	Watson Park	Dog park begins to flood first, followed by the Watson Park.	12' to 13'	13' to 14'	15' to 16'	22.0'	Mabury Road Bridge	
3b	RV Storage Lot	RV Lot west of Coyote Creek flooded.	13' to 14'	16' to 17'	18' to 19'			
3c	Watson Park Neighborhood	Streets immediately to the west of Watson park begin to flood.	15' to 16'	18' to 19'	20' to 21'			
3d	CSJ Mabury Yard	Coyote Creek overtops the east bank, flooding the city of San Jose Yard.	17' to 18'	19' to 20'	22' to 23'			

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ID#	Index Location	Flooding Description	FLOOD THREAT STAGE AT MONITORING LOCATION				MONITORING LOCATIONS	PHOTO
			50% Capacity	70% Capacity	100% Capacity	2017 Flood High Water Mark		
4a	17th Street—Lowest Homes	Three low-lying structures begin to flood.	15' to 16'	18' to 19'	20' to 21'	33.3'	William Street Bridge	
4b	Selma Park	Park east of Coyote Creek begins to flood.	18' to 19'	21' to 22'	24' to 25'			
4c	17th St & Arroyo Way	Several low-lying homes located very near the Creek on the west side begin to flood.	19' to 20'	22' to 23'	25' to 26'			
4d	William Street Park	Coyote Creek Trail & Park, including Olinder School baseball field, begin to flood.	22' to 23'	25' to 26'	28' to 29'			
4e	NE of 12th & Keyes Streets	Car ports – located on the first floor of two-story apartment buildings – begin to flood.	14' to 15'	16' to 17'	17' to 18'			
4f	Olinder Neighborhood and School	Selma park fills and overflows to the northeast, flooding streets, the school, and homes. Water does not return to creek and flows northeasterly through streets.	26' to 27'	29' to 30'	31' to 32'			
4g	Area northwest of E. William St.	E. William St. overtops on the west side of Coyote Creek, flooding homes, backyards, and streets.	27' to 28'	30' to 31'	32' to 33'			

Appendix A—Coyote Creek

ID#	Index Location	Flooding Description	FLOOD THREAT STAGE AT MONITORING LOCATION				MONITORING LOCATIONS	PHOTO
			50% Capacity	70% Capacity	100% Capacity	2017 Flood High Water Mark		
5a	Happy Hollow Zoo	Low lying areas, including animal enclosures begin to flood.	13' to 14'	15' to 16'	17' to 18'	20.6'	Rock Springs Stable Drive	
5b	Kelley Park	Park begins to flood.	14' to 15'	16' to 17'	17' to 18'			
5c	Rock Springs Neighborhood	Homes and streets begin to flood.	17' to 18'	19' to 20'	20' to 21'			
Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the February 2017 flood event. Hydraulic modeling results are estimates. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.								

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TABLE 3A: Madrone Gauge Flood Severity Thresholds (NWS Model)

Madrone Gauge Thresholds	Stage (ft)	Description
Action	6	• Low flow crossings across Coyote Creek will be inundated.
Minor Flooding	7	• Flooding to low lying businesses northwest of Berryessa Road and Coyote Creek.
Minor Flooding	8	• Horse Ranch opposite the Rock Springs Neighborhood at risk of flooding. • Watson Park and Coyote Creek Trail at Selma Park begins to flood. • Homes in the creek along Arroyo Way and 17th Street northwest of East William Street begin to flood. • Flooding to businesses northwest of Berryessa Road and Coyote Creek.
Moderate Flooding	9	• Apartments that back onto Coyote Creek at the intersection of Keyes Street and South 12th Street begin to flood lower level garages. • Watson and Selma Parks flooding. • Homes along Arroyo Way and 17th Streets, and homes northwest of William Street and the creek flood. • Flooding beings at Williams Street Park, Happy Hollow Zoo and Kelley Park. • Berryessa Road is at risk of localized street flooding, with business northwest of Berryessa Road and Coyote Creek flooding.

Appendix A—Coyote Creek

Madrone Gauge Thresholds	Stage (ft)	Description
Moderate Flooding	10	- Sycamore Avenue accessing the Boys Ranch Detention Facility at risk of inundation. - Low areas in Happy Hollow Zoo affecting structures and animals flood. - Rock Springs Neighborhood at risk of flooding. - Apartments that back onto Coyote Creek at the intersection of Keyes Street and South 12th Street at risk. - Homes located near the creek along Arroyo Way and 17th Street, Brookwood Avenue, S 16th Street and East William Street, 19th Street between San Antonio and Calhoun are at risk. - Olinder school begins to flood. - Watson, Selma, Kelley, and William Street Parks are flooding. Low areas of Roosevelt Park are flooded. - Woodborough Drive starts to become inundated. - A few homes located in the RV storage lot south of Maybury Drive may flood. - Business northwest and southwest of Berryessa Road and Coyote Creek flood.
Major Flooding	11	- Sycamore Avenue accessing the Boys Ranch Detention Facility flooded. - Kelly Park, and Happy Hollow Zoo flooding. Apartment buildings at Keyes Street and South 12th Street possibly flooded. - Homes along Arroyo Way and 17th Street, homes north of William Street on South 16th Street and East William, homes along Brookwood Avenue, and 19th Streets are at flood risk. - Selma Park inundated and overflows into Olinder Neighborhood. - Minor flooding at Olinder School. - William Street Park is inundated. - Watson Park inundated and begins to flood Monfernio Drive. - RV Storage lot north of US-101 flooded. - Flooding in the offices and industrial areas north and south of Berryessa Road west of the creek.

Appendix A—Coyote Creek

Madrone Gauge Thresholds	Stage (ft)	Description
		The floodwall on the south side of Golden Wheel and South Bay Mobile Home Parks begin to overtop.
Major Flooding	12	- Sycamore Avenue accessing the Boys Ranch Detention Facility flooded, and adjacent Malaguerra Avenue intersections inundated. - Flooding to Kelley Park, and Happy Hollow Zoo. - Rock Springs neighborhood levee is overtopped. - Apartments that back onto Coyote Creek at the intersection of Keyes Street and South 12th Street flooded at lower levels. - Flooding in the Olinder Neighborhood, to houses located along Arroyo Way and 17th Street. - Selma Park and William Street Park flooded. - Moderate flooding to homes north of East William Street west of the Creek and to Olinder School. - Minor flooding occurs at the neighborhood on Monfernio Drive located west of Watson Park, with the park being flooded. - Mobile homes located in the RV storage lot north of US-101 flood. - Flooding to commercial businesses north and south of Berryessa Road on the west side of the Creek. - Flooding in the Golden Wheel and South Bay Mobile Home Parks. - Minor street flooding occurs at Charcot Ave due to bridge overtop.
Historical High Water	12.06'	February 2017

Appendix A—Coyote Creek

Madrone Gauge Thresholds	Stage (ft)	Description
Major Flooding	13	• Hellyer Park has significant flooding. • Major flooding in the Rock Springs Neighborhood and adjacent horse ranch. • Happy Hollow Zoo and Kelley Park flooded. • Lower levels of apartment buildings at Keyes and 12th Street are flooded. • East William/Olinder Neighborhood (South 22nd Street, South 21st Street, Brookwood Avenue and 19th, 20th, and 21st Street) flood with flows moving northeast towards US-101 and Lower Silver Creek. • Ponding of concern on the Southside of Lower Silver Creek at West Court and Anne Darling Elementary School, South 16th Street and East William near the Creek, Brookwood Avenue, Arroyo Way and South 17th Street, and Gilthero Court. • Flooding for Olinder Elementary School, and San Jose Community Middle and High Schools. • East Taylor Street and Kellogg Plant on Eggo Way flooding. • RV storage park north of US-101 flooding. • US-101 flooding near Mabury Road. • Commercial and industrial area near Berryessa Road are significantly flooded. • Major flooding in the Mobile Home Parks. • Spill at Charcot Avenue Bridge escapes to the east of Charcot Avenue Bridge toward I-880 and CA-237, and escapes to the west toward Montage Expressway and North 1st Street.

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Madrone Gauge Thresholds	Stage (ft)	Description
Major Flooding	14	- Disastrous flooding occurs along Coyote Creek downstream of Tully to the San Francisco Bay. - Rock Springs Neighborhood and adjacent horse ranch inundated. - Apartment buildings at the intersection of Keyes Street and S. 12th Street flooded. - Happy Hollow Zoo and Kelley Park flooded. - Spills from Selma Park flow northerly to flood a large area east of the creek, continuing northward to Upper Penitencia Creek, overflowing Hwy 101. - West bank outbreaks at Watson Park, N 20th Street, Roosevelt Street, N. 19th Street at its southern end, N 18th Street, East St. John Street, East Santa Clara Street and S. 17th Street. - The neighborhood located northwest of Watson Park may be flooded. - Floodwaters converge to the Commercial Street Neighborhood around N. 4th Street and N. 10th Street to cause flooding north of I-880 in San Jose, California. - Businesses north and south of Berryessa Road and west of the creek are inundated. - The South Bay and Golden Wheel Mobile home parks are inundated; there is risk that floodwaters could overtop and flood homes to the west. - Charcot Bridge overtopping on both right and left banks flowing away from the Creek flooding an area roughly between Coyote Creek and Guadalupe River, and between Montague Expressway to CA-237. - Japantown, Hyde Park, and Northside San Jose are possible flooded.
Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the February 2017 flood event. Hydraulic modeling results are estimates. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.		

APPENDIX B

Guadalupe River

PURPOSE

This Appendix to the Joint Emergency Action Plan (EAP) for Severe Storms and Flooding Response in the City of San Jose is meant to provide additional guidance specific to Guadalupe River. It will not duplicate information already in an Emergency Operations Plan (EOP) or the EAP, but will provide Guadalupe River specifics for:

1. Incident detection
2. Evaluation and condition level classification
3. Notification and communications
4. Emergency actions

GUADALUPE RIVER DESCRIPTION

The Guadalupe River begins about a half mile upstream of Blossom Hill Road at the confluence of Guadalupe Creek and Alamitos Creek and flows about 20 miles through Santa Clara County and the City of San Jose. Adjacent land uses are predominantly residential and commercial and includes the urban areas of Downtown San Jose. Its watershed drains about 170 square miles of Santa Clara County and City of San Jose and is bounded on the south and southwest by the Santa Cruz Mountains, on the west by San Tomas and Saratoga Creeks watershed, and on the east by Coyote Creek watershed. The three major tributaries that flow into the river are: Los Gatos Creek; Canoas Creek; and Ross Creek. Six reservoirs in the upper watershed area of Guadalupe River that store water primarily for ground water recharge are: Lake Elsmar, Lexington Reservoir and Vasona Reservoir along Los Gatos Creek; Guadalupe Reservoir on Guadalupe Creek; Almaden Reservoir on Alamitos Creek; and Calero Reservoir on Calero Creek.

The river is crossed by many major roadways that include: Highways 85, 87, 101 and 237; Interstates 880 & 280; Blossom Hill Road; Capitol Expressway; Almaden Expressway; West San Carlos Street; West Santa Clara Street; West Taylor Street; Montague Expressway; and Tasman Drive. There are also bike/pedestrian paths along a majority of the river length, light-rail that runs along some of its length with several crossings, and it is crossed by three wooden railroad trestles.

All of the Guadalupe River has been modified over the years for purposes either beneficial to adjacent land owners (e.g., flood protection, water conservation or land reclamation) or by governmental agencies to provide the community flood protection and/or environmental restoration/protection. Projects that provide 100-year (1 percent) flood protection have been completed from the San Francisco Bay to about a half mile upstream of Interstate 280. The remaining upstream reaches of the Guadalupe River are currently being studied by the Santa Clara Valley Water District (District) and U.S. Corps of Engineers for flood protection improvements.

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GUADALUPE RIVER FLOOD THREATS

Flooding threats exist along all of Guadalupe River from the San Francisco Bay to Blossom Hill Road with the greatest risk of flooding in the Upper Guadalupe River upstream of Interstate 280 where flood protection improvements have not been completed. Because the flood protection improvements north of I-280 include levees, floodwalls, and many roadway crossings, these areas are still considered a threat for flooding due to potential failures, unforeseen channel blockages, or unusually large storm events.

There are several flood hotspots on the Upper Guadalupe River. Two of the more severe threats are flooding from Ross Creek and Canoas Creek caused by high water levels in Guadalupe River. The water that overbanks Ross Creek due to high water in Guadalupe River flows northerly on the west side of the river through residential/commercial properties towards the interchange of Highway 87 and Interstate 280. Waters that overbank Canoas Creek due to Guadalupe River flow northerly on the east side of the river through residential, commercial, and industrial properties towards the same interchange area. In addition, major flooding can occur from the Guadalupe River between Willow Glen Way and Willow Street. The flood hotspots on Guadalupe River are listed below (**Figure 1B**):

- North bank of Ross Creek near Almaden Expressway,
- North bank of Canoas Creek near Nightingale Drive,
- East side of Guadalupe River between Branham Lane and Capitol Expressway,
- West bank of Guadalupe River from Malone Road to Alma Road, and
- East Bank of Guadalupe River from Willow Glen Way to Willow Street.

Land uses at risk of flooding include mostly homes and businesses, however there are some significant infrastructure also at risk of flooding. Deep floodwaters could enter Highway 87 and Interstate 280 near their interchange resulting in major highway closures and traffic disruptions that could last several days. The Valley Transportation Authority Light Rail service could also be disrupted in this area until flood waters recede and the tracks are cleaned.

The most recent flood along Guadalupe River that caused significant damages and disruptions occurred in 1995. There were two separate flood events that year, which impacted Highway 87, VTA's Light Rail, homes/businesses south of I-280, and many areas of downtown and north San Jose.

Even though there are no river related flood hotspots north of I-280 because of the flood protection improvements, flood risks still exist due to interior drainage issues behind the levees and potential for extreme storm events, levee failures, or unanticipated channel blockages. The adjacent land uses that would be impacted by a flood due to an unforeseen event in this area include many residential, industrial, commercial and critical governmental infrastructure (e.g., sewage treatment facility). Because of the significant threat to public health and safety and disruptions if this would occur, this section is considered a potential flood threat and should be monitored and inspected during high flow conditions.

FLOOD EVENT DETECTION

There are several detection methods that are described in the EAP that include weather forecasts, hydrologic/hydraulic modeling, Automated Local Evaluation in Real Time (ALERT)

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stream/reservoir/precipitation gauge systems, and field observation of stage gauges and other areas of high flow.

Of these methods, the gauging and field observation methods specific to Guadalupe River are described below:

ALERT Gauge System

A listing of all ALERT gauges in the Guadalupe Watershed can be found at <http://alert.valleywater.org/sqi.php>. These gauges provide data in near real-time at several locations on Guadalupe River and for all major tributaries downstream of the reservoirs. Upstream gauges will provide valuable information for flood events occurring downstream and may give several hours' notice to take action. Gauges in the downstream reaches will show the flood risk at specific locations and whether any unexpected event is occurring (e.g., channel blockage).

The following is a summary of the current stream gauge program.

1. Annually sites will be prioritized for manual gauging and teams are assigned.
2. After every high flow event, the rule curves (depth versus discharge) are updated/calibrated. High flow calibration on gauges in the Guadalupe River watershed was done after the 1995 flood event and again after the high flows of February 2017.
3. Predicting flood condition levels in advance of flooding requires modeling of the watershed specific to the storm forecast. This prediction of the flood condition levels will be done in coordination with the NWS forecast modeling; however, the Districts prediction may differ from the NWS forecast. Therefore, those tools should be used for guidance.

Field Observations

Field observations can be critical to verify what is occurring because ALERT gauges are not always a reliable source of information and modeling information can vary from the actual condition. In addition, there are other known hot-spots and facilities that should be visually checked during high flows. Therefore, supplementing with visual observations from staff deployed in the field (i.e., Field Information Teams) and other field reporting is an important component to detection.

To allow additional information to be accurately gathered, several visual stream stage monitoring locations have been installed for observations. These are located at:

1. Guadalupe River at Montague Expressway
2. Guadalupe River at West Alma Avenue
3. Guadalupe River at Branham Lane
4. Canoas Creek at Nightingale Drive
5. Ross Creek at Cherry Avenue

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The District operates Field Information Teams (FITs) that are assigned to monitor specific locations during storms and high flow events to provide valuable information for detection and for calibrating computer models. In addition, the City also deploys FIT teams in a coordinated way to assure that all critical locations are being monitored. The Multi-Agency Coordination (MAC) Group AC convened per the EAP and/or each jurisdictions Emergency Operations Center (EOC) will coordinate this effort through their Planning/Intelligence Section so that resources are most effectively utilized and information is shared.

Hot-Spots for possible FIT deployment are:

1. Visual stream gauges—checking for high water and rate of change
2. Known Flood Hotspots
3. Real-time Flooding—documenting flooding
4. Bridge Piers—checking for debris blockages
5. Trash Racks—checking for debris blockages
6. Levees—check for stability
7. Sandbag sites—checking for supply and access issues
8. Previously repaired or other project sites—checking for performance
9. Raw water facilities—dams and canals

GUADALUPE RIVER FLOOD CONDITION LEVELS AND SEVERITY

Sometimes an event is a flash flood that occurs suddenly without much early notice. However, with weather forecasting and Guadalupe River modeling there is often an ability to estimate flood events before they occur. This is extremely valuable when preparing for necessary evacuations and road closures.

To provide this advanced notice, a threat level will be used to provide an indicator of preparedness for a response and a level of potential severity for areas subject to flooding to assist the Agency's in planning and implementing appropriate actions. Because of the uncertainties of forecasting future conditions, a condition of Watch will be used when flood stage is estimated about 24 to 72 hours or more in the future. If flooding is estimated within about 24 hours, the threat level will be elevated to Warning.

Green	Preparedness —Flood stage is not estimated within the next 72 hours; and measured stream depth is below 50% of flood thresholds. By nature of a regular physical meeting between agency personnel from multiple agencies, a MAC is formed.
Yellow	Monitoring —Stream depth is estimated to reach flood stage in 72 hours plus, or the measured stream depth is 50% to 70% of flood stage. This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated.

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Orange	Watch —Stream depth is estimated to reach flood stage within 24 to 72 hours or measured depths are at 70% to 100% of flood stage. The Stakeholders' would increase staff in their EOCs, if not yet activated, and a MAC facility could be established. A formal EOC AP will be drafted.
Red	Warning —This is an urgent situation when flood stage or greater is estimated to occur within 24 hours, or is occurring. The Stakeholders' EOC will have been activated and would be monitoring the situation, providing notifications and responding according to a written AP.

When the threat level is at a Watch or Warning, there is an expectation that flooding will occur or is occurring at some locations. The severity of the situation at specific locations is determined by the flood stage. The areas subject to flooding for different stream stages are estimated utilizing hydraulic models and flood maps.

Flood severity categories are used to describe the level of flood risk posed by the storm and are defined by the National Weather Service as:

Action	An established gage height which when reached by a rising stream, lake, or reservoir represents the level where action is taken in preparation for possible significant hydrologic activity.
Minor Flooding	Minimal or no property damage, but possibly some public threat (e.g., inundation of roads).
Moderate Flooding	Some inundation of structures and roads near stream, evacuations of people and/or transfer of property to higher elevations.
Major Flooding	Extensive inundation of structures and roads, significant evacuations of people and/or transfer of property to higher elevations.

A flood inundation map of Guadalupe River is shown in **Figure 1B** and the associated Flood Thresholds **Table 1B** on the following page. The map is the Federal Emergency Management Agency (FEMA) 1% flood map. This map is based on the best available information and modeling when it was created and should be considered approximate due to the difficulty in estimating an actual event and the changing conditions of the creek. Additional floodplain mapping may be developed as needed by the District for use by the MAC.

Table 2B is a flood severity table based on the Almaden Expressway ALERT Gauge that is used to estimate areas that will be subject to flooding on Guadalupe River. Because there is very little notice for flooding based on this gauge, flood conditions will often utilize predictive methods based on weather forecast and watershed conditions.

These tables along with the actual or modeled data would allow the District or MAC to establish threat levels for specific areas subject to flooding. Mapping associated with this table will be provided to Agency Stakeholders. This information will be made available for notifications and will be coordinated with the National Weather Service to be consistent in the dissemination of threat level and severity information.

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NOTIFICATIONS AND ACTIVITY/ACTIONS

General notifications and actions are described in the EAP which describes threat level and severity, notifications and activity/actions to be taken by the City, District and other Stakeholders. The general level of activity will be guided by the best information available to the Agency Subject Matter Experts (SMEs) and Agency Coordinators (ACs). The level of activity may mirror those activities of the individual jurisdictional Emergency Operations Centers (EOCs). As weather conditions merit and monitoring take place, the SMEs and ACs may be in their home offices or their jurisdiction's EOC, if activated. The "call to action" may be a series of phone calls among the SMEs and ACs to determine the best approach to coordination.

In addition, there are specific actions and notifications that are to be taken for the Guadalupe River because of the possibility of temporary flood barrier deployments to protect Downtown San Jose. These are described on **Table 3B** and shown in **Figures 2B and 3B**. In addition, the District Operations & Maintenance DOC has Standard Operating Procedures they will follow to implement their responsibilities related to the deployment.

INFRASTRUCTURE AT RISK

There are no Federal Emergency Management Agency (FEMA) defined critical facilities located in the floodplain, however, there are other important infrastructure where people, property, and important facilities may be at risk. Based on intelligence gathered during the storm event, the MAC will determine the risk and provide notifications as appropriate. Below is a listing of some of that infrastructure.

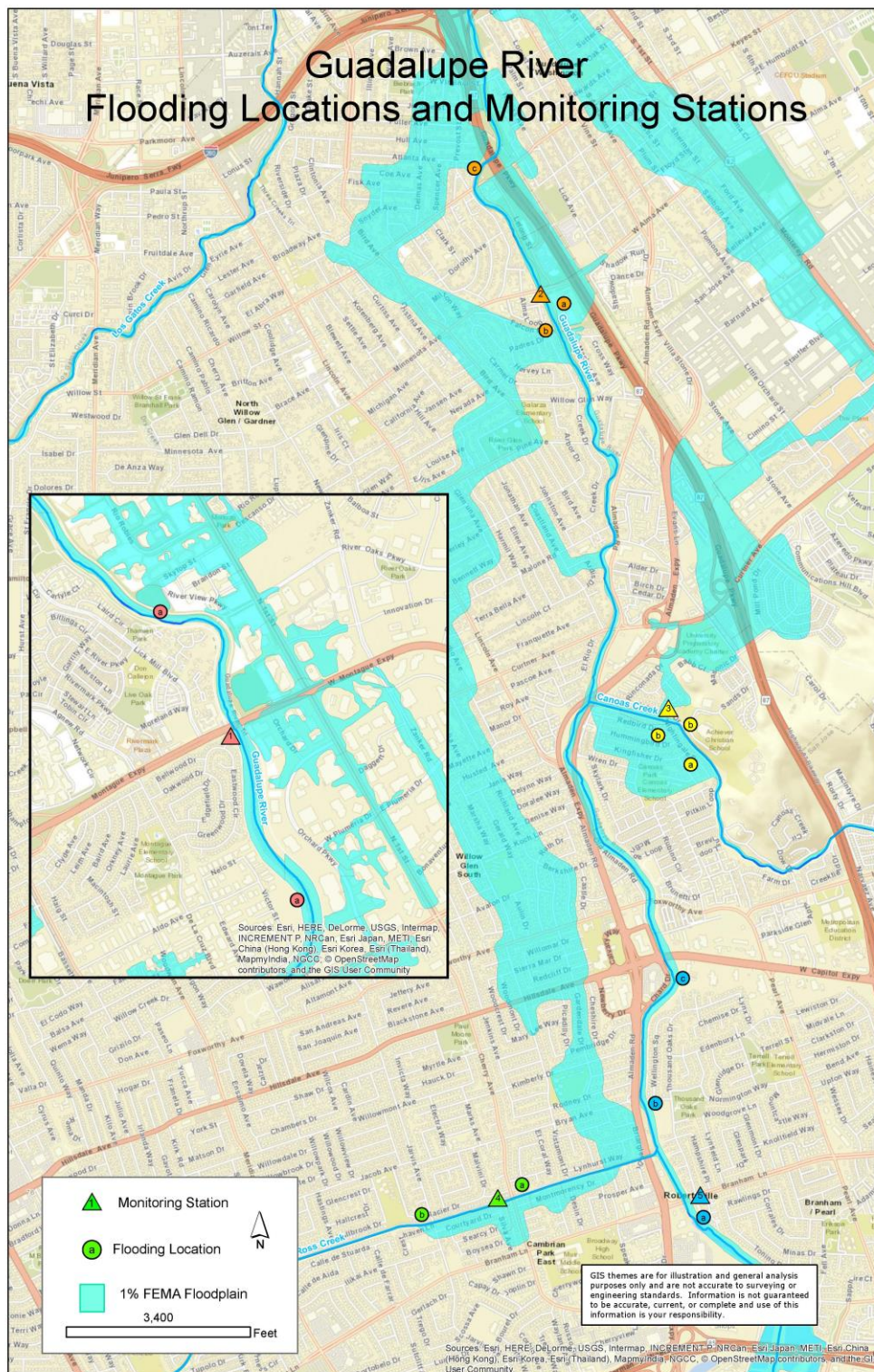
FACILITY TYPE	NAME	ADDRESS	PHONE
SCHOOLS	Galarza Elementary School San Jose Unified School District	1610 Bird Avenue San Jose, CA 95125	(408) 535-6000
	Canoas Elementary School San Jose Unified School District	880 Wren Drive San Jose, CA 95125	(408) 535-6000
	Schallenberger Elementary School San Jose Unified School District	1280 Koch Lane San Jose, CA 95125	(408) 535-6000
	Hacienda Elementary School San Jose Unified School District	1290 Kimberly Drive San Jose, CA 95118	(408) 535-6000
	Washington Elementary School San Jose Unified School District	100 Oak Street San Jose, CA 95110	(408) 535-6000

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FACILITY TYPE	NAME	ADDRESS	PHONE
UTILITIES	Interstate 280 and Highway 87	Caltrans and California Highway Patrol	911 or (800) 835-5247 (if non-emergency), (707) 648-4180 (local Division of CHP)
	Light Rail at Virginia Street and near Interstate 280 where flood stop logs are installed (Figure 2B)	VTA	911 or (408) 321-2300
	Caltrain	1355 Lick Avenue San Jose, CA 95110	(877) 723-7245
	Southern Pacific Railroad		911 or (888) 877-7267
OTHER	Elks Lodge	444 West Alma Avenue San Jose, CA 95110	(408) 298-3880

Appendix B—Guadalupe River

FIGURE 1B: Upper Guadalupe River 1% Floodplain



Appendix B—Guadalupe River

TABLE 1B: Guadalupe River Flood On-Site Monitoring Thresholds

ID #	Index Location	Flooding Description	Flood Threat Stage at Monitoring Location			Monitoring Locations	Photo
			50% Capacity	70% Capacity	100% Capacity		
1a	Upstream and downstream of Montague Expressway, with the highest risk between Montague Expressway and Trimble Road	Levees overtop on both sides of the creek, flooding nearby homes and businesses. Once levees overtop, levee failure may occur, causing sudden and catastrophic damage.	20'-21'	24'-25'	30'-31'	Montague Expressway Bridge (Guadalupe River)	
2a	Upstream of Alma Avenue on the East Bank near Elk's Lodge	Water overtops upstream of Alma Avenue and floods Elks Lodge, flowing northward along Lelong Street.	12'-13'	15'-16'	17'-18'	West Alma Avenue Bridge (Guadalupe River)	
2B	Upstream of Alma Avenue on the West Bank	Water breaks out slightly upstream of Alma Avenue on the west bank, spilling towards the west near Falcon Place.	14'-15'	16'-17'	18'-19'		
2c	Upstream of CA-87 on the West Bank	Water overbanks on the west side near Minnesota Avenue and Mills Court.	14'-15'	16'-17'	19'-20'		

Appendix B—Guadalupe River

ID #	Index Location	Flooding Description	Flood Threat Stage at Monitoring Location			Monitoring Locations	Photo
			50% Capacity	70% Capacity	100% Capacity		
3a	Few hundred feet upstream of Nightingale Drive on the southwest bank	Water overtops the southwestern levee and spills into the residential neighborhood.	7'-8'	10'-11'	13'-14'	Nightingale Drive Culvert (Canoas Creek)	
3b	Nightingale Drive Culvert and southern levee downstream of Nightingale Drive	Water overtops the southern levee and the Nightingale Drive culvert and inundates the neighborhood.	7'-8'	10'-11'	14'-15'		
4a	Cherry Avenue	Water spills out just upstream of the Cherry Avenue Culvert, as well as along the levees upstream and downstream.	5'-6'	7'-8'	9'-10'	Cherry Avenue Culvert (Ross Creek)	
4b	Jarvis Avenue	Water spills out upstream of the Jarvis Avenue Culvert, as well as along the levees downstream and upstream.	5'-6'	7'-8'	9'-10'		

Appendix B—Guadalupe River

ID #	Index Location	Flooding Description	Flood Threat Stage at Monitoring Location			Monitoring Locations	Photo
			50% Capacity	70% Capacity	100% Capacity		
5a	Upstream Branham Lane	Water spills out upstream Branham Lane on both sides.	15'-16'	17'-18'	19'-20'	Branham Lane Bridge (Guadalupe River)	
5b	East bank near Thousand Oaks Park	Low spot near Thousand Oaks Park becomes flooded, eventually spreading to the residential homes.	15'-16'	17'-18'	19'-20'		
5c	Upstream Capitol Expressway	Water spills out upstream of Capitol Expressway, flooding businesses along the road.	15'-16'	17'-18'	19'-20'		
Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the historical flood events. Hydraulic modeling results may be preliminary and should be used for general analysis purposes. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.							

Appendix B—Guadalupe River

TABLE 2B: Almaden Expressway Gauge Flood Severity Thresholds (NWS Model)

Almaden Expressway Gauge Thresholds	Stage (ft)	Description
Action	7.5	Water levels reaching flood stage with areas within the banks under high flows.
Minor Flooding	8.5	Overtopping upstream of Alma Avenue Bridge east into the Elk's Lodge begins and the Alma Avenue's Hwy 87/railroad undercrossing begins filling with water.
Minor Flooding	11.5	Flooding near Alma Avenue extends north along Lelong Street in addition to Elk's Lodge and undercrossing being flooded. In addition, flooding begins to the west downstream of Alma Avenue into the neighborhood.
Historical High Water	11.73	January 1995
Moderate Flooding	13	Floodwaters flow north and east under both the Willow Street and Alma Avenue undercrossings. Additional overbanking occurs to the west downstream of Willow Street flooding the neighborhoods. Overbanking also begins upstream of Alma Avenue to Willow Glen Way. Flooding of Highway 87 begins.

Appendix B—Guadalupe River

Almaden Expressway Gauge Thresholds	Stage (ft)	Description
Major Flooding	15	Washington/Guadalupe, Tamien, and Alma/Almaden Neighborhoods east of Highway 87 are inundated from floodwaters. Widespread flooding in the eastern Willow Glen Neighborhoods, as well as the Gardner and Atlanta/Bird Neighborhoods. Highway 87/Interstate 280 interchange and the adjacent Light rail flood. Areas along Thousand Oaks upstream of Capitol Expressway are at risk of flooding. Waters will flood out of both Ross Creek and Canoas Creek flooding neighborhoods to the south of both creeks and also flowing overland to the north ending up near Interstate 280 and Highway 87. For flooding from the Willow Street to Willow Glen Way and Canoas Creek area, temporary flood barriers will be installed at Almaden Avenue and Vine Street near Interstate 280 and at VTA Crossings (see Figure 2B).
Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the February 2017 flood event. Hydraulic modeling results are estimates. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.		

Appendix B—Guadalupe River

TABLE 3B: Temporary Flood Barrier Progressive Responsibilities

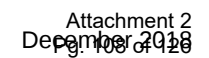
Flood Barrier Deployment Level	Flood Condition Level	Flood Severity	Responsibility/Activity	Stakeholder
Monitor	Monitor	Minor or greater	Monitor/Inspect river and clear obstructions/blockages.	District Field Operations & Maintenance (O&M)
			Alert of condition and activities to MAC/EOC's and Stakeholders – Operational Area, San Jose PD & Fire, CHP, Caltrans, and VTA.	District – O&M, Emergency Services or EOC is lead
			Alert crews and staff that will be deployed for barrier placement and road detours of the condition.	Each Stakeholder is lead for their responsibility
Prepare	Watch	Moderate or greater	All Monitoring Activities	
			Deploy FIT to assist field crews for monitoring Guadalupe River (District & City).	City and District will coordinate
			Prepare action plan for event.	MAC, EOC's, or DOC's
			Check that flood barriers and traffic controls are near deployment sites.	Each Stakeholder is lead for their responsibility
			Prepare materials for delivery near deployment area for implementation team use (sandbags and sheeting needed for partial sealing of drainage inlets).	District

Appendix B—Guadalupe River

Flood Barrier Deployment Level	Flood Condition Level	Flood Severity	Responsibility/Activity	Stakeholder
Mobilize	Warning	Major	All Monitoring and Prepare Activities.	
			Establish on-site Operations & Maintenance Field Command for deployment if necessary.	District & City
			Position barriers (bladder dams and stoplogs) near deployment locations (Figure 2B) and prepare to deploy.	District
			Provide Police assistance for homeless evacuations needed for deployment as necessary.	City
			Initiate Outreach to alert affected areas of potential flooding	City
			Partially sandbag drainage inlets on Duane Street that flow north of barrier locations (Figure 3B). Inlets should allow storm in-flow until overland floodwaters are imminent.	City or District Field Command
Deploy	Flooding Occurring	Major	All appropriate previous activities.	
			Direct a FIT or other field staff to monitor the following locations in the floodplain as determined necessary: • Curtner Avenue at Highway 87, • Little Orchard Street between Curtner Avenue and Barnard Avenue, • West Alma Avenue west of Monterey Street, • Alma Avenue at Highway 87/Caltrain underpass, • Willow Street at Highway 87/Caltrain underpass, and • Lick Avenue near the Tamien Caltrain parking lot between Willow Street and Alma Avenue.	MAC, District & City EOC/DOC, or District Field Command
			Direct deployment of flood barriers, detours/traffic controls, and drainage inlets. Decision to deploy barriers could be based on: 1. Floodwaters crossing West Alma Avenue west of Monterey Street could reach the temporary barriers within 2 hours. 2. Floodwater flowing east of the Caltrain tracks and nearing Lick Avenue could reach temporary barriers within 2 hours.	MAC, District & City EOC/DOC, or District Field Command
			Deploy temporary barriers at locations shown in Figure 2B. Deployment of the barriers K, L & M should take approximately 2 hours and be done when conditions 1 or 2 from above occur. Deployment of stoplogs at D should take approximately 30 minutes and can be decided based on visual monitoring of the floodwaters filling in the highway interchange near the location of deployment.	District, City & VTA
			Following deployment of the K, L & M, complete sandbagging of storm drains on Duane Street near Interstate 280 that flow north of barrier into downtown San Jose (Figure 3B).	City or District

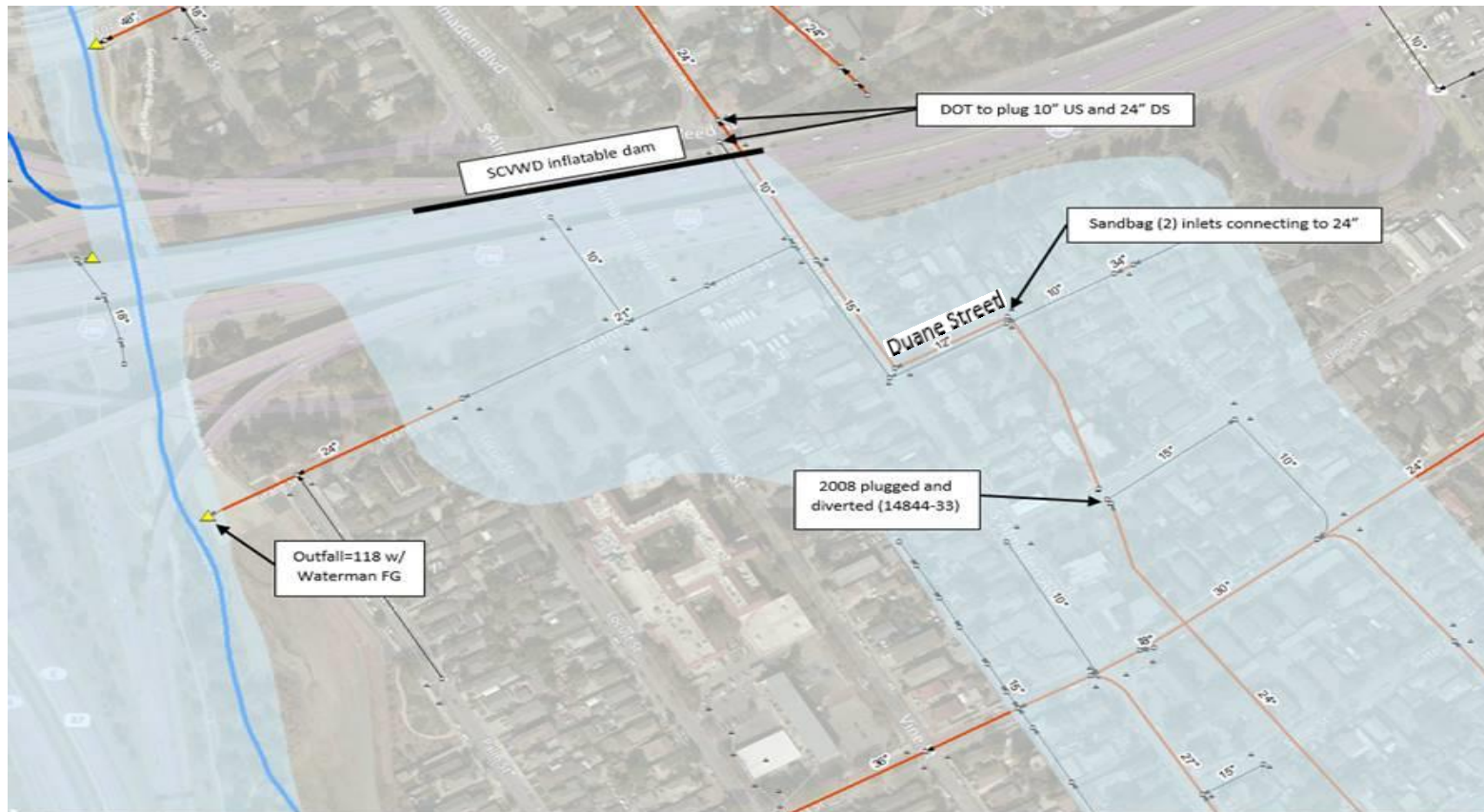
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Appendix B—Guadalupe River

FIGURE 3B: Temporary Sandbagging of Storm Drain Inlets



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APPENDIX C

Canoas Creek

PURPOSE

This Appendix to the City, District and other Stakeholders Joint Emergency Action Plan (EAP) for Severe Storms and Flooding is meant to provide additional guidance specific to Canoas Creek. It will not duplicate information already in an entities Emergency Operations Plan (EOP) or the EAP, but will provide Canoas Creek specifics for:

1. Incident detection
2. Evaluation and condition level classification
3. Notification and communications
4. Emergency actions

CANOAS CREEK DESCRIPTION

Canoas Creek begins at Cottle Road and flows 7.4 miles through South San Jose before it discharges into Guadalupe River just upstream of Almaden Expressway. Adjacent land uses are predominantly residential and commercial property. The creek is crossed by several major roadways that include: Highways 87 and 85, Capitol Expressway, Blossom Hill Road, and Santa Teresa Boulevard. The Canoas Creek watershed drains about 18.6 square miles of Santa Clara County and City of San Jose and is bounded on the south by the Almaden hills, on the west by Guadalupe River Watershed and on the east by Coyote Creek Watershed (Monterey Road). The channel was improved around 1970 and is generally trapezoidal with a 10'-12' wide concrete channel bottom and 1.5 to 1 earthen side slopes. There are levees from Guadalupe River to about 2,500 feet upstream near a farm bridge. From that point to the upstream limit of the creek at Cottle Road the top of bank is generally the same or slightly higher than adjacent ground.

CANOAS CREEK FLOOD THREATS

The major flood threat occurs near Nightingale Drive and is primarily caused by a backwater from high flows in Guadalupe River. The flooding begins by spilling south over the levee into a low residential area and possibly into Canoas Elementary School. As flow depth increases the spills occur over the north levee area and flow northward towards downtown San Jose east of Almaden Expressway and west of Monterey Road. The Light Rail station at Curtner Avenue floods and water flows under Highway 87 into the Mill Pond Neighborhood. Highway 87 downstream of Curtner Avenue is elevated, but 21 36" pipe culverts allow floodwaters to pass under the roadway into commercial and industrial areas that include San Jose Unified School District's Bus Yard and Maintenance Department. Floodwaters continue to flow through residential, commercial and industrial areas and end up at Interstate 280 near Almaden Road where temporary flood barriers are to be deployed to divert floodwaters back to Guadalupe River (see Appendix B regarding deployment of temporary flood barriers).

In addition, the creek may spill overbank upstream of culverts at Snell Avenue, Tillamook Drive, Blossom Avenue, and Calero Avenue. However, the major issue in the upstream area is that the creek does not have 100-year flood capacity and storm water is not able to enter the creek. This results in a shallow floodplain flowing along streets starting near Dunn Avenue to Highway 87. This floodplain varies in width and narrows at Blossom Hill Road, Highway 85, and

Appendix C—Canoas Creek

Capitol Expressway. Waters in this shallow floodplain are not expected to enter structures, but rather to flow through the streets.

Flood events occurred in 1911, 1981, 1982, 1985 and 1995. The 1995 flooding overtopped the levees near Nightingale Drive and backflowed through the local drainage system into the adjacent low-lying neighborhood to the south flooding into residential structures. This event was the highest recorded event at the Canoas Creek flow gauge at Almaden Expressway since the creek was improved.

FLOOD EVENT DETECTION

There are several detection methods that are described in the EAP that include weather forecasts, hydrologic/hydraulic modeling, Automated Local Evaluation in Real Time (ALERT) stream/reservoir/precipitation gauge systems, and field observation of stage gauges and other areas of high flow.

Of these methods, the gauging and field observation methods specific to Canoas Creek are described below:

ALERT Gauge System

A listing of all ALERT gauges in the Guadalupe Watershed can be found at <http://alert.valleywater.org/sqi.php>. These gauges provide data in near real-time at several locations in the watershed including on Canoas Creek.

The following is a summary of the current stream gauge program.

1. Annually sites will be prioritized for manual gauging and teams are assigned.
2. After every high flow event, the rule curves (depth versus discharge) are updated/calibrated. High flow calibration on Canoas Creek gauges was done after the 1995 event and again after the 2017 storm event.

Field Observations

Field observations can be critical to verify what is occurring because ALERT gauges are not always a reliable source of information and modeling information can vary from the actual condition. In addition, there are other known hot-spots that do not have ALERT gauges that may be visually checked during high flows. Supplementing with visual observations from staff deployed in the field (i.e., Flood Information Teams) and other field reporting is an important component to detection.

To allow additional information to be accurately gathered a visual stream stage monitoring location has been installed for observations. This is located at Nightingale Drive.

The District operates Field Information Teams (FITs) that are assigned to specific locations during storms and high flow events to provide this valuable information. In addition, the City also deploys FIT teams in a coordinated way to assure that all critical

Appendix C—Canoas Creek

locations are being monitored. Locations of FIT deployment by the City and District may overlap during storm and flood events. The EAP Multi-Agency Coordination (MAC) Group will coordinate this effort through the Planning/Intelligence Section so that resources are most effectively utilized and information is shared.

District Hot-Spots for possible FIT deployment are:

1. Visual stream gauges—checking for high water and rate of change
2. Known Flood Hot-Spots
3. Real-time Flooding—documenting flooding
4. Levees—check for stability
5. Bridge Piers—checking for debris blockages
6. Trash Racks—checking for debris blockages
7. Sandbag sites—checking for supply and access issues
8. Previously repaired or other project sites—checking for performance
9. Raw water facilities—dams and canals

CANOAS FLOOD CONDITION LEVELS AND SEVERITY

Sometimes an event is a flash flood that occurs suddenly without much early notice. However, with weather forecasting and Guadalupe River and Canoas Creek modeling there is often an ability to estimate flood events before they occur. This is extremely valuable when preparing for necessary evacuations and road closures.

To provide this advanced notice, a threat level will be used to provide an indicator of preparedness for a response and a level of potential severity for areas subject to flooding to assist the Agency's in planning and implementing appropriate actions. Because of the uncertainties of forecasting future conditions, a condition of Watch will be used when flood stage is estimated about 24 to 72 hours or more in the future. If flooding is estimated within about 24 hours, the threat level will be elevated to Warning.

Green	Preparedness —Flood stage is not estimated within the next 72 hours; and measured stream depth is below 50% of flood thresholds. By nature of a regular physical meeting between agency personnel from multiple agencies, a MAC is formed.
Yellow	Monitoring —Stream depth is estimated to reach flood stage in 72 hours plus, or the measured stream depth is 50% to 70% of flood stage. This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated.

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Orange	Watch —Stream depth is estimated to reach flood stage within 24 to 72 hours or measured depths are at 70% to 100% of flood stage. The Stakeholders' would increase staff in their EOCs, if not yet activated, and a MAC facility could be established. A formal EOC AP will be drafted.
Red	Warning —This is an urgent situation when flood stage or greater is estimated to occur within 24 hours, or is occurring. The Stakeholders' EOC will have been activated and would be monitoring the situation, providing notifications and responding according to a written AP.

When the threat level is at a Watch or Warning, there is an expectation that flooding will occur or is occurring at some locations. The severity of the situation at specific locations is determined by the flood stage. The areas subject to flooding for of different stream stages are estimated utilizing hydraulic models and flood maps.

Flood severity categories are defined by the NWS as:

Action	An established gage height which when reached by a rising stream, lake, or reservoir represents the level where action is taken in preparation for possible significant hydrologic activity.
Minor Flooding	Minimal or no property damage, but possibly some public threat (e.g., inundation of roads).
Moderate Flooding	Some inundation of structures and roads near stream, evacuations of people and/or transfer of property to higher elevations.
Major Flooding	Extensive inundation of structures and roads, significant evacuations of people and/or transfer of property to higher elevations.

A flood inundation map of Canoas Creek is shown in **Figure 1C** and the associated Flood Thresholds **Table 1C** on the following page. The map is the Federal Emergency Management Agency (FEMA) 1 percent flood map. This map is based on the best available information and modeling when it was created and should be considered approximate due to the difficulty in estimating an actual event and the changing conditions of the creek.

Table 2C is a flood severity table for the Almaden Expressway Gauge that is used to estimate areas that will be subject to flooding. Because there is very little notice for flooding based on this gauge, flood conditions will often utilize predictive methods based on weather forecast and watershed conditions.

These tables along with the actual or modeled data would allow the District or MAC to establish threat levels for specific areas subject to flooding. Mapping associated with this table will be provided to Agency Stakeholders. This information will be made available for notifications and will be coordinated with the National Weather Service to be consistent in the dissemination of threat level and severity information.

Appendix C—Canoas Creek

Notifications and Activity/Actions: Notifications and actions are described in the Joint EAP which describes threat level and severity, notifications and activity/actions to be taken by both the City, District and other stakeholders. The level of activity will be guided by the best information available to the Agency Subject Matter Experts (SMEs) and Agency Coordinators (ACs). The level of activity may mirror those activities of the individual jurisdictional Emergency Operations Centers (EOCs). As weather conditions merit and monitoring take place, the SMEs and ACs may be in their home offices or their jurisdiction's EOC, if activated. The "call to action" may be a series of phone calls among the SMEs and ACs to determine the best approach to coordination.

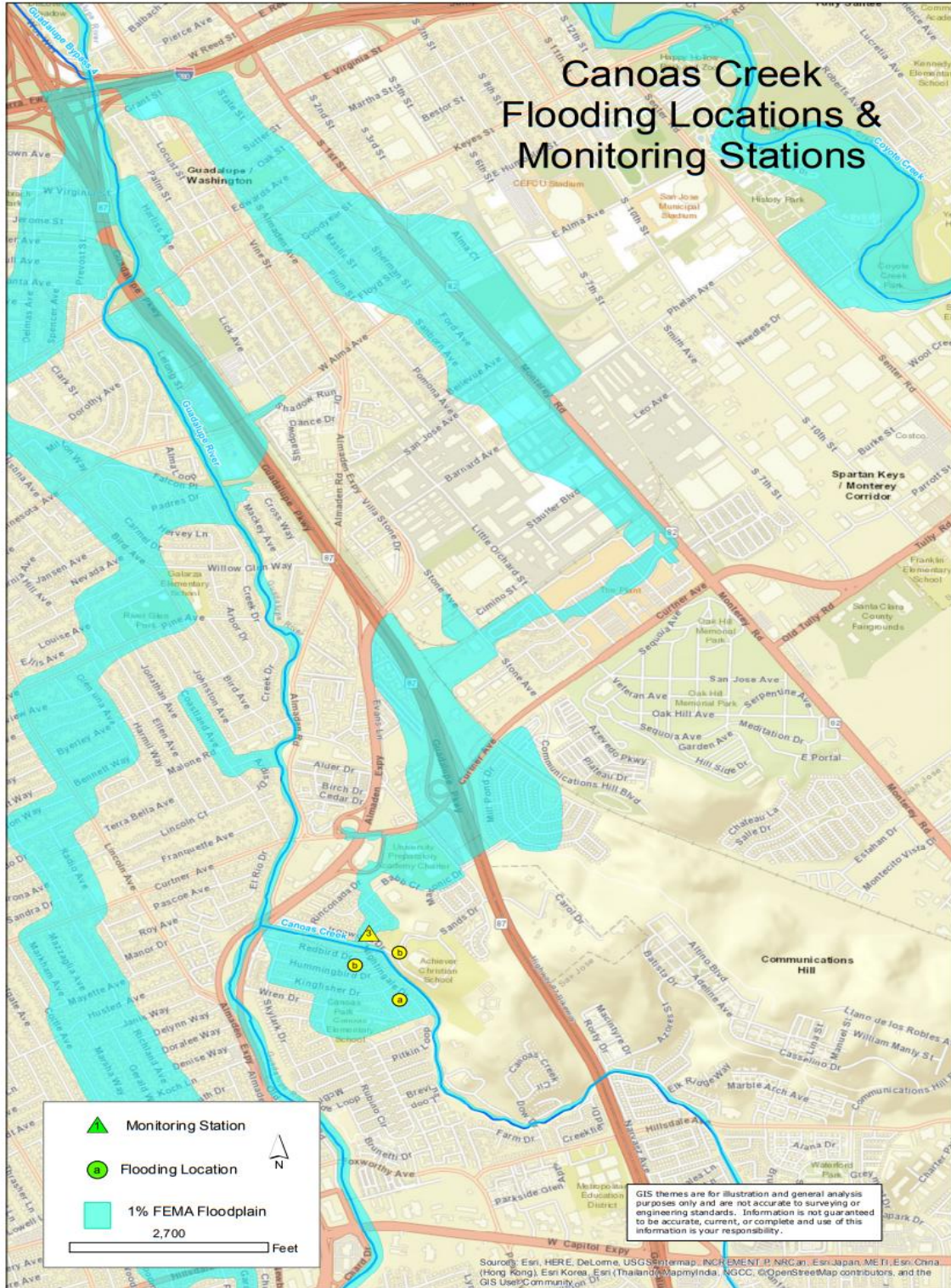
INFRASTRUCTURE AT RISK

There are no Federal Emergency Management Agency (FEMA) defined critical facilities located in the floodplain, however, there are other important infrastructure where people, property, and important facilities may be at risk. Based on intelligence gathered during the storm event, the MAC will determine the risk and provide notifications as appropriate. The facilities below are within the area where people, property, and infrastructure may be at risk:

FACILITY TYPE	NAME	ADDRESS	PHONE
SCHOOL	Canoas Elementary School	890 East William Street San Jose, CA 95116	(408) 535-6000
	Santa Teresa High School	651 Macredes Avenue San Jose, CA 95116	(408) 283-6000
UTILITIES	Light Rail Stations at Curtner Avenue	150 Metcalf Road San Jose, CA 95138	1 (800) 743-5000
OTHER	San Jose Unified Bus Yard and Maintenance Department	1896 Senter Road San Jose, CA 95112	(408) 998-2872 or (408) 478-9182

Appendix C—Canoas Creek

FIGURE 1C: Canoas Creek Flood Map and Inspection Locations



Appendix C—Canoas Creek

TABLE 1C: Canoas Creek Flood On-Site Monitoring Thresholds

ID #	Index Location	Flooding Description	Flood Threat Stage at Monitoring Location			Monitoring Locations	Photo
			50% Capacity	70% Capacity	100% Capacity		
3a	Few hundred feet upstream of Nightingale Drive on the southwest bank	Water overtops the southwestern levee and spills into the residential neighborhood.	7'-8'	10'-11'	13'-14'	Nightingale Drive Culvert (Canoas Creek)	
3b	Nightingale Drive Culvert and southern levee downstream of Nightingale Drive	Water overtops the southern levee and the Nightingale Drive culvert and inundates the neighborhood.	7'-8'	10'-11'	14'-15'		
5c	Upstream Capitol Expressway	Water spills out upstream of Capitol Expressway, flooding businesses along the road.	15'-16'	17'-18'	19'-20'		
Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the historical flood events. Hydraulic modeling results may be preliminary and should be used for general analysis purposes. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.							

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TABLE 2C: Canoas Creek at Almaden Expressway Gauge Flood Severity Thresholds (NWS Model)

Madrone Gauge Thresholds	Stage (ft)	Description
Action	9.5	Calero Avenue and Blossom Hill Road could flood from high flow and/or debris buildup. Street flooding is possible. Canoas Creek begins experience a backwater condition when the Guadalupe River is at a stage of about 7' at the Almaden Expressway stream gauge.
Minor Flooding	13.5	Overtopping occurs upstream of Nightingale Drive.
Historical High Water	13.8	January 1995
Moderate Flooding	15	Significant flooding in the Canoas Garden Neighborhood near Nightingale Drive occurs. Waters start flowing north towards Curtner Avenue and Almaden Expressway. Canoas Elementary School and the Mill Pond Neighborhood are at risk.
Major Flooding	16	Entire Canoas Gardens Neighborhood impacting Canoas Elementary School. Floodwaters flow northward and inundate the Mill Pond Neighborhood and may impact the Light Rail Station at Curtner Avenue. Flood areas are primarily west of Highway 87, East of Almaden Expressway and south of Curtner Avenue, however, some water may continue northward across Curtner Avenue.
Major Flooding	17	Major flooding occurs as floodwaters continue north of Curtner Avenue towards the Highway 87 and Interstate 280 interchange. Almaden Terrace Apartments, Guadalupe Almaden Neighborhood, and Northern Cross Neighborhood are inundated. Water may cross east of CalTrain Railroad Tracks that are just east of Highway 87 and continue through industrial and commercial areas bounded by Curtner Avenue and Barnard Avenue. Floodwaters flow towards Monterey Road and if flooding continues the floodwater will reach 1 st Street and require temporary flood barriers to be deployed near Interstate 280 to protect Downtown San Jose (Appendix B).
Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the January 1995 and February 2017 storm events. Hydraulic modeling results are estimates. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.		

APPENDIX D

Ross Creek

PURPOSE

This Appendix to the City, District and other Stakeholders Joint Emergency Action Plan (EAP) for Severe Storms and Flooding is meant to provide additional guidance specific to Ross Creek. It will not duplicate information already in an EOP or the EAP, but will provide Ross Creek specifics for:

1. Incident detection
2. Evaluation and condition level classification
3. Notification and communications
4. Emergency actions

ROSS CREEK DESCRIPTION

Ross Creek begins in the Town of Los Gatos upstream of Blossom Hill Road and discharges about 6.1 miles later into the Guadalupe River at Almaden Expressway about 1,000 feet north of Branham Lane in the City of San Jose. The watershed is part of the Guadalupe River Watershed and drains about 10 square miles of primarily medium density residential areas in the City of San Jose and Town of Los Gatos and is bounded on the south by the Guadalupe Creek, and on the west and north by Los Gatos Creek.

Ross Creek is predominantly a constructed trapezoidal earth channel with 8 ft to 12 ft bottom width and side slopes ranging from 1.5:1 to nearly vertical due to erosion. Maintenance roads of about 17 ft in width are present along most of the creek. There are culverts at road crossing with the major roads crossings including Blossom Hill Road, Los Gatos Almaden Road, Leigh Avenue, Highway 85, Camden Avenue, Meridian Avenue, Cherry Avenue and Almaden Expressway.

ROSS CREEK FLOOD THREATS

Ross Creek is a very flashy drainage area and depth of flow can change quickly. It can also be influenced by high water in Guadalupe River and may flood due to that influence. The flood prone areas are generally located upstream of culverts at Jarvis Avenue and Cherry Avenue due to constriction of the flows. These areas flood adjacent residential areas. However, the most significant flooding is upstream of Briarglen Drive between Jarvis Avenue and Almaden Expressway that can be exacerbated by a backwater from high flows in Guadalupe River. Flooding in this area causes minor impacts to a residential area south of the creek and major impacts to the north. The floodplain to the north flows west of Almaden Expressway and east of Cherry Avenue up to Curtner and then east of Lincoln Avenue north of Pine Street. This flooding continues through Willow Glen to Interstate 280 west of Highway 87 and can flood three elementary schools and a community center. Flooding can also impact the Interstate 280 and Highway 87 interchange. Figure 1D shows the Federal Emergency Management Agency (FEMA) 100-year (1 percent) floodplain for Ross Creek.

Appendix D—Ross Creek

FLOOD EVENT DETECTION

The flood event detection methods include weather forecasts, hydrologic/hydraulic modeling, Automated Local Evaluation in Real Time (ALERT) stream/reservoir/precipitation gauge systems, and field observation of stage gauges and other areas of high flow.

Of these methods, the gauging and field observation methods specific to Ross Creek are described below:

ALERT Gauge System

A listing of all ALERT gauges in the Guadalupe River Watershed can be found at <http://alert.valleywater.org/sqi.php>. These gauges provide data in near real-time at several locations in the watershed. Upstream gauges will provide valuable information for flood events occurring downstream and may give hours' notice to take action. However, the ALERT gauges on Ross Creek at Cherry Avenue and on Guadalupe River at Almaden Expressway will be the primary gauges used for determining the flood condition on Ross Creek.

The following is a summary of the current stream gauge program:

1. Annually sites will be prioritized for manual gauging and teams are assigned.
2. After every high flow event, the rule curves (depth versus discharge) are updated/calibrated. High flow calibration on Guadalupe Watershed gauges was done after the 1995 event and some were completed after the 2017 winter high flows.

Field Observations

Field observations can be critical to verify what is occurring because ALERT gauges are not always a reliable source of information and modeling information can vary from the actual condition. In addition, there are other known hot-spots and facilities that should be visually checked during high flows. Supplementing with visual observations from staff deployed in the field and other field reporting is an important component to detection.

The District operates Field Information Teams (FITs) that are assigned to specific locations during storms and high flow events to provide this valuable information. In addition, the City also deploys FIT teams in a coordinated way to assure that all critical locations are being monitored. Locations of FIT deployment by the City and District may overlap during storm and flood events. The EAP Multi-Agency Coordination (MAC) Group and/or the jurisdictions EOC will coordinate this effort through the Planning/Intelligence Section so that resources are most effectively utilized and information is shared.

District Hot-Spots for possible FIT deployment are:

1. Visual stream gauges—checking for high water and rate of change
2. Known Flood Hot-Spots

Appendix D—Ross Creek

3. Real-time Flooding—documenting flooding
4. Bridge Piers—checking for debris blockages
5. Trash Racks—checking for debris blockages
6. Levees downstream of Highway 101—check for stability
7. Sandbag sites—checking for supply and access issues
8. Previously repaired or other project sites—checking for performance
9. Raw water facilities—dams and canals

To aid in accurately gathering information, a visual stream stage monitoring location has been installed at Cherry Avenue on Ross Creek.

ROSS CREEK FLOOD CONDITION LEVELS AND SEVERITY

Sometimes an event is a flash flood that occurs suddenly without much early notice. However, with weather forecasting and computer modeling of the watersheds there is often an ability to estimate flood events before they occur. This is extremely valuable when preparing for necessary evacuations and road closures.

To provide this advanced notice, a threat level will be used to provide an indicator of preparedness for a response and a level of potential severity for areas subject to flooding to assist the Agency's in planning and implementing appropriate actions. Due to uncertainties of forecasting future conditions, a condition of Watch will be used when flood stage is estimated about 24 to 72 hours or more in the future. If flooding is estimated within about 24 hours, the threat level will be elevated to Warning.

Green	Preparedness —Flood stage is not estimated within the next 72 hours; and measured stream depth is below 50% of flood thresholds. By nature of a regular physical meeting between agency personnel from multiple agencies, a MAC is formed.
Yellow	Monitoring —Stream depth is estimated to reach flood stage in 72 hours plus, or the measured stream depth is 50% to 70% of flood stage. This condition is variable and requires more intense monitoring and a heightened level of alertness. Minimal staff in each Stakeholder's Emergency Operations Center (EOC) may be activated. A virtual MAC could be activated. An informal EOC Action Plan (AP) could be initiated.
Orange	Watch —Stream depth is estimated to reach flood stage within 24 to 72 hours or measured depths are at 70% to 100% of flood stage. The Stakeholders' would increase staff in their EOCs, if not yet activated, and a MAC facility could be established. A formal EOC AP will be drafted.
Red	Warning —This is an urgent situation when flood stage or greater is estimated to occur within 24 hours, or is occurring. The Stakeholders' EOC will have been activated and would be monitoring the situation, providing notifications and responding according to a written AP.

Appendix D—Ross Creek

When the threat level is at a Watch or Warning, there is an expectation that flooding will occur or is occurring at some locations. The severity of the situation at specific locations is determined by the flood stage. The areas subject to flooding for of different stream stages are estimated utilizing hydraulic models, the FEMA flood map, and flood maps from the 1995 floods.

Flood severity categories are defined by the NWS as:

Action	An established gage height which when reached by a rising stream, lake, or reservoir represents the level where action is taken in preparation for possible significant hydrologic activity.
Minor Flooding	Minimal or no property damage, but possibly some public threat (e.g., inundation of roads).
Moderate Flooding	Some inundation of structures and roads near stream, evacuations of people and/or transfer of property to higher elevations.
Major Flooding	Extensive inundation of structures and roads, significant evacuations of people and/or transfer of property to higher elevations.

A 100-year (1 percent) flood inundation map of Ross Creek is shown in **Figure 1D** and the associated Flood Thresholds **Table 1D** on the following page. The map is the Federal Emergency Management Agency (FEMA) 1 percent flood map. This map is based on the best available information and modeling when it was created and should be considered is approximate due to the difficulty in estimating an actual event and the changing conditions of the creek.

Table 2D is a flood severity table for the Ross Creek at Cherry Avenue Gauge that is used to estimate areas that will be subject to flooding. Because there is very little notice for flooding based on this gauge, flood conditions will often utilize predictive methods based on weather forecast and watershed conditions. In addition, the Guadalupe River gauge at Almaden Expressway is used to predict flooding. Refer to Appendix B of the EAP for flood severity based on that gauge.

These tables along with the actual or modeled data would allow the District or MAC to establish threat levels for specific areas subject to flooding. Mapping associated with this table will be provided to Agency Stakeholders. This information will be made available for notifications and will be coordinated with the National Weather Service to be consistent in the dissemination of threat level and severity information.

NOTIFICATIONS AND ACTIVITY/ACTIONS

Notifications and actions are described in the Joint EAP which describes threat level and severity, notifications and activity/actions to be taken by both the City, District and other stakeholders. The level of activity will be guided by the best information available to the Agency Subject Matter Experts (SMEs) and Agency Coordinators (ACs). The level of activity may mirror those activities of the individual jurisdictional Emergency Operations Centers (EOCs). As weather conditions merit and monitoring take place, the SMEs and ACs may be in their home offices or their jurisdiction's EOC, if activated. The "call to action" may be a series of phone calls among the SMEs and ACs to determine the best approach to coordination.

Appendix D—Ross Creek

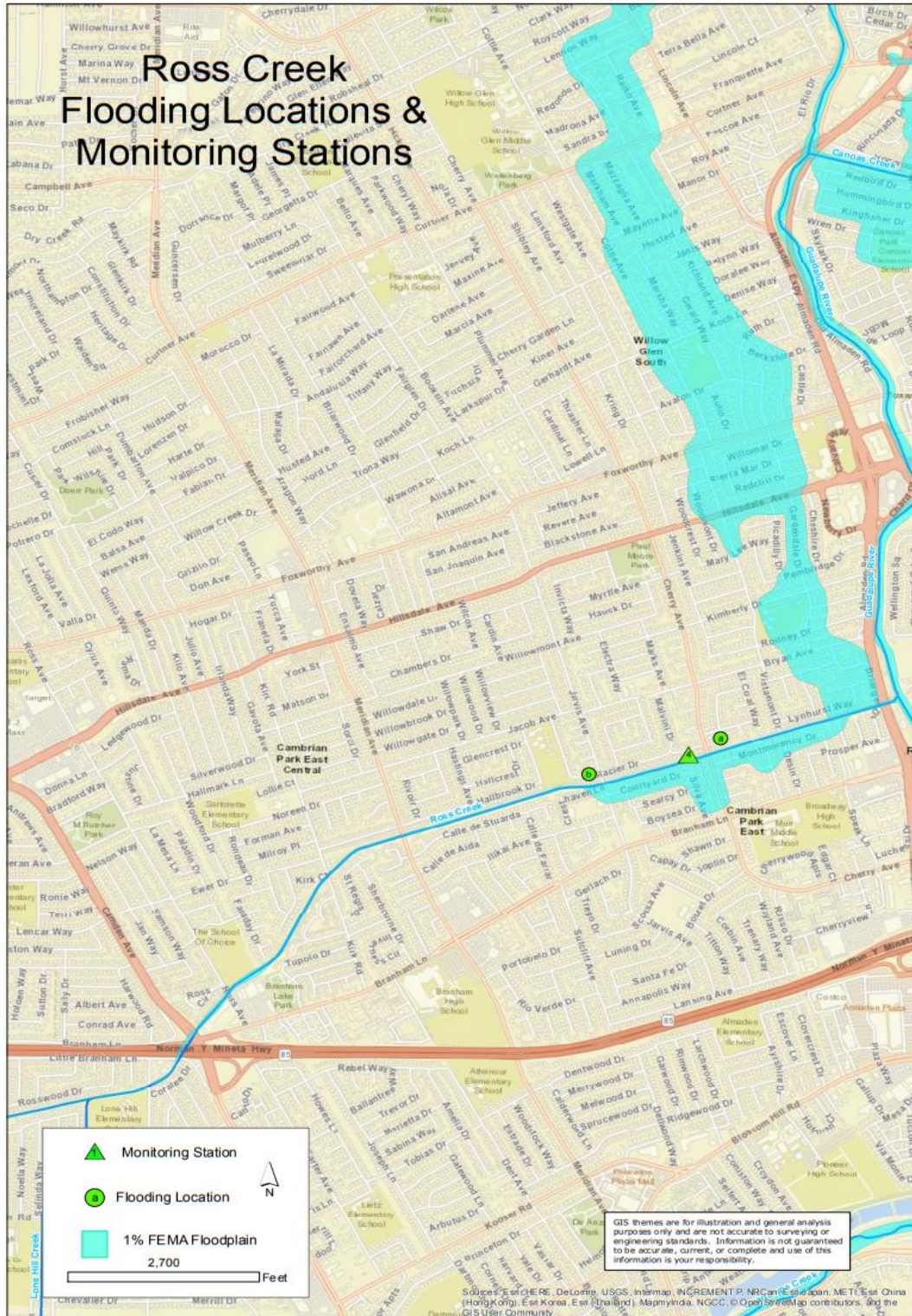
INFRASTRUCTURE AT RISK

There are no Federal Emergency Management Agency (FEMA) defined critical facilities located in the floodplain, however, there are other important infrastructure where people, property, and important facilities may be at risk. Based on intelligence gathered during the storm event, the MAC will determine the risk and provide notifications as appropriate. The facilities below are within the area where people, property, and infrastructure may be at risk:

FACILITY TYPE	NAME	ADDRESS	PHONE
SCHOOL	Hacienda Elementary School	1290 Kimberly Drive San Jose, CA 95118	(408) 535-6000
	Schallenberger Elementary School	1280 Koch Lane San Jose, CA 95125	(408) 535-6000
	Galarza Elementary School	1610 Bird Avenue San Jose, CA 95125	(408) 535-6000
OTHER	Willow Glen Community and Senior Center	2175 Lincoln Avenue San Jose, CA 95125	(408) 448-6400

Appendix D—Ross Creek

FIGURE 1D: Ross Creek Flood Map and Inspection Locations



Appendix D—Ross Creek

TABLE 1D: Ross Creek Flood On-Site Monitoring Thresholds

ID #	Index Location	Flooding Description	Flood Threat Stage at Monitoring Location			Monitoring Locations	Photo
			50% Capacity	70% Capacity	100% Capacity		
4a	Cherry Avenue	Water spills out just upstream of the Cherry Avenue Culvert, as well as along the levees upstream and downstream.	5'-6'	7'-8'	9'-10'	Cherry Avenue Culvert (Ross Creek)	
4b	Jarvis Avenue	Water spills out upstream of the Jarvis Avenue Culvert, as well as along the levees downstream and upstream.	5'-6'	7'-8'	9'-10'		
Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the historical flood events. Hydraulic modeling results may be preliminary and should be used for general analysis purposes. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.							

Appendix D—Ross Creek

TABLE 2D: Cherry Avenue Gauge Flood Severity Thresholds (NWS Model)

Madrone Gauge Thresholds	Stage (ft)	Description
Action	7.5	Creek is flashy and can be quickly influenced by changes in localized rainfall and/or high flows in Guadalupe River.
Minor Flooding	10	Water begins to overtop Cherry Avenue Culvert onto Montmorency Drive to the south and at Jarvis Avenue Culvert staying in the adjacent area. Storm drains start backing up into low-lying neighborhoods causing local flooding of streets.
Historical High Water	10.9	May 1996
Moderate Flooding	11	Water begins spilling to north between Jarvis Avenue and Almaden Expressway and sheet flowing north through the neighborhood towards Hillsdale Avenue. Hacienda Elementary School may experience flooding.
Major Flooding	12'+	This is the stage of about the 100-year flood event. Significant flooding occurs between Jarvis Avenue and Almaden Expressway south of Hillsdale Avenue and backwater from Guadalupe River may contribute to additional flood duration. Depending on the duration of overtopping, waters may move north past Hillsdale Avenue flowing east of Cherry Avenue up to Curtner Avenue and then continuing east of Lincoln Avenue north of Pine Street towards the Interstate 280 and Highway 87 interchange. This flooding will likely impact Willow Glen Community Center and Hacienda, Schallenberger, and Galarza Elementary Schools.
Disclaimer: The flooding thresholds in this table are based on hydraulic modeling results calibrated with data collected during the May 1996 and February 2017 flood event. Hydraulic modeling results are estimates. Information is accurate within the model limitations and assumptions/data used for model development. Use care while interpreting results.		

File No.: 18-1074

Agenda Date: 12/12/2018

Item No.: 5.

BOARD AGENDA MEMORANDUM

SUBJECT:

Update on the South San Francisco Bay Shoreline Project.

RECOMMENDATION:

- A. That the District Board and the City Council receive information on the South San Francisco Bay Shoreline Project;
- B. That the District Board direct its Chief Executive Officer to work collaboratively with the City Manager to advance the South San Francisco Bay Shoreline Project, including Phase I; and
- C. That the City Council direct its City Manager to work collaboratively with the District Chief Executive Officer to advance the South San Francisco Bay Shoreline Project, including Phase I.

SUMMARY:

The overall goal of the South San Francisco Bay Shoreline Project (Shoreline Project) is to safeguard and protect hundreds of homes, schools, and businesses along Santa Clara County's 18 miles of shoreline from the risk of coastal flooding made more likely by sea level rise. The Shoreline Project will also restore tidal marsh and related habitat that was lost due to former salt production activities, provide opportunities for continued recreational and public access along the bay shoreline, and take into consideration protection for sea level rise over a 50-year period (through Year-2067).

The Shoreline Project is being undertaken by the Santa Clara Valley Water District (District) in partnership with the United States Army Corps of Engineers (USACE) and the State Coastal Conservancy (Conservancy). Authorization to conduct the Shoreline Project was granted by the Water Resources Development Act in 1976. The Shoreline Project efforts began in 2005 for all of Santa Clara County which was divided into 11 areas, called Economic Impact Areas (EIA). In September 2010, the District requested that USACE re-evaluate the Shoreline Project scope and conduct the Shoreline Project in phases beginning with the area among the highest potential economic impacts. The District's Board endorsed the new scope in March 2011 and the Shoreline Project was thereafter refocused to EIA 11 located in north San Jose between the Alviso Slough and Coyote Creek.

Authorized Shoreline Project

The USACE authorized the EIA 11 Shoreline Project on December 18, 2015, when the USACE's

Chief of Engineers signed the Chief's Report. The authorized project will provide 1-percent coastal flood risk management for the urban area of north San Jose, including the community of Alviso and the San Jose-Santa Clara Regional Wastewater Facility, and ecosystem restoration of approximately 2,900 acres of former salt ponds with recreational elements. In EIA 11, a 1-percent coastal flood event could cause more than \$200 million in damages (2014 price levels), affect a population of 2,500 residents and 3,000 commuters who work and travel through the area each day, and impact 1,100 structures and the San Jose-Santa Clara Regional Wastewater Facility.

One-percent coastal flood risk management consists of four miles of new levee and structures at the Union Pacific Railroad and Artesian Slough crossings, with inclusion of protection for 2.59 feet of sea level rise. Tidal marsh restoration will occur through phasing-in restoration of Ponds A9 to A15 and A18 pursuant to an adaptive management plan. In addition, an upland transition area (ecotone) consisting of a 30:1 slope, will be constructed adjacent to the new levee in Ponds A12, A13 and A18 in order to provide habitat for marsh species during high tides and storms. The ecotone will provide an additional protective buffer for the flood protection levee and will also allow marsh habitat to migrate upslope as sea levels rise. Recreational elements will be compatible with the flood risk management levee and ecosystem restoration. American with Disabilities Act compliant trails will be built on top of the new levee along with viewing platforms and benches. The trail will connect the Alviso Marina to the Coyote Creek trail corridor of the San Francisco Bay Regional Trail network at the McCarthy Boulevard bridge.

Shoreline Project Cost and Construction

The Shoreline Project is a strongly supported project as evidenced by the success of a Chief's Report in December 2015, with a total feasibility study cost of \$22 million, followed by its authorization for design and construction in the Water Infrastructure Improvements for the Nation Act in December 2016, with a total design and construction cost of \$177.2 million. Subsequently, in July 2018, the Shoreline Project was awarded \$177.2 million under the USACE Fiscal Year 2018 Disaster Supplemental Appropriations Bill. The District and Conservancy's total cost share of this expense is \$103.8 million which will need to be reimbursed to the USACE in a timely manner.

Implementation guidance for the Disaster Supplemental Appropriations Bill will require all the flood risk management elements be constructed by January 2023. Design and construction will proceed from the Alviso Marina to Coyote Creek with advertisement for the first reach of construction, from the Alviso Marina to the Union Pacific Railroad, scheduled for March 2019. The Shoreline Project team has been and will continue to conduct outreach with the Alviso community and key stakeholders of all preconstruction and construction activities; specifically, the anticipated dirt hauling and construction activities, their timing, duration and who to contact during these activities.

Real estate acquisition and fill delivery are driving whether the construction completion date of January 2023 can be met. The District must provide the necessary rights of way to the USACE before they can proceed with construction in each area. In addition, the USACE is looking to the District to provide the levee and ecotone fill prior to commencement of construction in those areas.

Areas to stockpile fill material are limited, and the Shoreline Project team has identified that fill material must be stockpiled in Ponds A12 and A18. To maintain the construction schedule, the

USACE has identified that delivery of levee fill for the Pond A18 area needs to begin in January 2020. As such, the District will be seeking to acquire Pond A18 from the City in fee title in 2019 and requests District and City staff continue working collaboratively to ensure the Shoreline Project successfully meets its construction schedule. The City authorized transfer of the Pond A18 in October 2015, and the District and City plan on finalizing sale of the pond in 2019, once the USACE issues a "take" letter. A real estate appraisal is in the process of being prepared.

Final levee alignment may include a portion of the City's "legacy" biosolids lagoons. The lagoons contain old biosolids material which has tested high for some metal concentrations and is likely going to be formally "closed" under a clean-up order from the San Francisco Bay Regional Water Quality Control Board. The City and the project partners will need to work closely together in order to avoid delays to the levee project.

FINANCIAL IMPACT:

There is no financial impact associated with this item.

CEQA:

The recommended action does not constitute a project under CEQA because it does not have a potential for resulting in direct or reasonably foreseeable indirect physical change in the environment.

ATTACHMENTS:

Attachment 1: PowerPoint

UNCLASSIFIED MANAGER:

Ngoc Nguyen, District Deputy Operating Officer, 408-630-2632
Kerri Romanow, City Director of Environmental Services, 408-535-8550

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Santa Clara Valley
Water District



Coastal
Conservancy

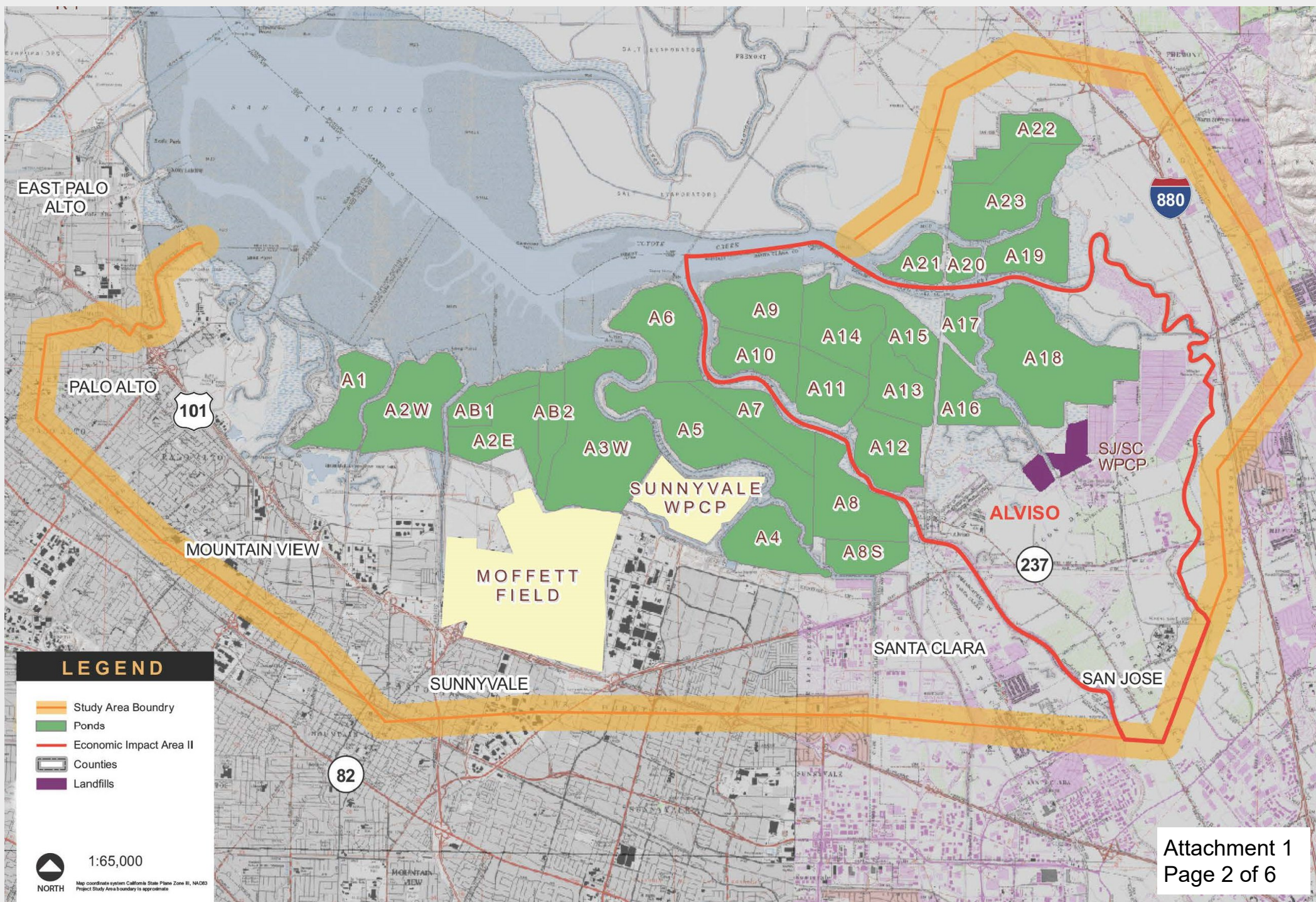
South San Francisco Bay Shoreline Project District – City Meeting December 12, 2018



SANTA CLARA
COUNTY PARKS



Shoreline Study Authorization



Shoreline EIA 11 Authorized Project

✦Total Project Cost: \$177.2 million

- ▶ USACE share is \$73.4 million
- ▶ Local share is \$103.8 million

✦Flood Risk Management (FRM)

- ▶ 4-mile long levee with 2 structures
- ▶ 1% coastal protection including 2.59 feet of sea level rise
- ▶ Manages risk for ~2,500 residents, ~3,000 commuters, ~1,100 structures, Regional Wastewater Facility, Alviso Marina County Park

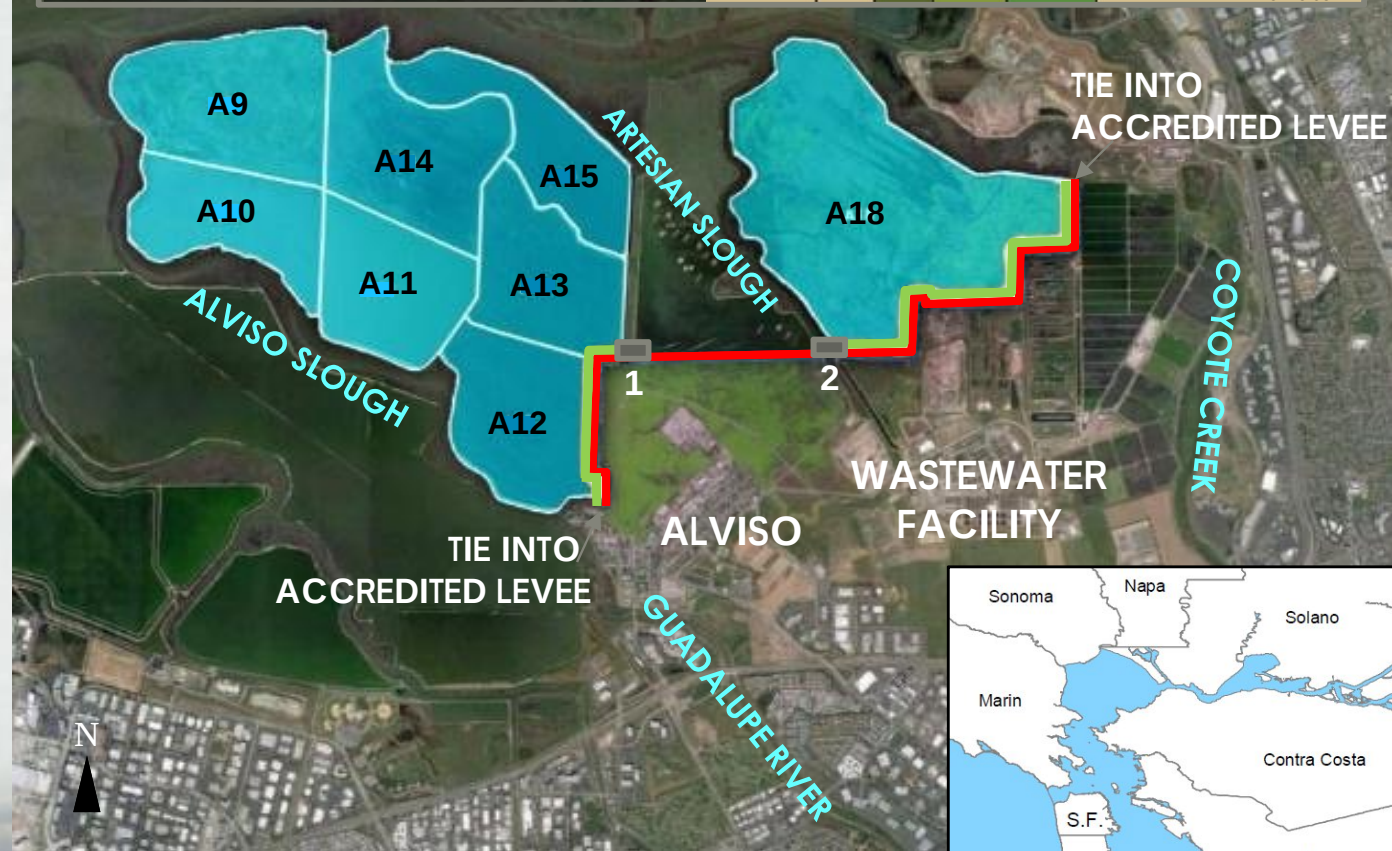
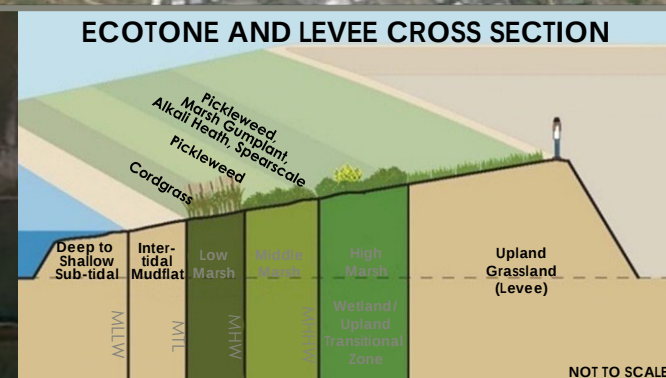
✦Ecosystem Restoration

- ▶ 2,900 acres of tidal marsh and related habitat, and ecotone at Ponds A9-15 and Pond A18

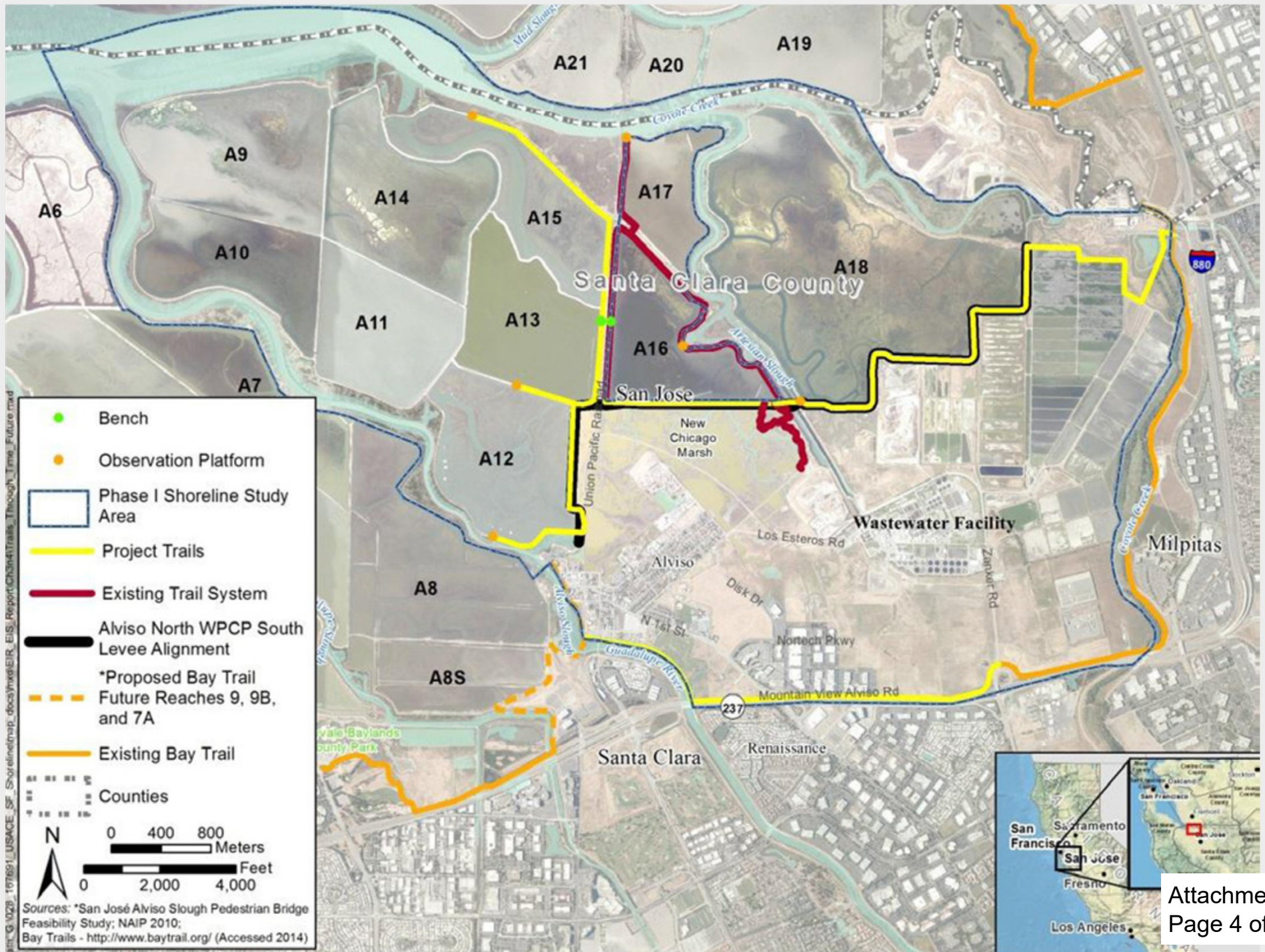
✦Recreation

- ▶ Provides key connections to San Francisco Bay Trail & viewpoints

- Levee
- Ecotone (transitional habitat)
- Tidal Marsh Restoration
- 1** Union Pacific Railroad Crossing
- 2** Artesian Slough Tide Gate & Pedestrian Bridge

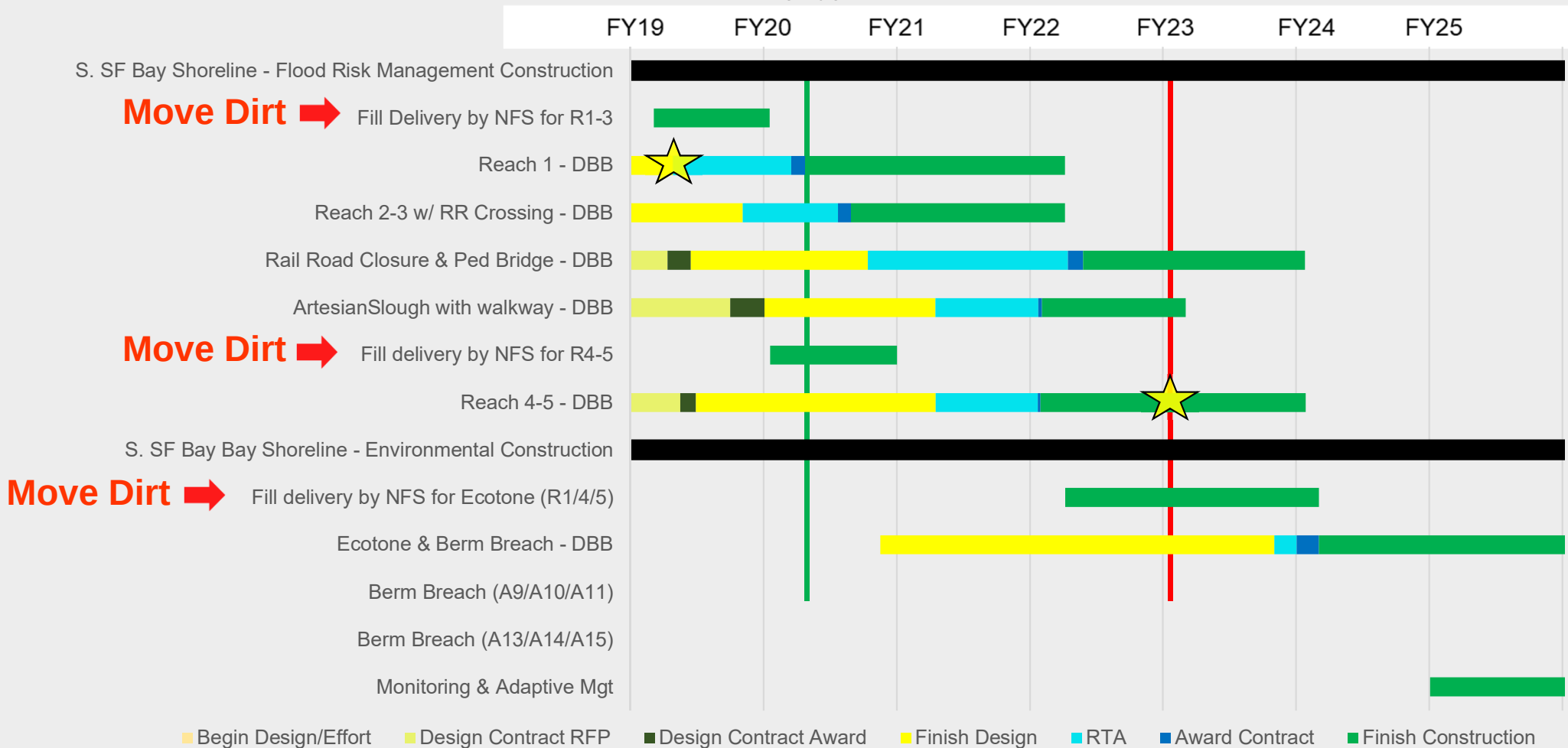


Shoreline EIA 11 Recreational Elements



Shoreline EIA 11 Schedule

27 NOV 2018



Delivery Targets per Implementation Guidelines

Advertise 1st Construct. Contract: Mar 2019 |
Complete Construction: Jan 2023 |

Schedule Assumptions

Real Estate: Assumes District will be able to obtain all the necessary real estate interests per schedule. This activity has the greatest impact on the schedule to get to project construction award.

Schedule Constraints

EIS/EIR limits fill delivery to 1K cy per day. Approx. 3 years would be required to deliver 1M cy of levee fill material alone. Delivery of fill material should begin per schedule.
Bay mud conditions limits the rate of levee construction to occur over 2 years.

Shoreline EIA 11 Status and Risks

Reach 1

Status – Reach 1 is on track for fill delivery to occur in 2019 and USACE to advertise for construction in March 2019

Risk – Rights of way not fully acquired by March 2019 impacts construction advertisement schedule

Reaches 2 & 3 and Temporary Railroad Crossing

Status – Need to secure railroad permit by September 2019

Risk – Construction of Reaches 2-3 levee will take longer and impacts schedule

Reach 4 & 5

Status – Need to acquire Pond A18 in fee title by December 2019

Risk – rights of way not fully acquired by Dec 2019 impacts schedule

File No.: 18-1072

Agenda Date: 12/12/2018

Item No.: 6.

BOARD AGENDA MEMORANDUM

SUBJECT:

Update on City and District Efforts Regarding Creek Health and Safety Along Waterways.

RECOMMENDATION:

That the District Board and the City Council receive information regarding the respective roles, responsibilities, and coordinated efforts with respect to creek health and waterway safety issues.

SUMMARY:

The Santa Clara Valley Water District (District) and the City of San José (City) have a shared goal of improving the health of creeks within their jurisdictions. Of the 800 miles of creek within populated areas of the county, the District manages 278 miles of creeks for flood protection and stewardship purposes; the remainder are in other public entity or private ownership. The District's Safe, Clean Water and Natural Flood Protection Program was developed through community collaboration and resulted in a parcel tax ballot measure being passed by an overwhelming majority. Reducing toxins, hazards and contaminants in our waterways is one of the important priorities in this program. The City of San José has significant responsibilities under the Municipal Regional Stormwater Permit to reduce the amount of pollutants, such as trash and bacteria, that flow into creeks and federal waters. These shared goals have resulted in a partnership between the two agencies in addressing homeless encampments located near creeks.

The 2017 Santa Clara County Homeless Census and Survey found that there were over 7,000 homeless individuals living within the County, with over 4,000 living in San José. Of the individuals experiencing homelessness, 74 percent are unsheltered and a portion are living in the riparian areas along urban creeks. Impacts of encampments on the riparian environment include trash and debris, excavation, vegetation removal, erosion, fire, hazardous materials and bio-waste, and impacts to fish and wildlife through poaching and habitat destruction. Santa Clara County creeks are unique, as many are densely vegetated. These areas offer habitat to wildlife and recreational opportunities to the public. The District and the City are committed to working collaboratively to reduce homeless encampments along creeks within San José through a Memorandum of Agreement (MOA). Both agencies partner with nonprofit agencies to engage volunteers for clean-ups and with each other to fund Downtown Streets Team.

Regulatory Background

The City of San José and the District are co-permittees under the Municipal Regional Stormwater Permit, which is issued by the San Francisco Bay Regional Water Quality Control Board. Its purpose is to regulate the discharge of pollution into the creeks through stormwater. The Permit requires the City to reduce trash discharge into receiving waters to 70 percent below 2009 levels by July 1, 2017 and 80 percent below by July 1, 2019.

Through implementation of its Long-Term Trash Load Reduction Plan, the City exceeded the 2017 target, and as of July 1, 2018, it has achieved an 88.3 percent trash load reduction. In achieving this reduction, the City employed strategies such as installation of 21 large trash capture devices in the storm sewer system, creek cleanup efforts, ordinances that regulate expanded polystyrene food containers and single-use carryout plastic bags, and implementation of a Direct Discharge Trash Control Plan.

“Direct discharge” refers to trash that is put directly into creeks, such as through illegal dumping or homeless encampments. The City’s Direct Discharge Trash Control Plan, approved in 2016, sets out a strategy to manage discharge of waste from homeless encampments in creek corridors. Through implementation of this plan, the City receives a 15 percent trash load reduction offset, which contributes to the overall 88.3 percent reduction that the City has achieved. The Direct Discharge Plan sets out a four-phase process for reducing trash from homeless encampments, as follows:

- Phase 1: City contractors such as HomeFirst, PATH, and Downtown Streets Team provide outreach and social service referrals to encampment residents. They work to engage individuals and offer them services and evaluate them for housing opportunities.
- Phase 2: The Encampment Abatement Program (which includes staff from the City, District and contractors) and Watershed Protection Team (comprised of Park Rangers) post sites for cleanup, dismantle encampments, and remove large structures and debris.
- Phase 3: Volunteer organizations and Downtown Streets Team coordinate the removal of residual trash from dismantled encampments.
- Phase 4: Park Rangers and San José police officers patrol creeks for illegal activity and work to minimize re-encampment. Physical barriers such as fences, gates and boulders are also installed.

The goals of the program are to offer services and shelter to homeless individuals, reduce the discharge of trash into creeks, and minimize re-encampment along creek corridors.

While the District does not have specific trash reduction targets under the Stormwater Permit, the District manages four trash booms, that catch floating trash, and cleans trash hot spots. The District also supports the City as well as other cities in encampment cleanup efforts to address this significant source of trash to the creeks.

Baykeeper Lawsuit

San Francisco Baykeeper, an environmental nonprofit, filed suit against the City in 2015 alleging that the City was not in compliance with provisions of the federal Clean Water Act and its Stormwater

Permit because trash and bacteria were infiltrating into the City's Storm Sewer System and discharging into creeks. In 2016, the City settled the lawsuit through a negotiated consent decree. The consent decree terms require the City to:

- Comply with the trash provisions of the current Stormwater Permit;
- Rehabilitate, replace, or repair 65 miles of high-risk sanitary sewer system pipes;
- Monitor fecal indicator bacteria in creeks;
- Comply with green infrastructure planning as required in the Stormwater Permit;
- Appropriate, contingent upon the receipt of sufficient new revenues, \$100 million over a ten-year period for green infrastructure or treatment control projects.

The long-term capital investment contemplated by the consent decree is contingent upon significant new revenues. The Council's allocation plan for Measure T, an infrastructure bond approved by San Jose voters in November 2018, identifies \$25 million for clean water projects, such as green stormwater infrastructure. Measure T presents an opportunity to make progress on the projects contemplated by the consent decree. City staff will return to the City Council on February 12, 2019 with a detailed strategy on moving forward with Measure T projects.

Outreach and Abatement

The District and the City work in partnership on encampment abatements on City and District land within San José. The two agencies have a Memorandum of Agreement (MOA) that establishes a framework for cooperation and outlines the roles each agency will fulfill in carrying out abatements. The table below briefly summarizes those roles.

Table 1: Abatement Responsibilities of the City and the District

City Responsibilities	District Responsibilities
-----------------------	---------------------------

• Coordinate homeless outreach and support services in advance and on the day of encampment cleanups. • Execute encampment notification and posting • Provide personnel for sorting personal property from trash according to City guidelines during the cleanup • Provide personnel for personal property documentation, bagging, transportation and storage • Provide security during the cleanup • Provide waste disposal authorizations allowing the District or its contractor to dispose of trash from the cleanup.	• Provide cleanup crews and supervision sufficient to conduct the cleanup. • Transport the trash collected at the cleanup to appropriate disposal sites. • Provide cleanup supplies, including personal protective gear and portable sanitary facilities • Provide heavy equipment such as compactors, bobcats, and other machinery as needed. • Ensure permit coverage for cleanups, which includes obtaining appropriate permits for performing maintenance work in and around waterways.
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In Fiscal Year 2017-18, the City and the District conducted 499 joint cleanups along creeks and removed 799 tons of trash. The MOA between the two agencies established a model for the District to partner with other cities to work jointly on encampment cleanup efforts.

In Fiscal Year 2018-19, the City has budgeted \$1.5 million in City funding for its encampment response team. The District has budgeted \$927,000 for encampment response in the current fiscal year. In addition to other funding sources for creek protection, the District's voter approved special parcel tax (Safe, Clean Water and Natural Flood Protection Measure B) provided \$5.8 million in funding specifically for encampment cleanup with a performance indicator of 52 cleanups a year. The demand continues to increase, from 131 cleanups in FY14 to over 400 in FY17 and has significantly impacted the District's budgeted funding. The demand has exceeded the 15-year funding allocation for this priority under the District's Safe, Clean Water program.

Also under the agreement, District staff and City staff jointly monitor creeks for trash accumulation points. Five of these "trash rafts" are prioritized and removed by the District crews each year.

The City and the District are in the process of developing a new MOA. The City's Housing staff is updating the encampment abatement procedures to be more comprehensive and to address feedback from homeless advocates. The City will work with the District to incorporate the revised procedures into the new MOA. City staff have been directed by the City Council to bring the new MOA and accompanying procedures to Council for review in January. City staff have also been directed to evaluate whether departmental responsibility for abatements within the City should be shifted or reorganized.

Engaging the Community

The City and the District carry out numerous volunteer and community engagement efforts related to creek health. Both agencies partner to fund the Downtown Streets Team. This effort began when the District provided matching funds for an Environmental Protection Agency grant that the City obtained to address trash and encampments in the creeks. The Downtown Streets Team is a nonprofit,

addressing homelessness by having homeless volunteers pick up trash on streets or in creeks, while providing necessities including a stipend, vital health services and case management. The City and the District recently executed a new agreement to continue funding these efforts.

The District supports volunteer trash cleanups by coordinating two annual events, the National River Cleanup day and Coastal Cleanup Day, training volunteers, supplying personal protective equipment and tools, and disposing of collected trash. On Coastal Cleanup Day 2018, 1,900 volunteers removed 60,000 pounds of trash from 75 miles of creeks in Santa Clara County. The District also manages an Adopt-A-Creek program. Currently, 142 sites are adopted, with groups committing to host a minimum of two cleanup events a year.

The City partners with Keep Coyote Creek Beautiful and South Bay Clean Creeks Coalition for projects that mitigate the impacts of trash on Coyote Creek and Guadalupe River. Together, these groups conducted 47 volunteer creek cleanups and removed 68 tons of trash and debris from the City's waterways in Fiscal Year 2017-18. The District supports community groups that perform cleanups using volunteers and provide education on litter and trash issues through grants and partnerships. Grants or partnerships related to trash and litter have been awarded to organizations including the South Bay Clean Creeks Coalition, San Francisco Bay Wildlife Society, the Santa Clara County Creeks Coalition, Keep Coyote Creek Beautiful, San Jose Parks Foundation, Downtown Streets Team, Valley Transportation Authority, and Save the Bay.

The District conducts school outreach, much of it focused on pollution prevention and litter prevention. In addition, both the City and the District support the Watershed Watch Campaign that conducts outreach on litter issues and partner on the City's campaign on litter outreach with the San Jose Earthquakes.

Safety and Enforcement

With its law enforcement function, the City takes responsibility for protecting public safety and conducting enforcement along creek corridors. Phase 4 of the City's Direct Discharge Trash Control Plan calls for regular enforcement patrols to discourage re-encampment once an encampment site has been cleaned up within a creek corridor. Formerly, Park Rangers patrolled the creeks as part of the Watershed Protection Team. Starting in October, due to safety concerns, the City implemented joint patrols between park rangers and police officers in Direct Discharge project areas. Each patrol consists of two police officers and one Park Ranger. Their purpose is to patrol for criminal activity and attempt to minimize re-encampment.

The joint patrols are an interim approach to enforcement along creeks, pending City Council consideration of changes to the Park Ranger service delivery model. Working with the District and other stakeholders, City staff has developed recommendations on this topic that will be brought forward to City Council early next year.

The District has previously partnered with the City of San Jose in funding Park Rangers to prevent re-encampment along creeks. The District is not currently funding Park Ranger positions; however, District staff has participated in the Park Ranger working group led by the City over the last few months to help determine the future of the Park Ranger program. The District has an agreement with

the California Department of Fish and Wildlife to fund a Game Warden, however, the Game Warden position for Santa Clara County is currently not filled due to staffing shortages at the agency which has reduced enforcement of environmental crimes along waterways.

Safety has become an increased concern for field staff and volunteers conducting encampment or trash cleanups. Increasing safety concerns have required police officers to be present during volunteer cleanups. Safety hazards include violent individuals, firearms and other weapons, pathogens from human waste and needles, hazardous waste and aggressive dogs.

Abatement Challenges and Housing Opportunities

In 2016, the Santa Clara Valley Water District Board of Directors (Board) formed a Homeless Encampment Ad Hoc Committee to address the overall issue of homelessness germane to the District's flood protection and stream stewardship mission. Work by the committee includes analyzing surplus properties for possible use by others for housing, making District rental properties available to Santa Clara County's Office of Supportive Housing, and funding nonprofit groups for cleanups. The Committee will be considering alternatives to address the shortfalls in funding identified above.

The City is pursuing cross-agency collaboration on the issue of homelessness with the County of Santa Clara. The San José City Manager's Office and Santa Clara County Executive's Office recently established a City-County working group made up of 16 department directors to foster better working relationships, establish a common set of metrics, and coordinate and align the County and City services that respond to our homeless residents. The first round of meetings was held on September 10, 2018 and November 15, 2018, with smaller group meetings occurring to dive deeper into specific issues. Meetings will continue bimonthly.

The City and District participate in the Zero Litter Initiative which has included coordination with the Valley Transportation Authority and Caltrans on litter and homeless encampment issues.

The Board and the City Council also participate in local, state and federal legislative advocacy on policies that prevent and reduce homelessness. Both agencies supported Santa Clara County's \$950 million affordable housing bond, Measure A, which voters overwhelmingly approved in November 2016.

FINANCIAL IMPACT:

There is no financial impact associated with this item.

CEQA:

The recommended action does not constitute a project under CEQA because it does not have a potential for resulting in direct or reasonably foreseeable indirect physical change in the environment.

ATTACHMENTS:

None.

UNCLASSIFIED MANAGER:

Melanie Richardson, SCVWD Chief Operating Officer, 408-630-2035

Ragan Henninger, City Housing Dept. Deputy Director, 408-535-3860

Casey Fitzgerald, City Env. Services Dept. Interim Deputy Director, 408-793-5378

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December 6, 2018

Joint City of San Jose/Santa Clara Valley Water District Board
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118

RE: Agenda Item: 6. Update on City and District Efforts Regarding Creek Health and Safety Along Waterways

Dear Mayor, Councilmembers, and Board members:

Poseidon Water LLC ("Poseidon"), as the coordinator of one of the shortlisted teams for the Public-Private Partnership ("P3") approach for the Expedited Purified Water Program ("EPWP"), provides these comments on Item 6. Update on City and District Efforts Regarding Creek Health and Safety Along Waterways.

Poseidon Comments

We suggest the formation of a **City of San Jose and Santa Clara Valley Water District Reliable, Clean, Safe Water Partnership** to take a more holistic approach to coordinating and integrating water related endeavors between the City of San Jose and the Santa Clara Valley Water District.

Background

In February of this year the Santa Clara Valley Water District Board voted unanimously to proceed with a Progressive P3 for the EPWP. Through a Request for Qualification ("RFQ") process five P3 teams were shortlisted in April. A technical workshop was held with all P3 teams and meetings with each team was held. At the end of June, the District decided to reschedule meetings with each entity that had been set for July since an agreement with the City of San Jose had not been negotiated and the Countywide Water Reuse Master Plan could identify other potential sites/locations to possibly modify or expand the P3 project scope. In order to maximize the productivity of the District's P3 procurement process, the District determined the best approach to be to further advance project definition before releasing the Request for Proposal ("RFP") at a later date.

Poseidon took advantage of the delay in the RFP process as an opportunity to meet and confer with elected officials, public agency staffs, and other stakeholders. We found that, while there was very little knowledge of the potable reuse program, there was significant interest in developing additional, local, drought-resistant sources of water supply. In discussions with City of San Jose Staff we also found interest in the Progressive P3 approach and a willingness to have the P3 partner engaged early to help guide and define the project.

More than anything, we found that there were several areas where water-related programs and projects involving the City and the District appeared to be opportunities for greater coordination and integration. This Joint meeting highlights the need to work collaboratively on the South San

Poseidon Water LLC

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Francisco Bay Shoreline Project and on the subject of this agenda item, coordination efforts with respect to creek health and waterway safety issues.

The City of San Jose and the Santa Clara Valley Water District each have significant efforts underway related to water, some of which are already joint efforts:

WATER PLANS/PROGRAMS/PERMITS		
<i>SCVWD</i>	<i>JOINT</i>	<i>CSJ</i>
Water Supply Master Plan	Urban Water Management Plans	Green Stormwater infrastructure Plan
Safe, Clean Water and Natural Flood Protection Plan	Integrated Regional Water Management Plan	Measure T Bond -Environmental Protection -Storm system conveyance -Flood prevention -Clean Water
Groundwater Management Plan	Stormwater Resources Plan	Envision 2014 General Plan
One Water Plan	Municipal Regional Stormwater Permit	Urban Village Plans
Countywide Water Reuse Plan		Complete Streets
P3 Purified Water Program		Climate Smart Plan
		Storm Sewer Master Plan

These water-related efforts require interdepartmental coordination and cooperation within the City and District as well as between the agencies. As evidenced in the status reports for this meeting, there have already been coordination efforts, but the complexity of the issues and their relationships with one another could be addressed with a more integrative and holistic approach.

Integrative and Holistic Approach

In December 2017, there was a San Jose City Council agenda item on alternatives for storm sewer funding to address obligations under the San Francisco Baykeeper Consent Decree, including how to more clearly appraise the support for the recommended funding strategies that require voter approval.

In discussing this item, Mayor Liccardo noted the difficulty of getting a two-thirds vote for a tax increase to fund removal of trash from the creeks. He suggested that merging the program with similar programs would get a better response and spread the benefits. The Mayor went on to comment that the program might be married with programs with related, but not necessarily identical objectives. He used as an example of this approach the expansion of the advance water purification plant married with a clean water program as a drought-resilient, safe and secure water supply measure.

Poseidon's Proposal

In order to foster a more focused and organized approach and further the Mayor's strategy of merging programs with related objectives to get better results and spread the benefits, we would suggest the formation of a **City of San Jose and Santa Clara Valley Water District – Reliable, Clean, Safe Water Partnership**.

One straightforward method to implement such a partnership would be to modify the existing Integration Agreement which created the Recycled Water Policy Advisory Committee. That joint committee currently advises the Board of Directors of the Santa Clara Valley Water District and the City Council of the City of San Jose with respect to policy matters relating to recycled water. However, the Integration Agreement provides that it may be modified by the parties agreeing and approving the modifications in writing. Our recommendation to the City and the District is to modify the agreement to broaden the scope to include stormwater (green infrastructure), potable reuse, flood protection, water supply, and environmental protection of water resources.

This **Reliable, Clean, Safe Water Partnership**, created through modifying the existing Integration Agreement, could provide recognition of both stormwater and wastewater as resources and could further the District's One Water Vision of managing water resources holistically and sustainably to benefit people and the environment in a way that is informed by community values. The partnership would be facilitated by using an existing integration institutional arrangement, the Recycled Water Policy Advisory Committee with its supporting staff Technical Working Group, and repurposing it as a **Reliable, Clean, Safe Water** Policy Advisory Committee.

This proposal could also provide a venue to accomplish the integration of the District's P3 Potable Water Reuse Program with the City's stormwater and water supply programs. The selection of the District's P3 Partner could provide assistance to the Technical Working Group on such an integration effort and resulting projects. It would create an opportunity to connect public-sector water challenges with private-sector resources to provide solutions.

Poseidon will have a representative at the December 12th, 2018 joint meeting to provide comments and to be available for questions.

Sincerely,



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