APPENDIX H
Flooding and Drainage Study

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

1171 Homestead Rd., Ste. 255
Santa Clara, CA 95050
(408) 246-4848

MEMORANDUM

DATE: January 20, 2022
TO: Maria Kisyova, David J. Powers and Assoc.
FROM: Robin J. Lee, PE
SUBJECT: New Horizons EIR Draft Report

Approach to Analysis

This impact evaluation for the New Horizon Residential Project in Morgan Hill identifies potential hydrologic and water quality impacts of the proposed development. The project would comply with City standard conditions or include measures in the design that would lead to less than significant impacts.

Thresholds of Significance

Appendix G of the CEQA Guidelines and the Regulatory Setting requirements considers the proposed project to have a significant environmental impact with regard to hydrology if it would:

- Impact 1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- Impact 2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;
- Impact 3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
- Impact 4: Result in a substantial erosion or siltation on- or off-site;
- Impact 5: Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;
- Impact 6: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- Impact 7: Impede or redirect flood flows;
- Impact 8: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation;
- Impact 9: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

Project Location

The New Horizons development consist of approximately 69.4-acre project site located at the northeast quadrant of Barrett Avenue and Hill Road in the City of Morgan Hill (Assessor's Parcel Number [APN] 817-20-031). The project site is largely undeveloped, and the ground is predominantly fallowed. There are four vacant structures, formerly used for agricultural purposes, totaling approximately 25,000 square feet on the southern side near the Hill Road and Barret Avenue intersection. There is an existing retention basin on the southwestern portion of the site. Tennant Creek cuts across the project site from the northwest boundary to southwest boundary.

The project site is bounded by Barrett Avenue, comprised of agricultural land and rural residences to the South; Hill Road containing warehouse/storage structures, industrial structures, and rural residences to the West; and single-family residences to the North and East. Sorrel Way is located northeast of the site. Jackson Park and Jackson Elementary School are located northernly adjacent to the project site by Trail Drive and Fountain Oaks Drive. Regional and vicinity maps of the project site are shown in Figure 1 and Figure 2, respectively. Figure 3 shows an aerial photograph of the project site and surrounding area.

Figure 1. Regional Map of Project Site

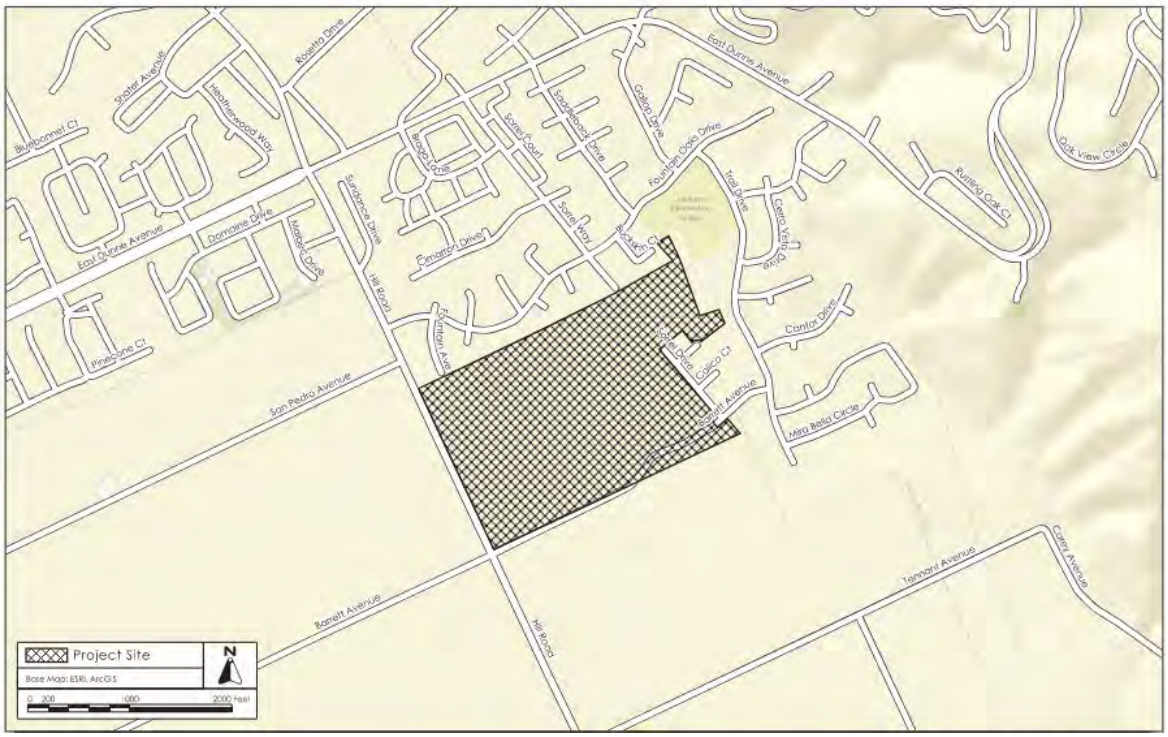


Figure 2. Vicinity Map of Project Site

Figure 3. Vicinity Map of Project Site

Project Description

The proposed project would remove the existing structures and develop a total of 337 residential units. A variety of residential unit types ranging from single family detached units to multi-family attached units are proposed. The project plans to subdivide the project site into 283 lots. This includes 262 one- to two-story single-family detached houses, 20 two-story age-restricted single-family houses, and 55 age-restricted three-story condominiums. The maximum height of the single-family residences would be 32 feet above the ground surface and the condominiums would have a maximum height of 44 feet.

Single-family detached houses would be located throughout the entire site. The age-restricted cottages and condominiums would be centrally located on the site. The project would contain approximately four acres of private open space and nine acres of public open space. The private open space is made up of a park and recreation areas consisting of a community clubhouse, a pond with fountains, a pool, dog parks, senior living amenities etc. public park/open space. The dedicated public open space includes an approximately two-acre expansion of Jackson Park and improvements to the Jackson Trail.

The city has received several public comments expressing concerns about flooding at the project site in the past. Water flows from the east through Jackson Park and onto the project site, which has led to mudslides in the past. Off-site improvements to Jackson Park, comprising of relocating on-site detention basin and reroute flows to address concerns. Hill Road and Barrett Avenue improvements would be done to meet public street standards, including curb and gutter with landscape strip, sidewalk, and streetlights. The proposed site plan is shown in Figure 4.

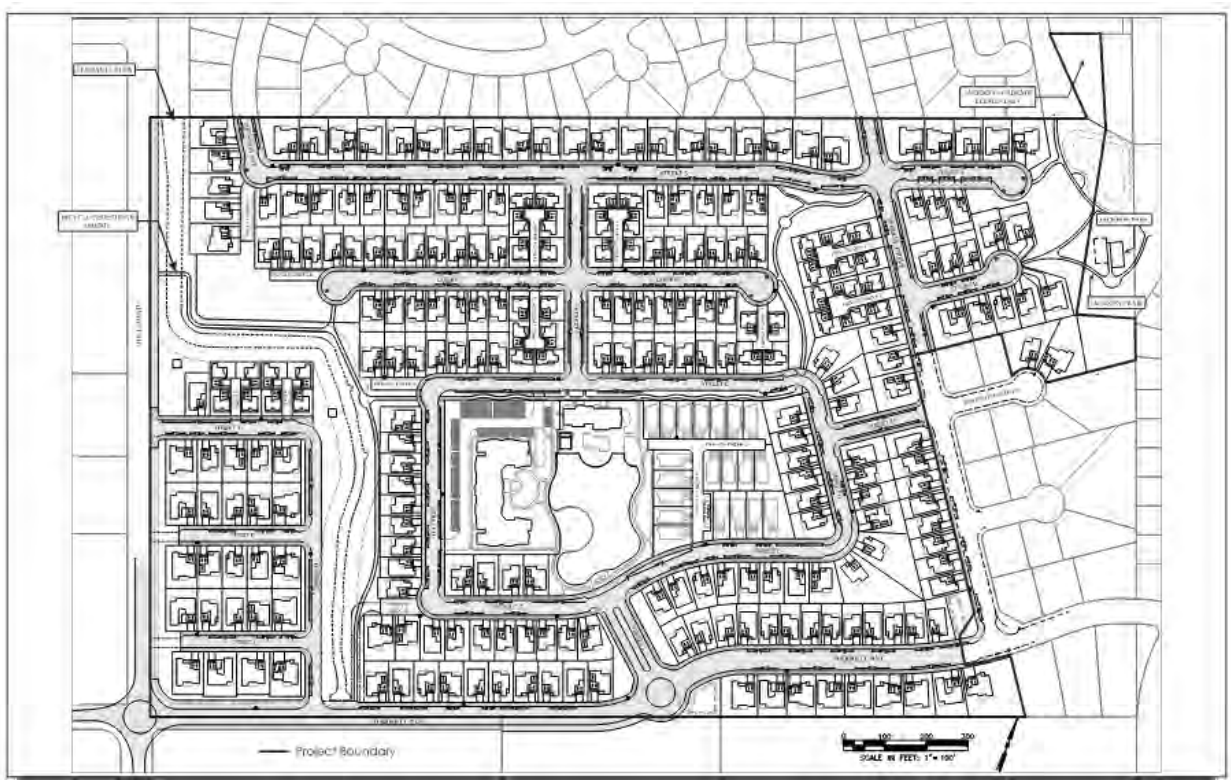


Figure 4. Vicinity Map Shown with Project Site

Drainage Study Summary

A preliminary Drainage Report (Report) was conducted by Schaaf & Wheeler on June 2021 (Attachment 1). This study shows that the proposed New Horizons development plan can be implemented without a major impact to local storm drainage conveyance systems and meeting City of Morgan Hill criteria. The Report provides descriptions of existing drainage patterns, preliminary storm water systems, pre and post-development drainage requirements, and evaluates impacts pre and post-development floodways at Tennant Creek.

Preliminary hydrologic and hydraulic calculations were prepared utilizing the conceptual plans provided by Ruggeri-Jensen-Azar (RJA). Due to small tributary watersheds, the Rational Method was utilized to quantify the 25-year runoff for designing a storm drain system. Time of concentration, rainfall depths and precipitation intensity values were calculated using the Santa Clara County Drainage Manual since Morgan Hill does not have design standards for these values. Peak stormwater runoff of post-development site was compared to existing condition runoff to Tennant Creek and indicates an increased discharge to Tennant Creek, if stormwater detention is not used.

The existing detention will be relocated to be adjacent to Jackson Park, which only captures runoff from the northeasterly offsite tributary. Project detention requirements are required to meet the City's 25-year site discharge to existing condition discharge. To meet the requirement, the detention basin must be sized to over-detain flows to not increase runoff to Tennant Creek.

The New Horizons site is located in FEMA flood hazard Zones AO, AE and X as shown in Figure 5. Potential impacts from the project improvements are assessed using HEC-RAS for the existing condition (corrected effective model) and proposed (project model) condition. The proposed model was setup by adding obstructions for the channel overbanks where proposed grading will raise the site above the floodplain and incorporating a pedestrian bridge on the northwest end of the development. After comparing results, the project improvements show no significant impacts to the 100-year water surface elevations along Tennant Creek. The extent of the 100-year flooding will be located completely inside the channel limits once fill is placed to raise the entire site above the 100-year floodplain.

Figure 5. Flood Hazard Zones on Project Site

Project Impacts and Mitigation Measures

Impact 1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality

Finding: Less than Significant
The City of Morgan Hill is located in Regional Water Quality Control Board Region 3 (Central Coast Region), which is subjected to the Central Coast Post Construction Requirements under the State's Phase II Small MS4 General Permit ("Phase II Permit"). New development projects are required to implement source control measures to reduce pollutants in stormwater. The proposed project will implement low impact development (LID) designs to reduce impacts.

The proposed project would include two bioretention basins, detention basin and three subsurface stormwater treatment areas. The two bioretention basins are located on the southeastern side of the site. One subsurface treatment area would be centrally located near the proposed lake, the second would be located below the proposed houses on the east, and the third would be located below the proposed houses on the southeast.

The project has a ***Less than Significant Impact*** by including LID design features. The LID designs help treat stormwater runoff through multiple treatment areas throughout the site.

Impact 2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin

Finding: Not Study under This Memo

This section is not analyzed further for the reasons given:

- Groundwater impacts are being studied by others.

Impact 3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces

Finding: Less than Significant
In the current condition, runoff flows generally northeast to southwest towards Tennant Creek. Water then continues to Corralitos Creek and eventually drains to Monterey Bay. The proposed development will increase the impervious area on the site, which will increase the runoff generated from the site into Tennant Creek. The project design would reduce impacts by including a new storm drain network and two on-site bioretention basins to capture runoff from the development.

The project site proposes a detention basin located adjacent to the northeast side of the site to reduce post-project peak discharge to pre-project conditions to Tennant Creek. Attachment 1 of this memo discusses the preliminary calculations that have been conducted thus far based on preliminary design drawings. These calculations will be further refined as the design of the project site gets further towards grading and building permits.

The project design incorporates on-site and offsite improvements, discussed above, to keep impacts to less than significant. Impacts to Tennant Creek and nearby storm drain systems can be reduced to a ***less than significant level.***

Impact 4: Result in a substantial erosion or siltation on or off site of the plan area

Finding: Less than Significant
In the existing condition, water flows from the east, adjacent residential areas, through Jackson Park and onto the project site. The City is aware that the site experiences flooding and has led to mudslides in the past.

During the construction phase, a Stormwater Pollution Prevention Plan (SWPPP) and a Stormwater Management Plan (SWMP) will be prepared to avoid on-site erosion.

Within the New Horizons site, the amount of open space will be reduced due to the new residential development. However, the proposed detention basin on the northeastern corner of the site is designed to limit the 25-year site discharge to be at the existing condition rates by over detaining the upstream watersheds that contribute to flow to Tennant Creek. This results to no significant increase in channel velocity relative to the existing condition. In addition, the project site will be filled so that flows will be contained in Tennant Creek and there will be no runoff across the site. The New Horizons Preliminary Drainage Report provides more information about the existing condition and project improvement impacts at the site, refer to Attachment 1.

Therefore, since the risk of increased erosion is negligible the project would have a ***less than significant level*** as a result of the project.

Impact 5: Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site of the plan area

Finding: Less than Significant

Existing Site Drainage

The project site is adjacent to Tennant Creek which cuts through a portion of the western side of the site, see Figure 5. Existing stormwater runoff across the project site presently drains in a generally northeasterly to southwesterly direction towards Tennant Creek. An existing stormwater retention basin is located just north of Barret Avenue, but no information of the basin is available. The City's Master Plan document was reviewed and the City's Master Plan does not include this basin as part of the City's drainage system as shown in Figure 4.3 of the City's Master Plan, which is contained in Attachment 3. Therefore, this detention basin is assumed to be private and does not provide detention for the City's storm drain system.

An existing 36-inch diameter RCP storm drain system is along Sorrel Drive to provide local drainage immediately east of the site. The storm drain ties to a 60-inch diameter RCP storm drain system in Barrett Avenue. The drainage system discharges to Tennant Creek where the creek crosses Barrett Avenue.

Post Project Site Drainage

The proposed project will generally maintain the existing drainage patterns toward Tennant Creek. Storm water at the site will be captured by proposed stormwater networks and treated by subsurface treatment systems, as shown in Figure 6. The existing detention basin would be relocated to Jackson Park, northeast of the site, to over detain offsite flows so that the total flow to Tennant Creek post development will be the same as the existing flow. Runoff from offsite tributary residential and open space areas northeast of the project site will be rerouted through the proposed basin and collected in the proposed storm drain system, replacing an existing surface swale at the eastern edge of the site. The detention basin has been designed to over detain the water to compensate for the increase in flows cause by the proposed project.

The impacts to flooding and storm drain systems have been reduced to a ***less than significant level***, as a result of the project. Refer to Attachment 1, the New Horizons Preliminary Drainage Report for more information about the potential impacts of the new development.

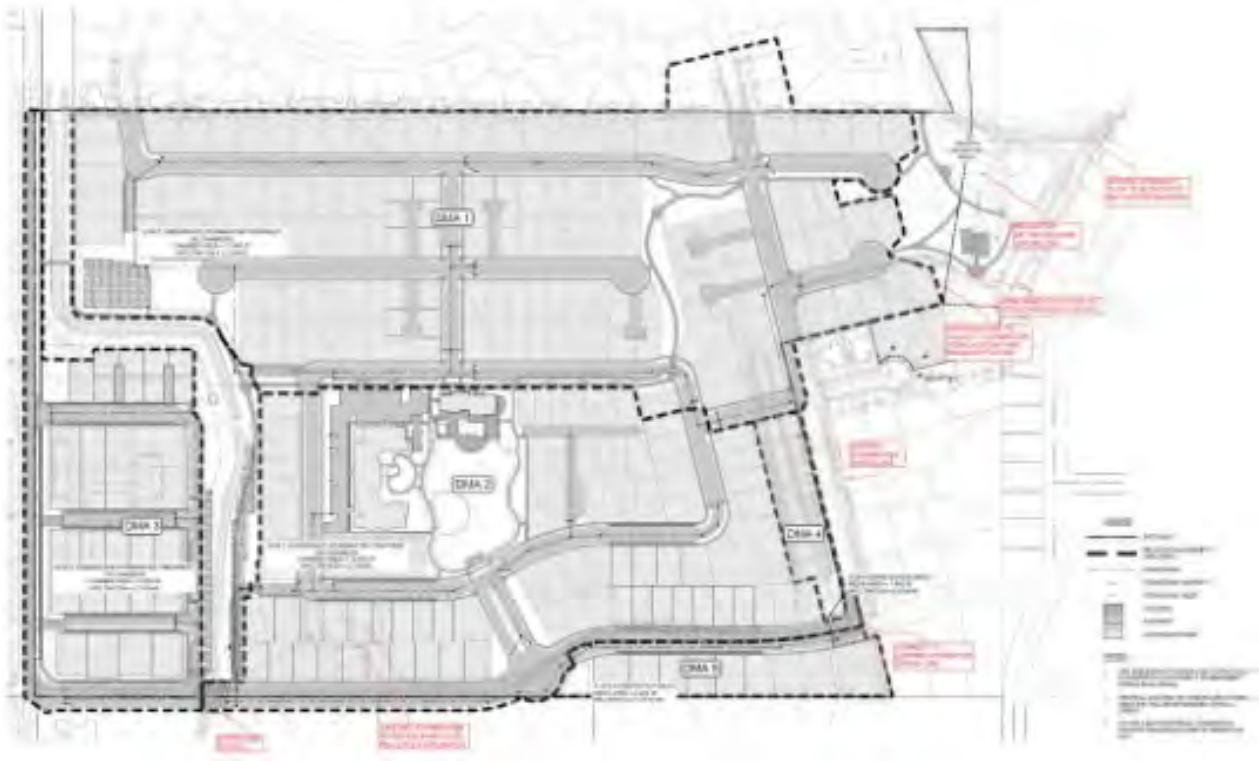


Figure 6. Preliminary Storm Water Control Plan

Impact 6: Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff

Finding: Less than Significant

As stated in Drainage Report (Attachment 1), the proposed development does increase stormwater runoff due to higher impervious areas. Surface runoff is captured by the storm drain network and runoff is treated via the underground treatment systems and basins shown on Figure 6. Offsite runoff coming from tributary residential and open space areas will be rerouted through the detention basin to account for the increase in impervious area.

City standards require only the 10-year discharges to be carried by the storm drain system. Also, basins are required to limit the 25-year site discharge to the pre-developed rate. The onsite storm drain pipe system will be designed for the 10-year storm event and the detention basin has been designed to the 25-year storm event. The Draft Drainage Report in Attachment 1 also provides modeling results for the 100-year storm event in Tennant Creek and shows that the development will be out of the floodplain.

Therefore, the project has a ***Less than Significant Impact*** *with Implementation of City's Standard Conditions.*

Impact 7: Alter existing drainage patterns, including streams and rivers, that impede or redirect flood flows

Finding: Less than Significant
The project site is located in three FEMA flood hazard designations. Zone AE which consists of Tennant Creek that crosses the western portion, Zone AO at the northwest side of the site and Zone X (shaded), refer to Figure 5. The Zone X designation is for areas of 0.2% (i.e. 500-year) chance flood; areas of 1% (i.e. 100-year) chance flood with average depths of less than one foot or with drainage areas less than one square mile. Zone AE has defined base flood elevations and Zone AO consists of shallow sheet flow with one-foot average depth. For areas within Zone AE and AO that are not part of the channel's extent, the project site will be graded to be higher than the base flood elevation.

As addressed in the Drainage Report, the project improvements have been analyzed and determined that the project will not change the upstream or downstream 100-year water surface profile of the creek. While the water surface elevations change throughout the site, the Project grading will re-establish Tennant Creek floodway and floodplain which will remove the 100-year flooding to be completely outside of the project limits. The development should apply for a CLOMR-F through FEMA to show that the development is outside the floodplain. Post construction, the development can submit the modeling results in the Drainage Report in a LOMR application to revise the floodplain extents over the project site.

Therefore, the project would have a ***Less than Significant Impact*** with regards to redirecting flood flows as the site is designed to contain Tennant Creek in the channel.

Impact 8: In flood hazard, tsunami or seiche zones, risk release of pollutants due to project inundation

Finding: Less than Significant
The project site is located significantly far enough away from the ocean where tsunami events would not affect the project site.

The resonant oscillation of water in an enclosed body of water is a seiche. Anderson Lake is an enclosed body of water and is in the general vicinity of the project site. In the event Anderson dam fails, flow will travel south towards the City of Morgan Hill as shown in Figure 7. The flood inundation map, found in the Valley Water website, was used and it was observed that the New Horizons project is not within the dam failure inundation area. See Attachment 2 for Anderson Dam inundation maps.

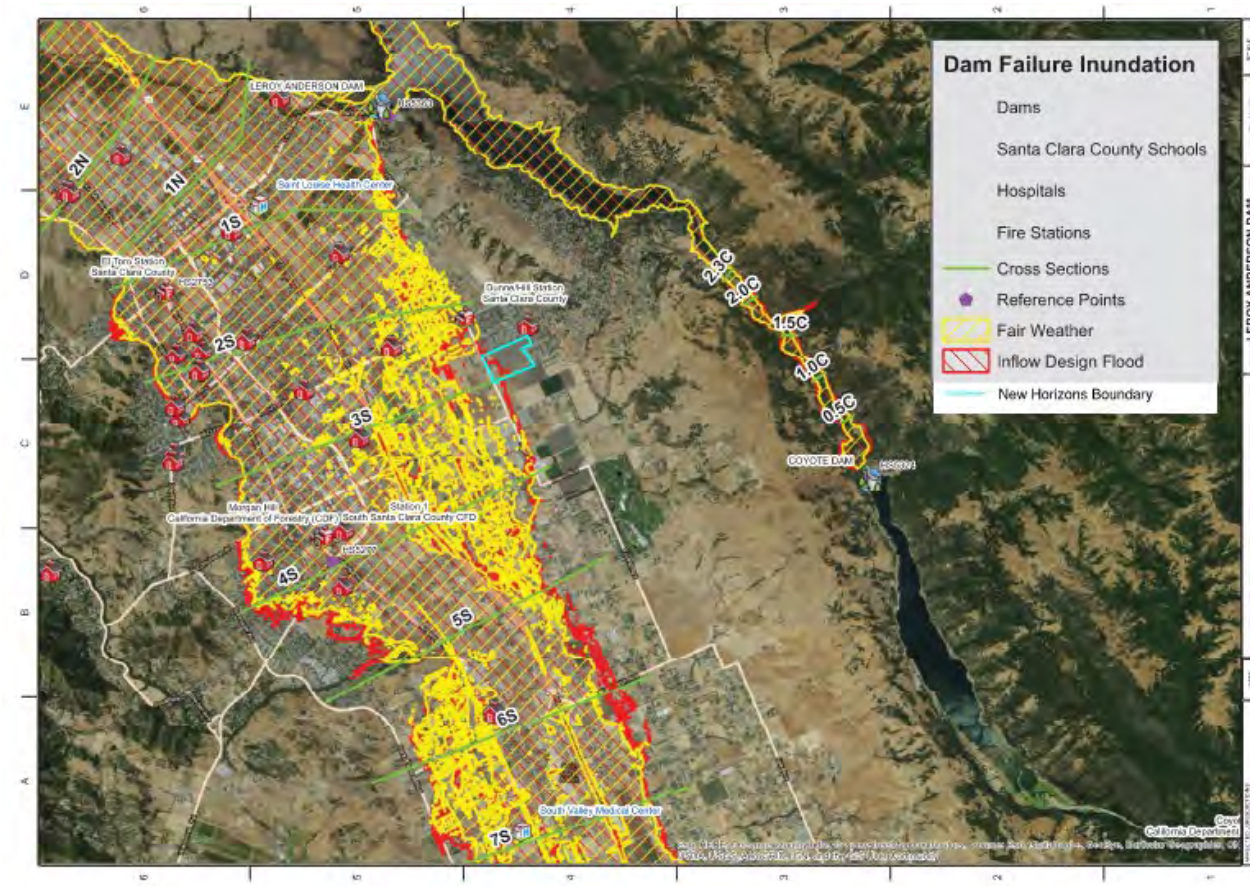


Figure 7. Anderson Dam Inundation Map from Valley Water

Therefore, the project would have a ***Less than Significant*** impact with regards to inundation by seiche or tsunami.

Impact 9: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

Finding: Less than Significant

Fertilizer and organic compounds are the likely pollutants of concern which can be found at the project site as the land was formerly used for agriculture. During construction of the project, short term impacts to water quality can occur when soils are disturbed, making it susceptible to water erosion and sedimentation. Other pollutants found during construction are petroleum products (gasoline, diesel, kerosene, oil, and grease), hydrocarbons from asphalt paving, paints, and solvents, detergents, nutrients (fertilizers), pesticides (insecticides, fungicides, herbicides, rodenticides), and trash. After construction, typical urban runoff contaminants may include the above constituents, as well as trace metals from pavement runoff, nutrients, and bacteria from pet wastes, and landscape maintenance debris.

Potential construction and post-construction pollutant impacts can be mitigated through preparation and implementation of an erosion control plan, a storm water pollution prevention plan (SWPPP) and a storm water management plan (SWMP) consistent with recommended design criteria. The erosion control plan in the SWPPP would include components for erosion control,

such as phasing of grading, limiting areas of disturbance, designation of restricted-entry zones, diversion of runoff away from disturbed areas, protective measures for sensitive areas, outlet protection, and provision for re-vegetation or mulching. The plan can also impose treatment measures to trap sediment per each catchment. The SWMP can implement post-construction water quality BMPs that control pollutant levels to pre-development levels.

The project would have a ***Less than Significant Impact*** to control water quality of surface runoff.

Attachment 1:

New Horizons Preliminary Drainage Report

MORGAN HILL DEVCO LLC

New Horizons

Santa Clara County, California

Schaaf & Wheeler Project No. MDHC.01.20:003

PRELIMINARY DRAINAGE REPORT

6/10/2021

Schaaf & Wheeler
CONSULTING CIVIL ENINGEERS

Prepared by:

CHARLES D. ANDERSON, California RCE No. 43776 (Exp. 06/30/23)

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

Table of Contents

LIST OF FIGURES

LIST OF TABLES

ATTACHMENTS

THIS PAGE INTENTIONALLY BLANK

1 INTRODUCTION

This preliminary drainage report documents pre-and post-development drainage patterns, provides preliminary hydrologic and hydraulic calculations following City of Morgan Hill and Santa Clara County methodologies, and demonstrates that conceptually, the development project will not adversely impact existing storm drainage systems or Tennant Creek. This report also describes the estimation of the base flood (100-year) water surface elevation in the project vicinity and demonstrates that finish floor elevations will be outside of the 100-year Special Flood Hazard Zone.

1.1 PROJECT DESCRIPTION

New Horizons is a master planned community that will be built on a 69-acre site long designated for single family residential use. Figure 1-1 provides a vicinity map and Figure 1-2 shows a rendered concept for the development, within its neighborhood context. The Project is located near the intersection of Hill Road and Barrett Avenue in Morgan Hill, California. The site is adjacent to Tennant Creek, which drains to Corralitos Creek, Llagas Creek, the Pajaro, River and ultimately Monterey Bay. The property is located on the north side of Barrett Avenue, east of Hill Road.

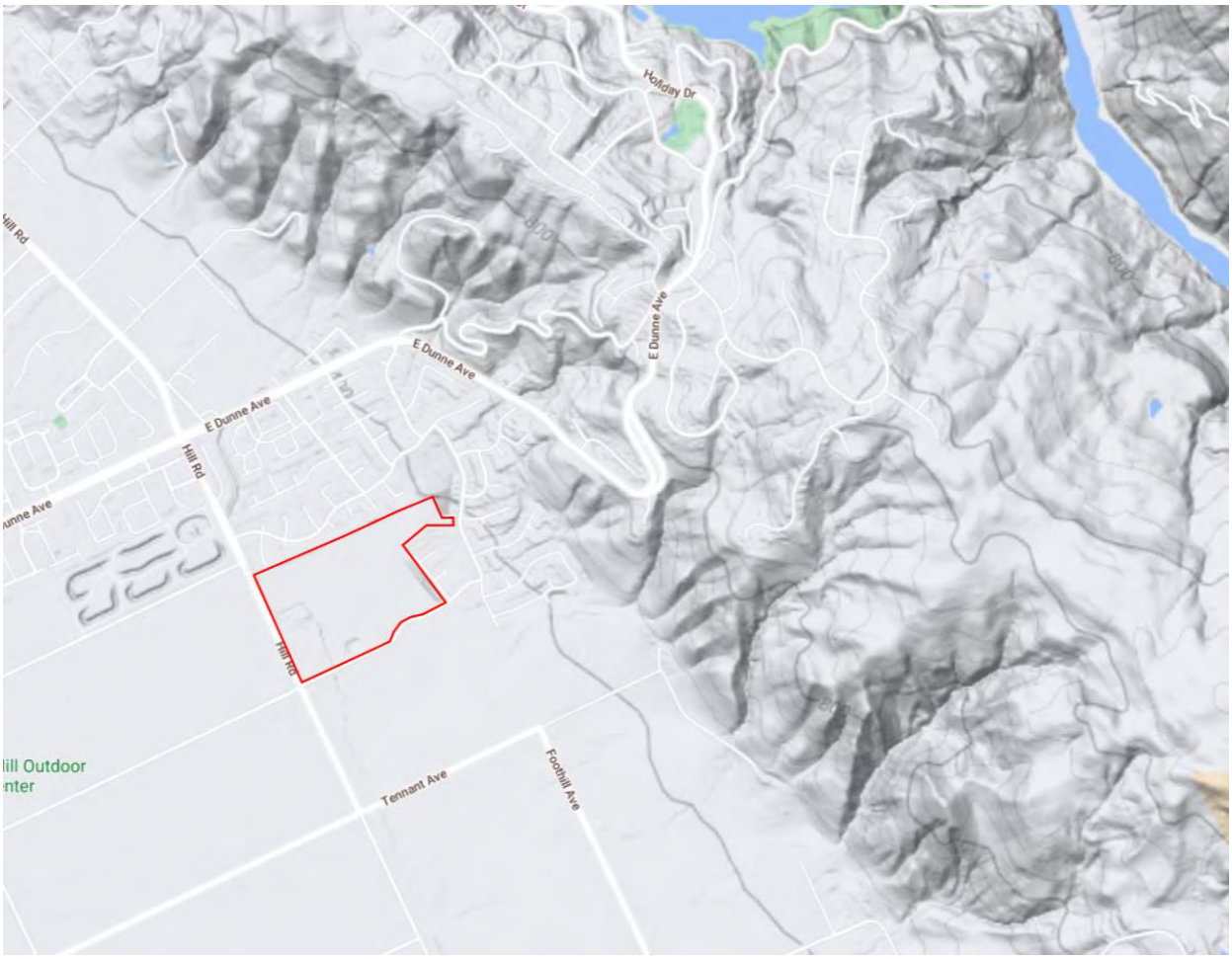


Figure 1-1: Project Site Location

Figure 1-2: Development Concept (courtesy Morgan Hill Devco, Inc.)

The effective FEMA Flood Insurance Rate Map (FIRM) Number 06085C0463H dated May 18, 2009 shows the property lies almost entirely within an area of moderate flood hazard, Shaded Zone X, representing the 0.2 percent chance (500-year) annual flood. Tennant Creek's regulatory floodway and floodway fringe pass through the site along its western quarter, as shown in Figure 1-3.

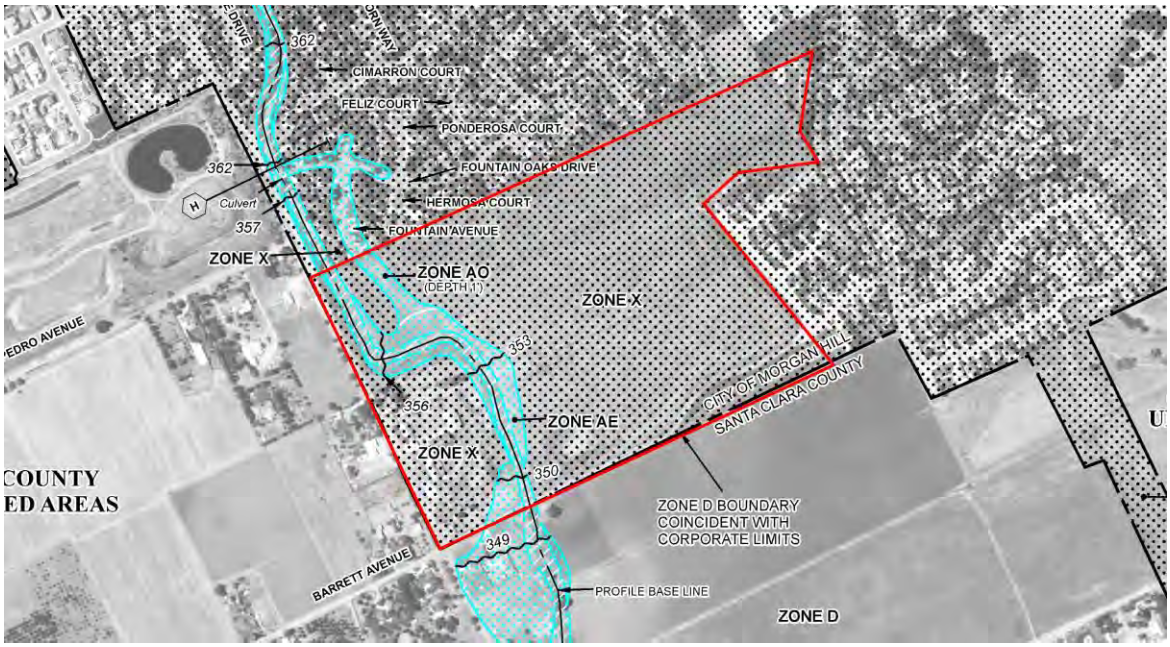


Figure 1-3: Flood Hazard Zones on Project Site

1.2 OBJECTIVES

This preliminary drainage report demonstrates that the proposed New Horizons development plan may be implemented without an adverse impact to local storm drainage conveyance systems and in conformance with City of Morgan Hill criteria. Project grading will also enable the Tennant Creek floodway and floodplain to be re-established so that all home sites may be elevated above the base flood, without changing the upstream or downstream 100-year water surface profile of the creek by more than six inches, as required by FEMA for remapping.

1.3 REPORT OUTLINE

After providing a narrative description of existing drainage patterns and conveyance paths, and storm drainage facilities, post-development drainage is narrated. Preliminary hydrologic and hydraulic calculations based on conceptual plans furnished by Ruggeri-Jensen-Azar (RJA) are summarized and appended. Preliminary calculations of the detention volume needed to meet the City's 25-year return period criterion are summarized and appended. Lastly, the report documents the detailed development of base flood elevations for Tennant Creek assuming Project implementation.

2 DRAINAGE PATTERNS AND CONVEYANCE

New Horizons sits within the alluvial valley created by Llagas Creek and its tributaries. Llagas Creek is a perennial stream with headwaters on the eastern side of the Santa Cruz Mountains near Loma Prieta. The creek flows out of the mountains onto the valley floor, generally flowing toward the south where it eventually joins with the Pajaro River at the San Benito County line.

Tributaries on the east side of the valley, which drain the Diablo Mountains, include Madrone Channel adjacent to U.S. Highway 101, East Little Llagas Creek, Church Creek, Rucker Creek, Skillet Creek, Panther Creek, Live Oak Creek, Alamitos Creek, and Jones Creek. Tennant Creek drains the eastern hillside and valley floor east of Highway 101 beginning at Diane Avenue, north of East Dunne Avenue. The creek flows south, generally parallel to the freeway alignment, receives flow from Foothill Creek at Fisher Avenue, and joins Maple Creek and Corralitos Creek to become Corralitos Creek. Corralitos Creek joins East Little Llagas Creek north of San Martin Avenue.

2.1 EXISTING DRAINAGE PATTERNS AND CONVEYANCE

Stormwater runoff across the Project site presently drains in a generally northeasterly to southwesterly direction to Tennant Creek, following natural gradients as shown in Figure 2-1. Tennant Creek itself flows under Barrett Avenue in a series of roadway culverts.

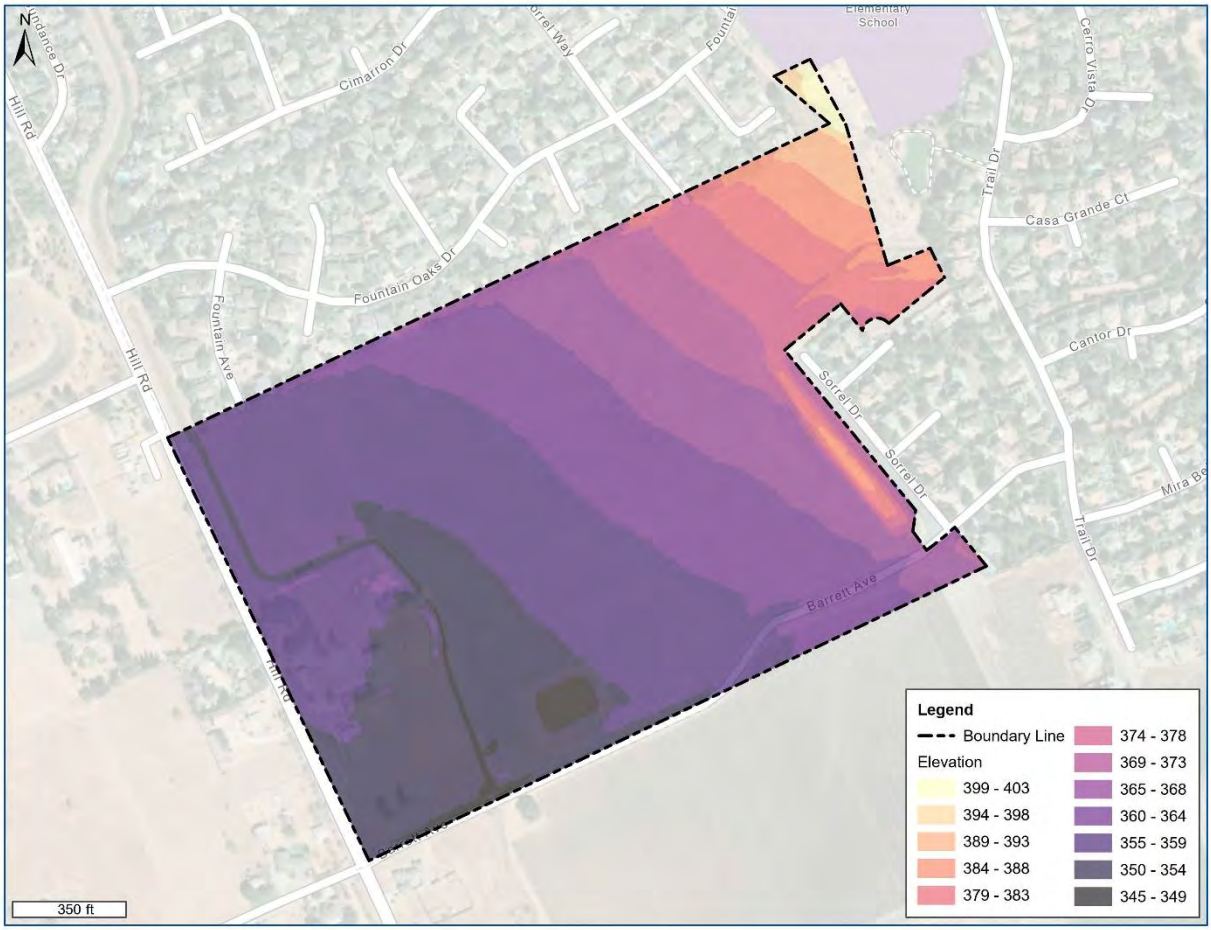


Figure 2-1: Existing Drainage Pattern

An existing 36-inch diameter RCP storm drain system provides local drainage along Sorel Drive to the immediate east, joining a 60-inch diameter RCP storm drain system in Barrett Avenue. The collective drainage system discharges to Tennant Creek where the creek crosses Barrett Avenue.

The dark spot in Figure 2-1 close to Tennant Creek just north of Barrett Avenue is a pre-existing stormwater retention basin. Information regarding its design, sizing criteria, or function are not available.

2.2 NEW HORIZONS PRELIMINARY STORM WATER CONTROL PLAN

RJA prepared a preliminary storm water control plan, which is excerpted as Figure 2-2. At the preliminary stage, the site will be broken into five "Drainage Management Areas" (DMAs) for the purpose of stormwater quality compliance. The plan is conceptual and will be refined during detailed design development. Nonetheless, this plan is a useful tool for the completion of this preliminary drainage report.

In concept, the stormwater retention basin will be "relocated" to Jackson Park as a detention basin that controls offsite run-on. Runoff from approximately 150 acres of tributary residential and open space areas northeast of the Project site (Figure 2-3) will be routed through this basin and collected in a new underground storm drain system, to replace an existing surface swale at the eastern edge of the site. This flow will be carried by the existing 36-inch diameter storm drain in Sorel Drive. At Barrett Avenue, additional runoff from tributary residential and open space areas directly east of the Project site are collected by the existing 60-inch diameter storm drain. Calculation herein show there is adequate excess capacity for the 25-year peak discharge after Project development.

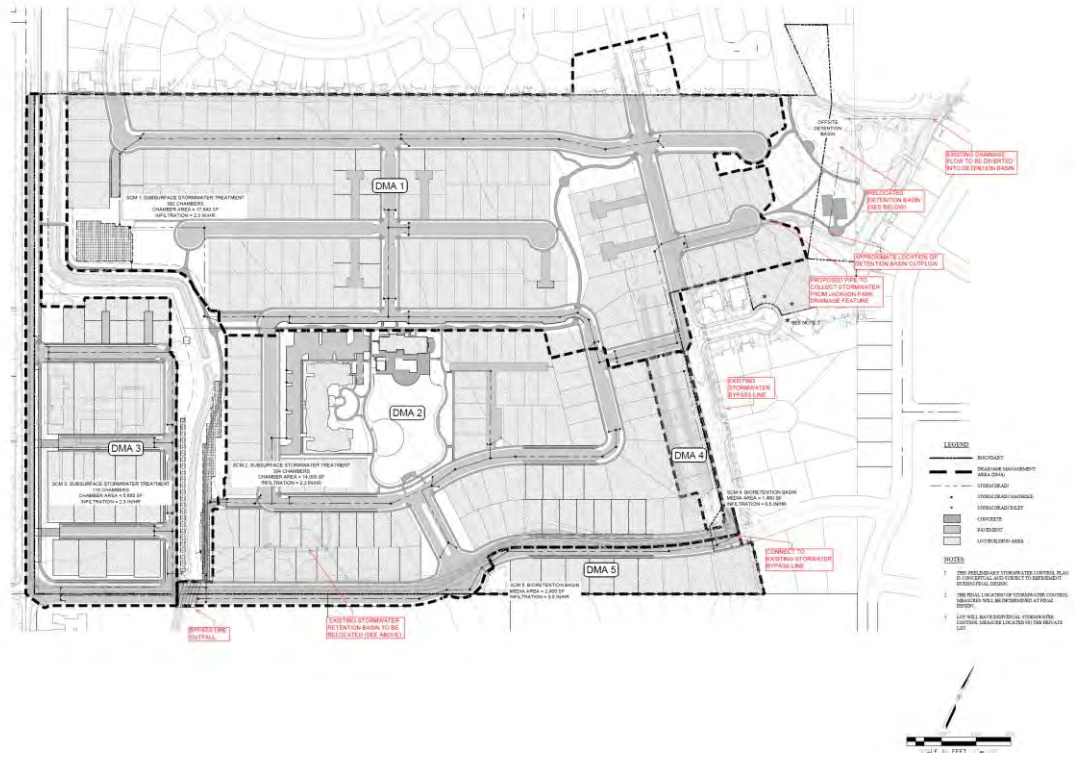


Figure 2-2: Preliminary Storm Water Control Plan (source: RJA)

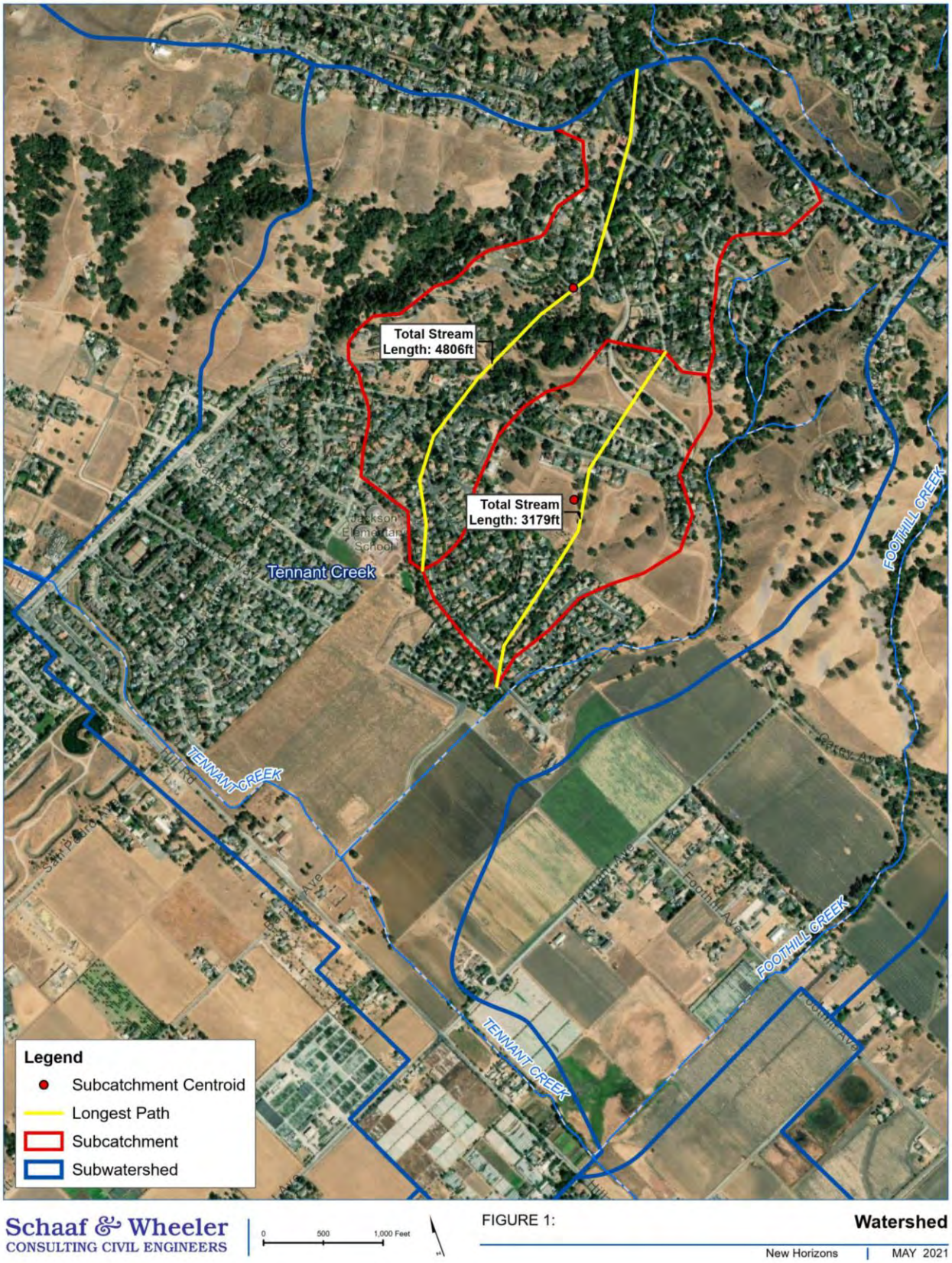


Figure 2-3: Offsite Run-On

3 PROJECT-SPECIFIC DRAINAGE REQUIREMENTS

Morgan Hill design standards require that ponding basins on private or public property be designed for a 24-hour, 25-year storm if a reasonable outlet is provided, as is the case for New Horizons based on the Preliminary Storm Water Control Plan. Twenty five percent of the total basin volume is considered freeboard.

The Jackson Park detention facility can be sized to provide enough detention for the 25-year design storm, to allow the use of available capacity in existing storm drain systems and ensure that the net combined site and eastern tributary offsite peak runoff does not exceed the existing 25-year runoff to Tennant Creek.

This conclusion is based on existing condition hydrologic calculations and a repeated set of calculations for the post-Project condition.

3.1 RUNOFF CALCULATIONS

Morgan Hill uses the Rational Method or SCS method to estimate the quantity of runoff when designing a storm drain system. Given this is preliminary and tributary watersheds are relatively small, the Rational Method is selected:

$$Q = CiA$$

Where Q = runoff in cfs

C = a runoff coefficient from the Morgan Hill Design Manual

i = rainfall intensity (in/hr)

A = tributary area (acres)

Morgan Hill Design Standards do not provide rainfall depths or intensities for the 25-year return period, so these values are derived using the Santa Clara County Drainage Manual (2007). Rainfall intensity is a function of the mean annual precipitation (inches) and rainfall duration, which is established as the time of concentration. From the County Drainage Manual, time of concentration may be estimated using the Kirpich formula as:

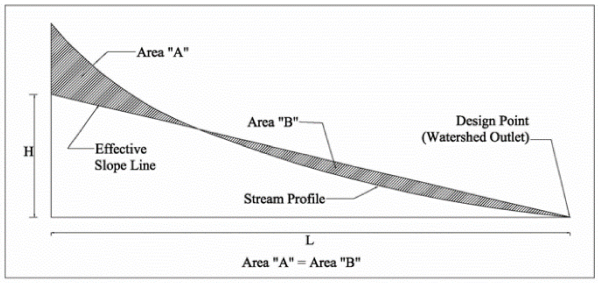
$$t_c = 0.0078\left(\frac{L^2}{S}\right)^{0.385} + 10$$

Where t_c = time of concentration (minutes)

L = maximum length of travel from headwater to outlet (feet)

S = effective slope along L (feet per foot)

The concept of effective slope is shown at right.



Rainfall depths are given by the following regression of rainfall gage depth-duration-frequency estimates throughout Santa Clara County and adjacent areas in Alameda County, San Benito County, and Santa Cruz County:

$$x_{T,D} = A_{T,D} + B_{T,D}MAP$$

Where $x_{T,D}$ = precipitation depth for a specific return period and storm duration (inches)

T = return period (years)

D = storm duration (hours)

A,B = coefficients published in the County Drainage Manual

MAP = mean annual precipitation = 20 inches in Morgan Hill

Precipitation intensity is then,

$$i_{T,D} = \frac{x_{T,D}}{D}$$

3.2 PEAK STORMWATER RUNOFF

Peak stormwater runoff after the development of New Horizons is compared to existing condition discharges in Table 3-1 and 3-2. This analysis, details of which are appended to this report, indicates that without stormwater detention, discharge to Tennant Creek would increase by 32 percent.

Table 3-1: Peak Runoff Summary for Existing Conditions

LOCATION	ADDED TRIBUTARY AREA (AC)	RUNOFF COEFFICIENT	ΣCA (AC)	T_C (Min)	25-YEAR RAINFALL (IN/HR)	25-YEAR DISCHARGE (CFS)
Jackson Park Detention Basin	151	0.34	51.34	63	0.86	42
Sorel Drive at Barrett Avenue	84	0.38	83.26	68	0.79	66
New Horizons Site	68	0.10				
Discharge to Tennant Creek	303		90.02	80	0.73	65

Table 3-2: Peak Runoff Summary for Developed Conditions

LOCATION	ADDED TRIBUTARY AREA (AC)	RUNOFF COEFFICIENT	ΣCA (AC)	T_C (Min)	25-YEAR RAINFALL (IN/HR)	25-YEAR DISCHARGE (CFS)
Jackson Park Detention Basin	151	0.34	51.34	63	0.86	42
Sorel Drive at Barrett Avenue	84	0.38	83.26	68	0.79	66
New Horizons Site	68	0.52				
Discharge to Tennant Creek	303		118.39	80	0.73	86

3.3 PROJECT DETENTION REQUIREMENTS

As illustrated by Table 3-1 and Table 3-2, detention is required to limit the 25-year site discharge to the pre-developed rate. As shown in Figure 2-2, Project detention is proposed adjacent to Jackson Park, which means only runoff from the northeasterly offsite tributary would be controlled. Conceptually this watershed must be over-detained, so that overall, the discharge to Tennant Creek is not increased over the existing condition.

This concept relies upon available capacity in the two existing storm drain systems and Tennant Creek itself as it flows through the New Horizons site. As fully presented in Section 4 of this report, Tennant Creek can contain the 100-year discharge within its banks throughout the New Horizons site. This evaluation of creek capacity relies upon U.S. Army Corps of Engineers hydrologic models for the greater Llagas Creek watershed. The Corps assumed full watershed buildout to available 2050 zoning plans, so the New Horizons development is implicitly included in the flood hazard boundary mapping.

As appended, calculations for detention iteratively check potential outflows from the basin until the result indicates that sufficient attenuation of northeastern runoff is achieved and there is no increase in 25-year discharge to Tennant Creek at Barrett Avenue. This occurs when discharge out of the basin is limited to 24 cfs, which requires a storage volume of 1.6 acre-feet. Currently a conceptual 4-foot-deep detention basin with roughly 1.5 acre-feet of total storage and 1.06 acre-feet of active storage per Morgan Hill standards is shown. With further design development, this basin can be refined, and full hydrograph routing performed to optimize performance.

3.4 EXISTING STORM DRAIN SYSTEM CAPACITIES

Appended calculations provide estimates for the storm drains on Sorel Drive and Barrett Avenue. These calculations are summarized in Table 3-3 and indicate that with the proposed detention storage at Jackson Park, there is excess storm drain system capacity in the 25-year design event. Morgan Hill standards require only that 10-year discharges be carried by the underground collection system.

Table 3-3: Existing 25-year Storm Drain System Capacity with Project Detention

STORM DRAIN SYSTEM	DIAMETER (IN)	LENGTH (FEET)	LIMITING GRADIENT (FT/FT)	CAPACITY (CFS)	PEAK 25-YEAR DISCHARGE (CFS)	EXCESS CAPACITY (CFS)
Sorel Drive	36	1,850	0.0045	45	24	21
Barrett Avenue	60	2,490	0.0042	169	45	124

4 EVALUATION OF FLOOD HAZARDS

The New Horizons site is located in a FEMA special flood hazard area Zone AE with defined base flood elevations and Zone AO with one foot depth per the effective FIS panel 06085C0463H (effective as of 5/18/2009). Potential impacts from Project improvements are assessed using information and hydraulic models first completed for the Santa Clara Valley Water District. Limits of 100-year flooding based on detailed methods indicate that the special flood hazard zones will be located completely outside of Project limits once fill is placed to raise the entire site above the 100-year floodplain.

4.1 RELEVANT SECTIONS OF ORDINANCE NO. NS-1100.106

Santa Clara County Ordinance NS-1100.106 became effective on April 21, 2009, and its requirements would be applied to a project constructed within Morgan Hill if there are potential impacts to properties within unincorporated areas. New Horizons abuts the border with unincorporated Santa Clara County. This ordinance was enacted to "reflect updates to floodplain management policies affecting real property located in designated flood hazard areas of the unincorporated territory of Santa Clara County." The purpose of the Ordinance is to "promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by legally enforceable regulations applied uniformly throughout the unincorporated territory of the Santa Clara County to all publicly and privately owned land within flood prone…areas."

As demonstrated herein, all areas of potential improvements within Project limits would be located outside of regulatory flood areas. Furthermore, there would be no alteration of natural floodplains, stream channels, or natural protective barriers.

4.1.1 Floodways

Per Ordinance Section C12-821(A), "until a regulatory floodway is adopted, no new construction, substantial development, or other development (including fill) shall be permitted within Zones A1-30, AO and AE, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other development, will not increase the water surface elevation of the base flood more than one foot at any point within Santa Clara County." Since Tennant Creek has a defined floodway, and that floodway can be adjusted to coincide with its slightly realigned banks, this section of the ordinance does not apply and improvements within Project limits would not increase the water surface elevation of the base flood at any point within or outside of Santa Clara County more than is allowed by the ordinance.

4.2 HYDRAULIC MODELING

The U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center's River Analysis System (HEC-RAS) computer program supersedes it's HEC-2 DOS based program. The effective HEC-2 model (5021002.DAT) was used to develop the duplicate effective model in HEC-RAS. The HEC-2 effective model for Tennant Creek was obtained from the Santa Clara Valley Water District's website:

https://www.valleywater.org/flooding-safety/hec-2-and-hec-ras-data-library

4.2.1 Duplicate Effective Model

The Duplicate effective model was recreated in HEC-RAS for the reach near the proposed project. This includes recreating ineffective flow areas at the applicable cross sections. The model ties into

the effective FIS profile at the upstream and downstream of the project area within +/- 0.5 foot meeting FEMA tie-in criteria, see profile panel 135P (February 19, 2014) of the effective FIS.

Small differences between the duplicative effective HEC-RAS model and the effective HEC-2 model are due to the fact that HEC-RAS applies improved and more modern computational procedures that were not available when HEC-2 was developed. These changes between HEC-2 and HEC-RAS include computational differences in conveyance, bridge and culvert hydraulics, critical depth, and calculation tolerances. These computational differences will create small differences in the model results.

The duplicate effective model was used as a baseline to estimate the potential impacts that the New Horizons development would impart on the water surface elevations within Tennant Creek.

4.2.2 Corrected Effective Model

To precisely capture incremental changes within Tennant Creek and the overbank in the project area, additional cross sections were interpolated throughout the project site using the duplicate effective model as a starting point. Channel and overbank elevations were interpolated using a combination of recent site topography and the 2006 Santa Clara County LiDAR (NAVD 88 vertical datum). This provides a basis for comparison with proposed changes in the overbank to existing conditions. This model is considered the Corrected Effective Model, with which the Project Model will be compared against.

4.2.3 Project Model

The corrected effective model was then further modified to determine the hydraulic impacts imparted by the proposed project. The corrected effective model was modified by adding obstructions for the left and right overbank where proposed grading will raise the site to remove the overbank from the floodplain. This model is considered the Project Model and reflects current grading and obstructions throughout the project site. This model also includes a proposed pedestrian bridge which crosses Tennant Creek on the northwest end of the development. It is assumed that the proposed pedestrian bridge low chord will be set above the 100-year water surface level, thereby causing no hydraulic impact to the channel water surface profile.

4.2.4 Modeling Assumptions

The following assumptions were made for modeling the 100-year water surface profile along tenant Creek in the vicinity of the project site.

- Army Corps of Engineers (COE) Hydrology was used for peak flow rates along Tenant Creek. This results in a peak 100-year flow rate of 270 cfs flowing through the site, with an additional 230 cfs added on the upstream end of Barrett Avenue.

- Proposed conditions are based on blocked obstructions (vertical walls) placed in the channel overbank as shown in the project workmap (refer to Appendix A-1). The proposed site plan and grading on the channel overbank was provided by RJA and is dated April 14, 2021.

- The pedestrian bridge is assumed to span Tenant Creek with the low chord of the bridge set above the 100-year water surface elevation (WSE). The location of the pedestrian bridge was shifted approximately 600 feet upstream when compared to previous analyses provided by Schaaf & Wheeler.

- The Barrett Avenue Culvert is assumed to incorporate five (5) 8ft x 2ft RCP box culverts as part of the project improvements.

Based on the assumptions identified above, the corrected effective WSE's can be compared to the proposed condition WSE's to determine the estimated impacts to the 100-year WSE's along Tennant Creek. Table 4-1 summarizes these differences below. Elevations are shown in the NAVD datum.

Table 4-1: 100-Year Water Surface Elevation Comparison (NAVD 88)

RIVER STATION	CORRECTED EFFECTIVE WSE (FT)	POST PROJECT (5-2021) WSE (FT)	DIFFERENCE (FT)
546	364.23	364.23	0.00
544	362.55	362.55	0.00
542	360.76	360.75	-0.01
540	360.74	360.72	-0.02
538	360.7	360.69	-0.01
536	360.7	360.69	-0.01
535	Fountain Oaks Blvd		
532	356.61	356.56	-0.05
530	355	355.22	0.22
529	354.49	354.84	0.35
528.5	Pedestrian Bridge		
528.2	354.31	354.29	-0.02
528.1	354.14	354.12	-0.02
528	353.79	353.76	-0.03
527.9	353.7	353.67	-0.03
527.8	353.58	353.54	-0.04
527.2	353.41	353.36	-0.05
527.1	353.18	353.09	-0.09
526	353.16	353.03	-0.13
525.6	353.18	352.92	-0.26
525.55	353.15	352.59	-0.56
525.53	353.09	351.81	-1.28
525.5	353.01	351.39	-1.62
525	353.01	351.57	-1.44
524.2	350.67	351.32	0.65

RIVER STATION	CORRECTED EFFECTIVE WSE (FT)	POST PROJECT (5-2021) WSE (FT)	DIFFERENCE (FT)
524	350.99	351.40	0.41
523.4	350.68	351.19	0.51
523	350.16	351.01	0.85
522	349.87	349.87	0.00
521.8	349.48	349.24	-0.24
521.7	349.92	348.41	-0.51
521.5	Barrett Avenue		
521	347.46	347.24	-0.22
520.9	347.52	347.24	-0.28
520	346.4	346.4	0.00
518	343.48	343.48	0.00
516	341.16	341.16	0.00
514	340.46	340.46	0.00

**Blue text River Stations represent cross sections within the project's limits of study*

***Red text indicates increase in wse. 1.00 foot increase maximum allowed within a floodway*

Water surface elevations are shown to tie-in to the corrected effective profile on both the upstream and downstream sides of the project. Based on the above analysis, the New Horizon's project shows no significant impact to 100-year water surface elevations outside of the project limits along Tennant Creek. Finish floor elevations can be set using the proposed water surface elevations summarized in Table 4-1.

ATTACHMENT NO. 1: STORM DRAIN DISCHARGE AND DETENTION CALCULATIONS

Project Name: New Horizons
Project Location: Morgan Hill, CA
Date: June 2021

Project Information

Area =	2,942,880	ft^2	*Total project area*
Existing Impervious Area =	39,450	ft^2	
	1%		*Existing Percent impervious area*
Ex Imperv Area To Remain =	0	ft^2	*Total existing impervious surface to remain*
Replaced Imperv Area =	39,450	ft^2	*Total existing impervious surface to be replaced as part of project*
New Imperv Area =	2,069,850	ft^2	*Total new impervious surface to be installed as part of project*
Total Impervious Area =	2,109,300	ft^2	*Total project impervious area*
	72%		*Percent impervious area*

Performance Requirements

No. 1 = City of Morgan Hill Detention Requirements, modified
No. 2 = Detention facilities outlet to a receiving water, so 25-year, 24-hour
No. 3 = Outflow at existing 25-year rate is counted
No. 4 = Reduce peak flows to pre-project levels for 25yr storm event
No. 5 = Infiltration not counted on - that's for stormwater treatment

Rainfall Design Information

MAP =	20.0	in	*Mean Annual Precipitation*
$P_{85\%}$ =	1.05	in	*85th% 24-hr rainfall depth*
$P_{95\%}$ =	1.6	in	*95th% 24-hr rainfall depth*

Soil Type Design Information

Site HSG =	B		*NRCS Hydrologic Soil Group Classification*
Infiltration Rate =	Varies	in/hr	*Describe source for infiltration rate*

Project Name: New Horizons
Project Location: Morgan Hill, CA
Date: June 2021

25-year Peak Runoff

						Pervious Surface Correction Factor								
						0.20	0.10	0.60	0.15	0.10				
		Impervious Surface (SF)				Pervious Surface (SF)								
DMA	Area (SF)	Roof	Street/ Parking Lot	Hardscape	Total	Managed Turf	Landscape/Grass	Pervious Concrete	Turf Block	Pavers	Native Landscape/ Undistrubed	Total	% Impervious	Runoff Coefficient	Runoff Coefficient for Volume
1	1,399,890	591,962	235,860	135,140	962,962		436,928					436,928	69%	0.48	0.63
2	943,760	355,936	277,820	108,720	742,476		201,284					201,284	79%	0.58	0.73
3	430,170	136,696	127,030	44,860	308,586		121,584					121,584	72%	0.51	0.66
4	59,780	35,231			35,231		24,549					24,549	59%	0.40	0.55
5	110,310	54,961	17,710	9,340	82,011		28,300					28,300	74%	0.54	0.69
Total	2,943,910	1,174,786	658,420	298,060	2,131,266	0	812,645	0	0	0	0	812,645	72%	0.52	0.67

Notes:

1. Basic Hydrologic Parameters furnished by RJA

Governing Equations:

C_{volume} If C<0.7, C+0.15 Santa Clara County Drainage Manual, 2007
If C>0.7, (1-C)/2+C

Project Name: New Horizons
Project Location: Morgan Hill, CA
Date: June 2021

Jackson Street Detention

Tributary Area	151	acres
Weighted Runoff Coefficient	0.34	
Allowable Basin Discharge (input)	24	cfs
Longest Developed Flow Path	4806	feet
Effective Slope	13.63	ft/mi
Effective Slope	0.0025814	ft/ft
Initial Roof to Gutter	10	min
Time of Concentration	62.9	min

Detention Volume Calculations

Storm Duration (min)	Storm Duration (hour)	A	B	Rainfall Depth (in)	25-year Volume In (ft^3)	Allowable Volume Out (ft^3)	Storage Required (ft^3)	Storage Required (ac-ft)
63.0	1.05	0.513985	0.017397	0.86	160,633	90,720	69,913	1.60
64.0	1.07	0.515716	0.017636	0.87	161,847	92,160	69,687	1.60
65.0	1.08	0.517447	0.017875	0.87	163,060	93,600	69,460	1.59
66.0	1.10	0.519178	0.018115	0.88	164,274	95,040	69,234	1.59
67.0	1.12	0.520909	0.018354	0.89	165,488	96,480	69,008	1.58
68.0	1.13	0.522641	0.018593	0.89	166,702	97,920	68,782	1.58
69.0	1.15	0.524372	0.018832	0.90	167,915	99,360	68,555	1.57
82.0	1.37	0.546877	0.021940	0.99	183,694	118,080	65,614	1.51

tc	A	B
60.0	0.508791	0.016680
120.0	0.612663	0.031025

Area from Northeast Tributary to Jackson Park Detention Location

Area	151	acres
Weighted C	0.34	
C x A	51.34	acres
Time of Concentration	62.90555	minutes
A	0.513821	
B	0.017375	
Rainfall Depth	0.86	in
Rainfall Intensity	0.82	in/hr
Discharge	42.18	cfs
Velocity in 36" SD	5.97	fps
Length of 36" SD	1850	feet
Travel Time in 36" SD	5.17	minutes

Add Area from Southeast Tributary

Area	84	acres
Weighted C	0.38	
Incremental C x A	31.92	acres
Total C x A	83.26	acres
Time of Concentration	68.07	minutes
A	0.522769	
B	0.018610	
Rainfall Depth	0.89	in
Rainfall Intensity	0.79	in/hr
Discharge	66	cfs
Velocity in 60" SD	3.35	fps
Length of 60" SD	2490	feet
Travel Time in 60" SD	12.40	minutes

Add Developed Project Site

Area	67.56	acres
Weighted C	0.1	
Incremental C x A	6.8	acres
Total C x A	90.02	acres
Time of Concentration	80.48	minutes
A	0.544242	
B	0.021576	
Rainfall Depth	0.98	in
Rainfall Intensity	0.73	in/hr
Discharge	65	cfs

Area from Northeast Tributary to Jackson Park Detention Location

Area	151	acres
Weighted C	0.34	
C x A	51.34	acres
Time of Concentration	62.90555	minutes
A	0.513821	
B	0.017375	
Rainfall Depth	0.86	in
Rainfall Intensity	0.82	in/hr
Discharge	42.18	cfs
Velocity in 36" SD	5.97	fps
Length of 36" SD	1850	feet
Travel Time in 36" SD	5.17	minutes

Add Area from Southeast Tributary

Area	84	acres
Weighted C	0.38	
Incremental C x A	31.92	acres
Total C x A	83.26	acres
Time of Concentration	68.07	minutes
A	0.522769	
B	0.018610	
Rainfall Depth	0.89	in
Rainfall Intensity	0.79	in/hr
Discharge	66	cfs
Velocity in 60" SD	3.35	fps
Length of 60" SD	2490	feet
Travel Time in 60" SD	12.40	minutes

Add Developed Project Site

Area	67.56	acres
Weighted C	0.52	
Incremental C x A	35.1	acres
Total C x A	118.39	acres
Time of Concentration	80.48	minutes
A	0.544242	
B	0.021576	
Rainfall Depth	0.98	in
Rainfall Intensity	0.73	in/hr
Discharge	86	cfs

Area from Northeast Tributary to Jackson Park Detention

Area	151	acres
Weighted C	0.34	
C x A	51.34	acres
Time of Concentration	63	minutes
Detained Discharge	24	cfs
Detained Time of Concentration	63	min
Rainfall Intensity	0.82	in/hr
Detained C x A	29.24	acres
Velocity in 36" SD	3.39	fps
Length of 36" SD	1850	feet
Travel Time in 36" SD	9.08	minutes

Add Area from Southeast Tributary

Area	84	acres
Weighted C	0.35	
Incremental C x A	29.4	acres
Total C x A	58.64	acres
Time of Concentration	72.08	minutes
A	0.529709	
B	0.019569	
Rainfall Depth	0.92	in
Rainfall Intensity	0.77	in/hr
Discharge	45	cfs
Velocity in 60" SD	2.29	fps
Length of 60" SD	2490	feet
Travel Time in 60" SD	18.12	minutes

Add Developed Project Site

Area	67.56	acres	
Weighted C	0.52		
Incremental C x A	35.1	acres	
Total C x A	93.77	acres	
Time of Concentration	90.20	minutes	
A	0.561080		
B	0.023901		
Rainfall Depth	1.04	in	
Rainfall Intensity	0.69	in/hr	
Discharge	65	cfs	OK

36-inch SD on Sorel Drive

Rim Elevation (ft NAVD)	Length (feet)	Slope
374.88		
	267	0.01326
371.34		
	285	0.00884
368.82		
	274	**0.00449**
367.59		
	45	0.03578
365.98		

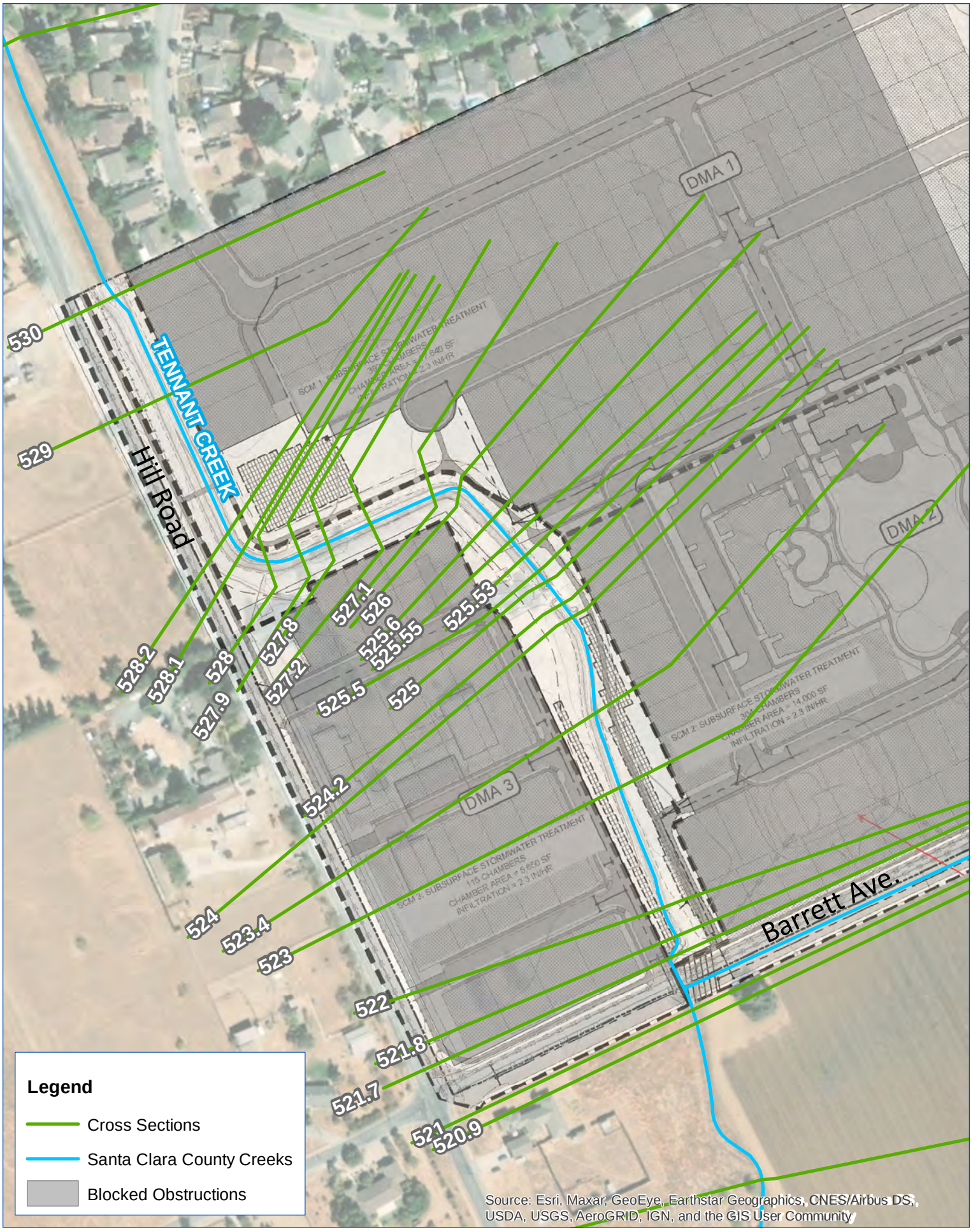
Capacity			
	n	0.013	
	D	36	inches
	A	7.07	ft^2
	R	0.75	ft
	S	0.00449	ft/ft
	Q	44.81	cfs

60-inch SD on Barrett Avenue

Rim Elevation (ft NAVD)	Length (feet)	Slope
366.42		
	260	0.01785
361.78		
	297	0.01215
358.17		
	293	0.01259
354.48		
	305	0.01072
351.21		
	192	**0.00417**
350.41		
	299	0.00719
348.26		

Capacity			
	n	0.013	
	D	60	inches
	A	19.63	ft^2
	R	1.25	ft
	S	0.00417	ft/ft
	Q	168.57	cfs

ATTACHMENT NO. 2: HEC-RAS PROJECT WORKMAP



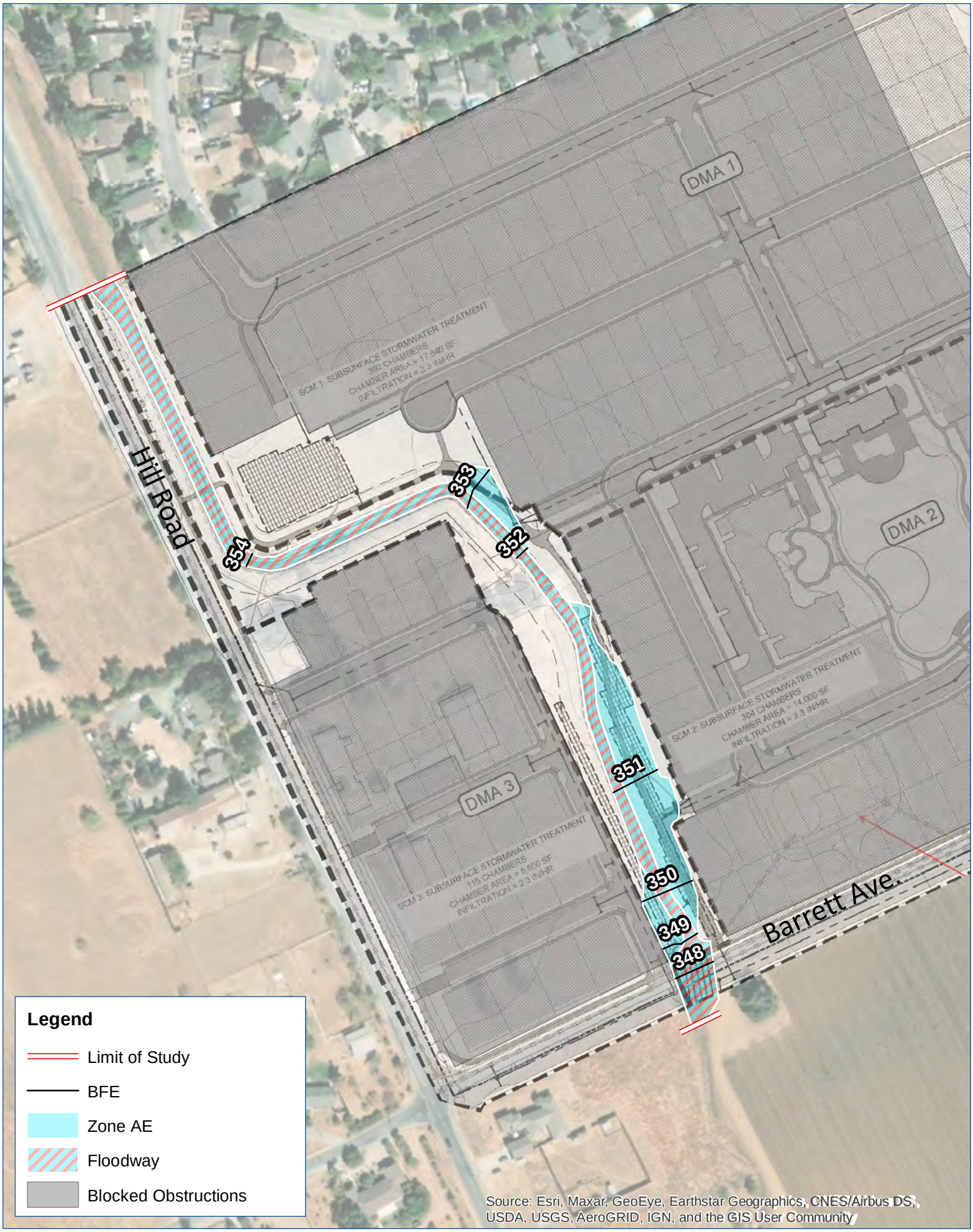
Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

Attachment 2

HEC-RAS Project Workmap

New Horizons Flood Hazards | JUN 2021

ATTACHMENT NO. 3: PROJECT SPECIAL FLOOD HAZARD MAPPING



Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS

0 100 200 Feet

Attachment 3

Project Special Flood Hazard Mapping

New Horizons Flood Hazards | JUN 2021

ATTACHMENT NO. 4: HEC-RAS MODEL (DIGITAL)

Attachment 2:

Anderson Dam Inundation Maps

ANDERSON DAM FLOOD INUNDATION MAPS

LEROY ANDERSON DAM

SHEET 8
SHEET 7
SHEET 6
SHEET 5
SHEET 4
SHEET 9
SHEET 10
SHEET 11
SHEET 12

Pacific Ocean
Elkhorn Slough
Monterey Bay

SAN MATEO
SANTA CLARA
ALAMEDA
SAN JOAQUIN
STANISLAUS
SANTA CRUZ
SAN BENITO
MONTEREY

San Francisco Int'l Airport
Newman Y
Milpitas San Jose Intl

NOTES:

1. USERS OF THESE MAPS ARE ADVISED THAT BECAUSE OF THE METHOD, PROCEDURES, AND ASSUMPTIONS USED TO DEVELOP THE FLOOD AREAS, THE LIMITS OF FLOODING SHOWN AND FLOOD WAVE TRAVEL TIMES ARE APPROXIMATE AND SHOULD BE USED ONLY AS A GUIDELINE FOR ESTABLISHING EVACUATION ZONES. ACTUAL AREAS INUNDATED WILL DEPEND ON ACTUAL FAILURE CONDITIONS AND MAY DIFFER FROM AREAS SHOWN ON THE MAPS.

2. TWO FLOODING SCENARIOS ARE PRESENTED ON THE MAPS; THE "FAIR WEATHER" SCENARIO AND THE "INFLOW DESIGN FLOOD" SCENARIO. THESE SCENARIOS ARE DEFINED AS FOLLOWS:

   (A) THE FAIR WEATHER SCENARIO ASSUMES THAT THE DAM FAILURE OCCURS DURING NON-STORM CONDITIONS WITH A NORMAL FULL POOL ELEVATION IN THE RESERVOIR AND NORMAL FLOW CONDITIONS DOWNSTREAM OF THE DAM.

   (B) THE INFLOW DESIGN FLOOD SCENARIO ASSUMES THAT THE DAM FAILURE OCCURS DURING A LARGE STORM EVENT WITH A HIGH POOL ELEVATION IN THE RESERVOIR AND HIGH FLOW CONDITIONS DOWNSTREAM OF THE DAM. FOR THIS PARTICULAR DAM, THE INFLOW DESIGN FLOOD IS EQUAL TO THE PROBABLE MAXIMUM FLOOD EVENT. ANTECEDENT FLOW CONDITIONS ASSUME NEAR FULL CREEKS BY USING AS-IS LIDAR TERRAIN DATA (NO GROUND SURVEY).

SCALE 1" = 40000'
SHEET 1

SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265 - 2600

LEROY ANDERSON DAM
FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009
SANTA CLARA COUNTY

Santa Clara Valley Water District

REVIEWED BY:
ACCEPTED BY:

DATE APR2016
DESIGN JX
DRAWN JX
CHECKED

AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing

INFLOW DESIGN FLOOD (NORTH)

XS STA (Miles D/S of Dam)	Maximum Flow (cfs)	Flood-Wave Arrival Time	Peak Elevation Time	Deflood Time	Maximum Depth (ft)	Maximum Elevation (ft)	Maximum Velocity (ft/s)
1	1,360,000	0 HR 30 MIN	0 HR 50 MIN	5 HR 10 MIN	18.88	366.5	11.3
2	1,333,700	0 HR 45 MIN	0 HR 50 MIN	6 HR 30 MIN	20.93	356.1	11.7
3	1,311,100	0 HR 45 MIN	0 HR 55 MIN	10 HR 20 MIN	25.82	337.5	11.9
4	1,296,700	0 HR 50 MIN	0 HR 55 MIN	10 HR 30 MIN	23.40	318.6	9.9
5	1,272,400	0 HR 55 MIN	1 HR 5 MIN	10 HR 25 MIN	26.39	297.1	9.8
6	1,122,900	1 HR 30 MIN	1 HR 45 MIN	13 HR 5 MIN	36.75	290.5	6.2
7	763,900	1 HR 40 MIN	1 HR 50 MIN	12 HR 55 MIN	43.81	288.4	4.8
8	670,600	1 HR 40 MIN	1 HR 55 MIN	14 HR 5 MIN	43.71	284.1	4.2
9	664,600	1 HR 55 MIN	2 HR 10 MIN	13 HR 5 MIN	17.27	232.1	6.7
10	652,000	2 HR 0 MIN	2 HR 20 MIN	12 HR 0 MIN	19.87	222.2	4.8
11	639,000	2 HR 10 MIN	2 HR 30 MIN	12 HR 55 MIN	19.49	209.9	3.9
12	619,200	2 HR 50 MIN	3 HR 20 MIN	15 HR 35 MIN	20.97	189.2	4.2
13	531,700	3 HR 10 MIN	3 HR 45 MIN	17 HR 5 MIN	33.39	186.5	2.4
14	458,000	3 HR 30 MIN	3 HR 20 MIN	1 HR 0 MIN	11.43	164.0	3.0
15	419,900	3 HR 50 MIN	5 HR 25 MIN	5 HR 50 MIN	15.54	154.4	2.7
16	409,000	4 HR 20 MIN	5 HR 15 MIN	9 HR 15 MIN	21.41	147.3	3.8
17	401,400	4 HR 45 MIN	5 HR 15 MIN	13 HR 0 MIN	29.80	137.92	3.3
18	391,200	5 HR 10 MIN	6 HR 0 MIN	20 HR 45 MIN	26.03	117.94	2.6
19	369,600	5 HR 35 MIN	6 HR 10 MIN	18 HR 15 MIN	29.60	105.51	2.3
20	343,300	5 HR 50 MIN	6 HR 30 MIN	19 HR 15 MIN	28.04	90.95	2.4
21	320,900	6 HR 40 MIN	7 HR 20 MIN	21 HR 40 MIN	27.65	74.84	2.2
22	312,300	7 HR 0 MIN	7 HR 50 MIN	19 HR 10 MIN	24.52	62.27	2.4
23	304,300	7 HR 30 MIN	8 HR 15 MIN	19 HR 45 MIN	13.65	49.96	2.2
24	293,400	8 HR 15 MIN	9 HR 5 MIN	22 HR 5 MIN	21.87	38.09	1.8
25	281,500	8 HR 50 MIN	9 HR 45 MIN	20 HR 10 MIN	13.75	29.31	2.0
26	267,600	9 HR 25 MIN	10 HR 20 MIN	20 HR 45 MIN	21.53	23.94	1.6
27	253,800	9 HR 45 MIN	10 HR 55 MIN	20 HR 35 MIN	28.15	16.02	1.8
28	233,800	11 HR 55 MIN	13 HR 10 MIN	18 HR 50 MIN	9.51	9.48	2.5
29	214,900	12 HR 0 MIN	13 HR 25 MIN	18 HR 25 MIN	11.42	9.29	2.3
30	159,000	12 HR 45 MIN	14 HR 40 MIN	10 HR 20 MIN	8.28	7.59	2.4
31	135,500	13 HR 15 MIN	14 HR 55 MIN	12 HR 5 MIN	7.56	7.15	2.1
32	119,500	13 HR 20 MIN	14 HR 55 MIN	11 HR 30 MIN	5.88	7.10	4.6
33	26,000	14 HR 30 MIN	15 HR 50 MIN	2 HR 30 MIN	2.74	5.58	3.2
34	8,400	16 HR 40 MIN	21 HR 15 MIN	5 HR 40 MIN	2.08	4.92	1.5
35	4,100	26 HR 35 MIN	45 HR 20 MIN	N/A	2.35	2.54	1.3

FAIR WEATHER (NORTH)

XS STA (Miles D/S of Dam)	Maximum Flow (cfs)	Flood-Wave Arrival Time	Peak Elevation Time	Deflood Time	Maximum Depth (ft)	Maximum Elevation (ft)	Maximum Velocity (ft/s)
1	974,500	0 HR 45 MIN	1 HR 20 MIN	4 HR 55 MIN	14.92	362.5	9.8
2	962,300	0 HR 40 MIN	1 HR 15 MIN	5 HR 40 MIN	17.59	352.8	9.5
3	951,200	0 HR 45 MIN	1 HR 20 MIN	9 HR 0 MIN	22.27	334.0	10.5
4	943,400	0 HR 55 MIN	1 HR 25 MIN	9 HR 30 MIN	20.80	316.0	8.7
5	930,300	1 HR 0 MIN	1 HR 30 MIN	12 HR 55 MIN	23.12	293.8	8.8
6	821,800	1 HR 10 MIN	1 HR 50 MIN	17 HR 0 MIN	29.45	283.2	6.6
7	608,600	1 HR 20 MIN	2 HR 20 MIN	45 HR 50 MIN	36.12	280.7	6.3
8	429,800	1 HR 25 MIN	2 HR 25 MIN	16 HR 30 MIN	36.56	277.0	6.1
9	420,600	2 HR 5 MIN	2 HR 50 MIN	13 HR 30 MIN	13.03	227.8	5.8
10	406,700	2 HR 15 MIN	3 HR 0 MIN	13 HR 55 MIN	15.40	217.7	4.8
11	393,400	2 HR 30 MIN	3 HR 10 MIN	17 HR 15 MIN	15.75	206.2	3.4
12	367,400	2 HR 50 MIN	4 HR 25 MIN	14 HR 15 MIN	15.63	183.9	3.6
13	271,700	3 HR 5 MIN	4 HR 50 MIN	40 HR 40 MIN	28.23	181.4	2.4
14	232,400	3 HR 10 MIN	4 HR 30 MIN	2 HR 35 MIN	11.14	163.7	2.7
15	194,200	3 HR 25 MIN	5 HR 20 MIN	3 HR 5 MIN	14.72	153.5	2.3
16	186,600	3 HR 45 MIN	7 HR 30 MIN	16 HR 55 MIN	10.84	136.8	2.8
17	181,500	4 HR 5 MIN	7 HR 35 MIN	33 HR 10 MIN	23.06	131.18	2.5
18	177,000	4 HR 30 MIN	8 HR 0 MIN	31 HR 15 MIN	22.30	114.21	2.1
19	162,800	6 HR 45 MIN	8 HR 30 MIN	49 HR 50 MIN	24.73	100.64	1.9
20	149,000	7 HR 15 MIN	8 HR 55 MIN	43 HR 50 MIN	24.13	87.04	1.9
21	137,200	7 HR 35 MIN	10 HR 0 MIN	42 HR 5 MIN	22.52	69.71	1.7
22	132,000	7 HR 55 MIN	10 HR 40 MIN	42 HR 10 MIN	19.80	57.55	1.7
23	128,200	8 HR 45 MIN	11 HR 20 MIN	20 HR 55 MIN	9.60	45.91	1.6
24	122,900	8 HR 50 MIN	12 HR 25 MIN	44 HR 5 MIN	16.75	32.97	1.4
25	117,400	10 HR 25 MIN	13 HR 25 MIN	29 HR 25 MIN	9.53	25.09	1.5
26	110,300	11 HR 15 MIN	14 HR 15 MIN	30 HR 15 MIN	17.32	19.73	1.3
27	103,700	13 HR 5 MIN	15 HR 5 MIN	17 HR 15 MIN	25.22	13.09	1.7
28	88,100	14 HR 15 MIN	21 HR 10 MIN	7 HR 40 MIN	6.84	6.81	2.3
29	70,800	16 HR 0 MIN	21 HR 15 MIN	6 HR 10 MIN	8.86	6.73	2.3
30	55,500	17 HR 55 MIN	23 HR 30 MIN	6 HR 20 MIN	6.19	5.50	2.7
31	51,900	17 HR 30 MIN	24 HR 0 MIN	7 HR 10 MIN	5.62	5.21	1.7
32	47,800	18 HR 30 MIN	24 HR 0 MIN	6 HR 35 MIN	3.97	5.19	3.4
33	1,400	28 HR 55 MIN	31 HR 45 MIN	3 HR 15 MIN	0.81	3.65	1.2
34	0	N/A	N/A	N/A	0.39	3.23	0.1
35	0	N/A	N/A	N/A	0.00	0.19	0.0

INFLOW DESIGN FLOOD (COYOTE)

XS STA (Miles D/S of Dam)	Maximum Flow (cfs)	Flood-Wave Arrival Time	Peak Elevation Time	Deflood Time	Maximum Depth (ft)	Maximum Elevation (ft)	Maximum Velocity (ft/s)
0.5	477,600	0 HR 20 MIN	1 HR 0 MIN	12 HR 20 MIN	81.37	749.9	17.4
1.0	477,500	0 HR 20 MIN	1 HR 0 MIN	12 HR 30 MIN	97.11	744.3	12.0
1.5	477,000	0 HR 20 MIN	1 HR 0 MIN	12 HR 30 MIN	93.91	726.3	12.5
2.0	475,800	0 HR 30 MIN	1 HR 0 MIN	12 HR 30 MIN	60.56	688.4	13.5
2.3	474,800	0 HR 30 MIN	1 HR 0 MIN	12 HR 20 MIN	56.57	687.2	15.0

FAIR WEATHER (COYOTE)

XS STA (Miles D/S of Dam)	Maximum Flow (cfs)	Flood-Wave Arrival Time	Peak Elevation Time	Deflood Time	Maximum Depth (ft)	Maximum Elevation (ft)	Maximum Velocity (ft/s)
0.5	197,600	0 HR 20 MIN	1 HR 20 MIN	3 HR 50 MIN	51.44	719.9	13.4
1.0	196,800	0 HR 20 MIN	1 HR 20 MIN	4 HR 20 MIN	63.45	710.6	11.8
1.5	195,600	0 HR 20 MIN	1 HR 20 MIN	4 HR 20 MIN	59.41	691.8	10.6
2.0	194,900	0 HR 30 MIN	1 HR 20 MIN	5 HR 30 MIN	40.15	668.0	10.4
2.3	194,200	0 HR 30 MIN	1 HR 20 MIN	5 HR 30 MIN	34.95	665.6	12.1

SHEET 2

SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265 - 2600

LEROY ANDERSON DAM
FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009
SANTA CLARA COUNTY

Santa Clara Valley Water District

REVIEWED BY:

ACCEPTED BY:

DATE APR2016
DESIGN JX
DRAWN JX
CHECKED

AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing

INFLOW DESIGN FLOOD (SOUTH)

XS STA (Miles D/S of Dam)	Maximum Flow (cfs)	Flood-Wave Arrival Time	Peak Elevation Time	Deflood Time	Maximum Depth (ft)	Maximum Elevation (ft)	Maximum Velocity (ft/s)
1	469,600	0 HR 30 MIN	0 HR 55 MIN	11 HR 0 MIN	21.71	367.65	7.6
2	328,500	0 HR 35 MIN	1 HR 0 MIN	8 HR 45 MIN	19.23	366.14	4.2
3	252,900	0 HR 50 MIN	1 HR 15 MIN	12 HR 55 MIN	18.77	348.45	4.4
4	209,500	0 HR 55 MIN	1 HR 15 MIN	7 HR 55 MIN	11.07	324.76	3.6
5	181,200	1 HR 20 MIN	1 HR 50 MIN	9 HR 30 MIN	10.58	309.42	4.9
6	173,500	1 HR 40 MIN	2 HR 5 MIN	9 HR 55 MIN	12.61	290.02	4.1
7	159,800	1 HR 50 MIN	2 HR 15 MIN	16 HR 30 MIN	16.10	271.48	4.3
8	149,500	2 HR 10 MIN	2 HR 30 MIN	10 HR 20 MIN	14.58	252.52	4.1
9	135,800	2 HR 25 MIN	2 HR 50 MIN	7 HR 10 MIN	12.22	233.10	3.3
10	119,200	2 HR 45 MIN	3 HR 35 MIN	20 HR 30 MIN	14.61	214.23	2.9
11	87,500	3 HR 40 MIN	4 HR 35 MIN	10 HR 20 MIN	10.02	207.00	2.5
12	73,100	3 HR 40 MIN	5 HR 0 MIN	18 HR 20 MIN	19.66	192.44	2.1
13	66,100	3 HR 40 MIN	5 HR 15 MIN	19 HR 10 MIN	18.95	183.11	2.0
14	64,000	4 HR 0 MIN	5 HR 30 MIN	14 HR 40 MIN	14.84	165.73	2.7
15	60,200	4 HR 10 MIN	6 HR 15 MIN	34 HR 25 MIN	13.11	152.47	1.5
16	46,300	5 HR 0 MIN	7 HR 0 MIN	28 HR 15 MIN	7.09	149.84	1.4
17	30,800	5 HR 30 MIN	8 HR 20 MIN	14 HR 5 MIN	3.04	148.32	0.8
18	24,000	5 HR 50 MIN	8 HR 50 MIN	45 HR 5 MIN	18.26	146.46	1.2
19	23,300	6 HR 25 MIN	9 HR 40 MIN	4 HR 20 MIN	19.64	141.43	1.4
20	11,500	7 HR 5 MIN	15 HR 20 MIN	9 HR 25 MIN	21.29	140.74	0.6
21	11,400	7 HR 40 MIN	15 HR 45 MIN	9 HR 15 MIN	23.63	138.45	4.9
22	11,400	8 HR 5 MIN	16 HR 10 MIN	9 HR 15 MIN	24.89	134.84	3.6
23	11,300	8 HR 55 MIN	16 HR 35 MIN	8 HR 45 MIN	16.72	131.67	6.2
24	11,300	9 HR 25 MIN	16 HR 50 MIN	8 HR 30 MIN	18.50	120.41	6.4
25	11,300	10 HR 0 MIN	17 HR 20 MIN	19 HR 25 MIN	6.06	116.03	5.0
26	11,300	10 HR 20 MIN	17 HR 45 MIN	20 HR 5 MIN	24.00	106.98	2.1
27	11,200	11 HR 5 MIN	18 HR 0 MIN	39 HR 50 MIN	18.98	99.80	4.3
28	11,200	11 HR 25 MIN	18 HR 5 MIN	7 HR 50 MIN	19.27	89.21	3.2
29	11,200	12 HR 10 MIN	18 HR 35 MIN	7 HR 40 MIN	21.50	81.04	2.9
30	11,200	12 HR 35 MIN	19 HR 5 MIN	7 HR 35 MIN	20.43	73.71	5.5
31	11,200	13 HR 5 MIN	19 HR 10 MIN	7 HR 15 MIN	16.48	65.29	3.7
32	11,200	13 HR 30 MIN	19 HR 35 MIN	7 HR 15 MIN	16.63	56.55	2.1
33	11,200	14 HR 30 MIN	19 HR 55 MIN	5 HR 30 MIN	2.86	50.06	1.1
34	11,100	15 HR 35 MIN	21 HR 30 MIN	8 HR 0 MIN	17.32	45.30	0.8
35	11,100	16 HR 15 MIN	21 HR 40 MIN	6 HR 30 MIN	18.38	40.56	1.2
36	11,000	16 HR 30 MIN	22 HR 55 MIN	7 HR 30 MIN	18.21	31.77	0.8
37	10,600	17 HR 5 MIN	24 HR 25 MIN	8 HR 25 MIN	19.04	26.49	0.9
38	8,700	17 HR 40 MIN	29 HR 20 MIN	12 HR 45 MIN	17.71	22.02	0.9
39	7,300	18 HR 25 MIN	30 HR 10 MIN	12 HR 50 MIN	11.24	15.23	0.6
40	6,800	19 HR 5 MIN	31 HR 45 MIN	13 HR 45 MIN	8.25	12.31	0.7
41	6,400	24 HR 50 MIN	37 HR 5 MIN	13 HR 20 MIN	6.74	8.77	0.6

FAIR WEATHER (SOUTH)

XS STA (Miles D/S of Dam)	Maximum Flow (cfs)	Flood-Wave Arrival Time	Peak Elevation Time	Deflood Time	Maximum Depth (ft)	Maximum Elevation (ft)	Maximum Velocity (ft/s)
1	199,300	0 HR 50 MIN	1 HR 20 MIN	10 HR 55 MIN	17.70	363.64	5.6
2	134,100	0 HR 55 MIN	1 HR 30 MIN	8 HR 35 MIN	14.97	361.88	2.9
3	101,900	1 HR 20 MIN	1 HR 45 MIN	12 HR 55 MIN	14.94	344.62	2.9
4	77,500	1 HR 25 MIN	2 HR 20 MIN	7 HR 5 MIN	7.79	321.48	2.6
5	67,400	1 HR 55 MIN	2 HR 40 MIN	9 HR 50 MIN	7.67	306.51	3.4
6	62,000	2 HR 30 MIN	3 HR 0 MIN	9 HR 0 MIN	9.21	286.62	3.2
7	58,500	2 HR 40 MIN	3 HR 15 MIN	15 HR 25 MIN	13.05	268.43	3.1
8	52,300	3 HR 10 MIN	3 HR 40 MIN	9 HR 20 MIN	12.10	250.04	2.6
9	45,100	3 HR 30 MIN	4 HR 0 MIN	6 HR 5 MIN	10.57	231.45	2.3
10	36,300	3 HR 55 MIN	4 HR 45 MIN	18 HR 10 MIN	12.42	212.04	2.0
11	30,200	5 HR 50 MIN	7 HR 5 MIN	7 HR 40 MIN	6.69	203.67	1.7
12	27,600	5 HR 15 MIN	7 HR 45 MIN	17 HR 0 MIN	15.38	188.16	2.2
13	23,900	4 HR 50 MIN	6 HR 35 MIN	18 HR 0 MIN	14.96	179.12	2.0
14	22,000	5 HR 20 MIN	6 HR 50 MIN	13 HR 10 MIN	12.74	163.63	1.6
15	19,600	5 HR 40 MIN	8 HR 0 MIN	30 HR 5 MIN	10.25	149.61	1.0
16	13,200	6 HR 40 MIN	9 HR 40 MIN	23 HR 35 MIN	4.99	147.74	0.8
17	10,500	7 HR 0 MIN	9 HR 55 MIN	4 HR 55 MIN	1.50	146.78	1.0
18	9,300	7 HR 30 MIN	12 HR 0 MIN	35 HR 25 MIN	16.34	144.54	0.9
19	8,800	8 HR 15 MIN	13 HR 10 MIN	36 HR 10 MIN	17.38	139.17	0.9
20	5,600	9 HR 5 MIN	17 HR 35 MIN	9 HR 40 MIN	16.24	135.69	0.6
21	5,500	9 HR 50 MIN	17 HR 50 MIN	9 HR 10 MIN	18.48	133.30	4.0
22	5,500	10 HR 20 MIN	18 HR 25 MIN	9 HR 10 MIN	20.26	130.21	2.6
23	5,500	11 HR 20 MIN	18 HR 40 MIN	8 HR 25 MIN	12.85	127.80	5.8
24	5,500	11 HR 55 MIN	19 HR 0 MIN	8 HR 10 MIN	15.20	117.11	2.6
25	5,500	12 HR 30 MIN	19 HR 10 MIN	3 HR 5 MIN	1.44	111.41	5.5
26	5,400	13 HR 0 MIN	19 HR 35 MIN	7 HR 45 MIN	19.22	102.20	1.5
27	5,400	13 HR 55 MIN	20 HR 15 MIN	37 HR 5 MIN	13.90	94.72	3.7
28	5,400	14 HR 15 MIN	20 HR 15 MIN	7 HR 10 MIN	16.18	86.12	3.5
29	5,400	15 HR 15 MIN	20 HR 55 MIN	6 HR 50 MIN	17.75	77.29	3.0
30	5,400	15 HR 45 MIN	21 HR 30 MIN	41 HR 15 MIN	16.06	69.34	5.6
31	5,400	Contained within Pajaro River Levees					

SHEET 3

SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265 - 2600

LEROY ANDERSON DAM
FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009
SANTA CLARA COUNTY

Santa Clara Valley Water District

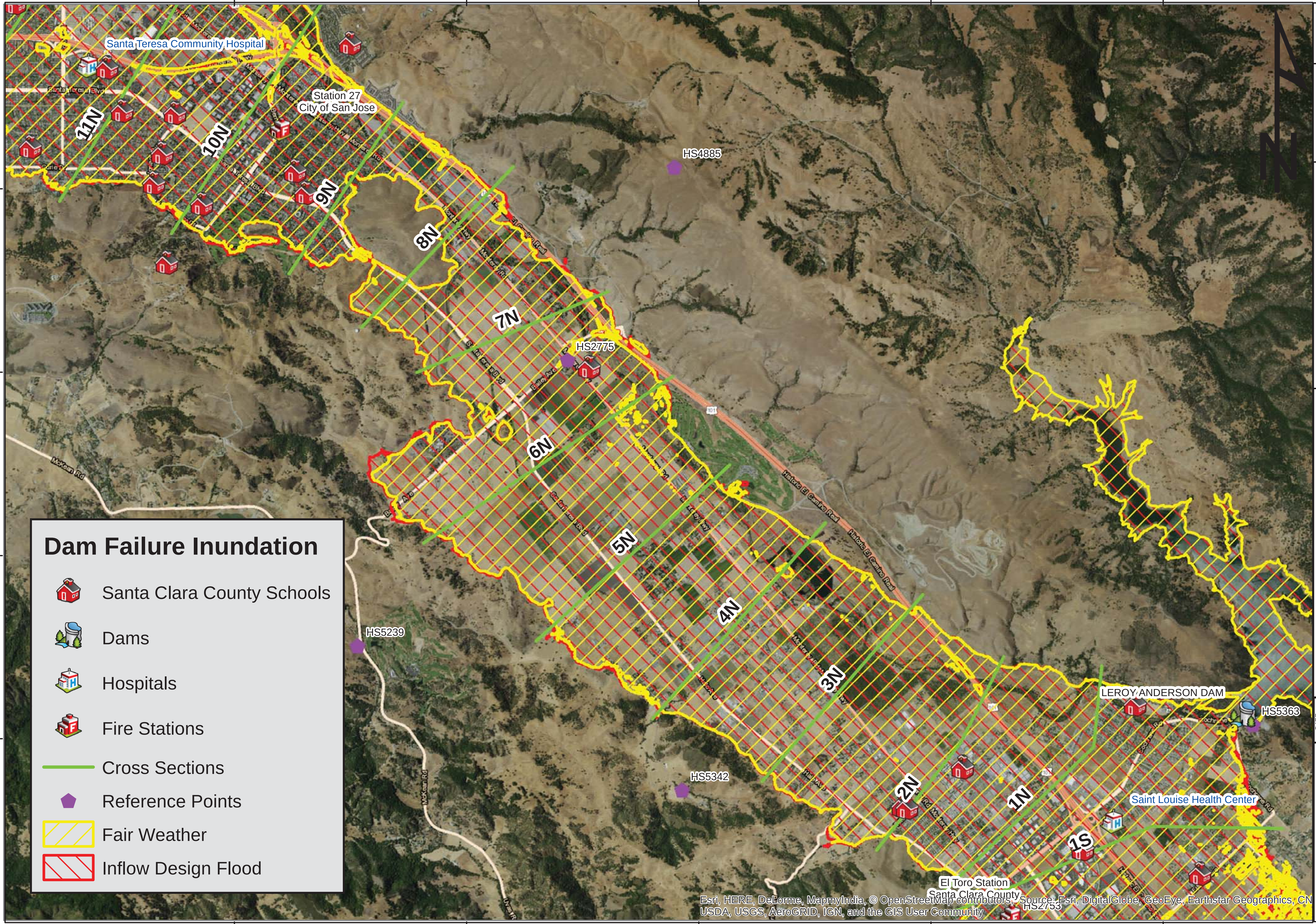
REVIEWED BY:

ACCEPTED BY:

DATE	DESIGN	DRAWN	CHECKED
APR2016	JX	JX	

AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing



SCALE 1" = 4000'
SHEET 4

SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265 - 2600

LEROY ANDERSON DAM FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009 SANTA CLARA COUNTY

Santa Clara Valley Water District

REVIEWED BY:

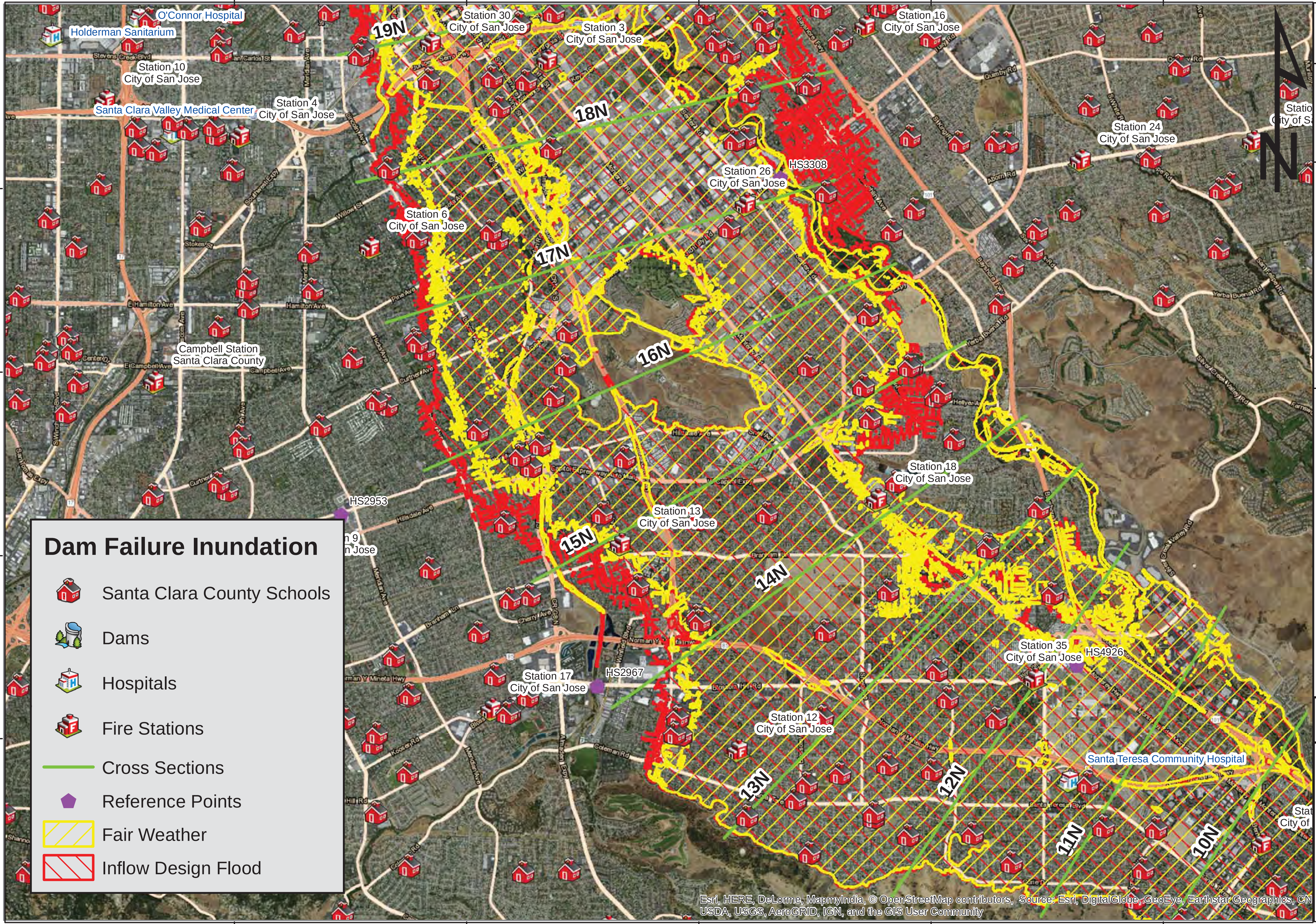
FINAL DRAFT

ACCEPTED BY:

DATE APR2016
DESIGN JX
DRAWN JX
CHECKED

AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing



SCALE 1" = 4000'

SHEET 5

SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265-2600

LEROY ANDERSON DAM FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009 SANTA CLARA COUNTY

FINAL DRAFT

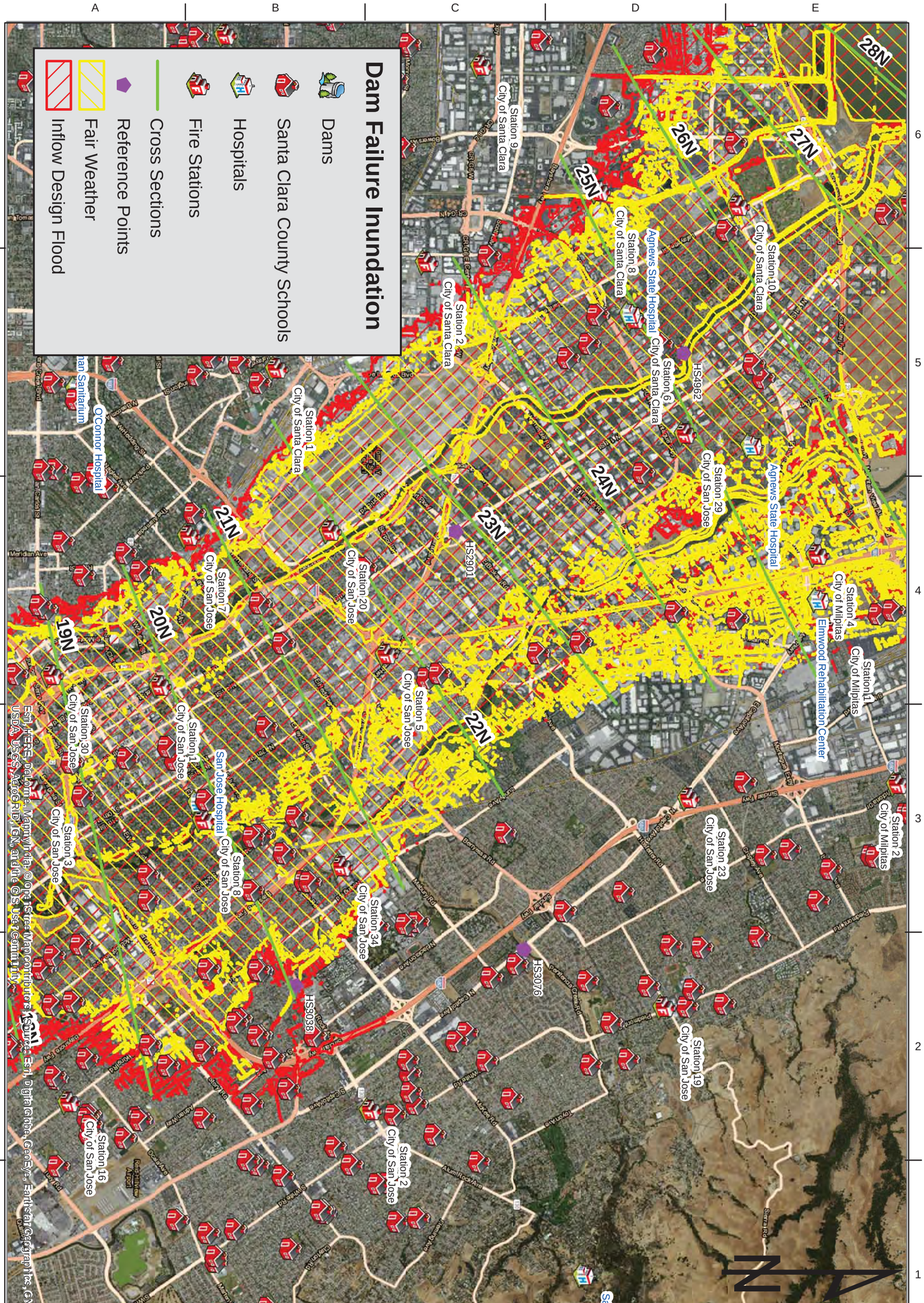
REVIEWED BY:

ACCEPTED BY:

DATE APR2016
DESIGN JX
DRAWN JX
CHECKED

AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing



AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing

DATE	APR2016
DESIGN	JX
DRAWN	JX
CHECKED	

FINAL DRAFT Santa Clara Valley Water District

ACCEPTED BY: _____ REVIEWED BY: _____

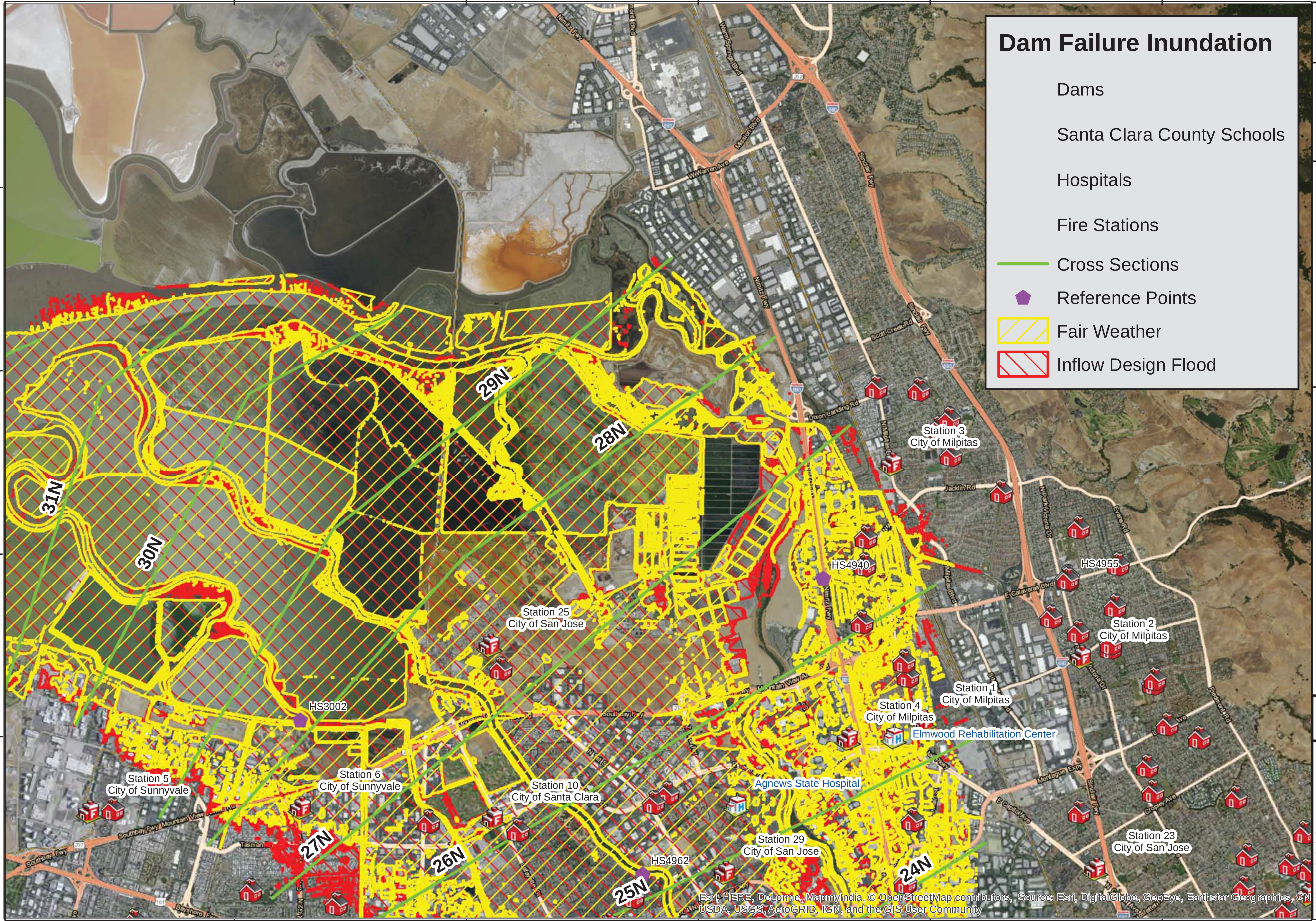
LEROY ANDERSON DAM FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009
SANTA CLARA COUNTY

SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265 - 2600

SCALE 1" = 4000'

SHEET 6



SCALE
1" = 4000'

SHEET
7

SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265 - 2600

LEROY ANDERSON DAM FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009
SANTA CLARA COUNTY

REVIEWED BY:

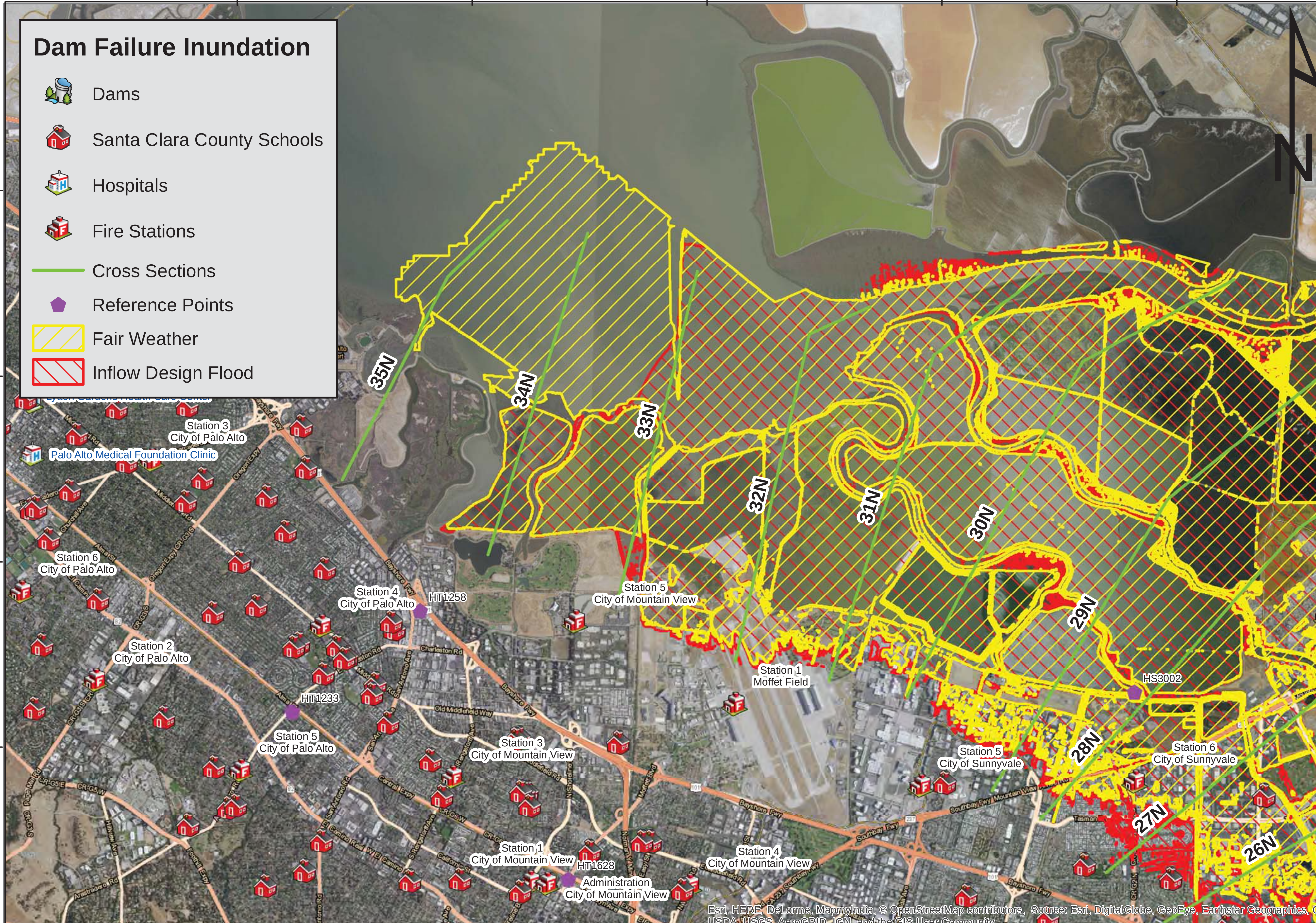
FINAL DRAFT

ACCEPTED BY:

DATE APR2016
DESIGN JX
DRAWN JX
CHECKED

AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing



SCALE 1" = 4000'

SHEET 8

SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265 - 2600

LEROY ANDERSON DAM FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009 SANTA CLARA COUNTY

REVIEWED BY:

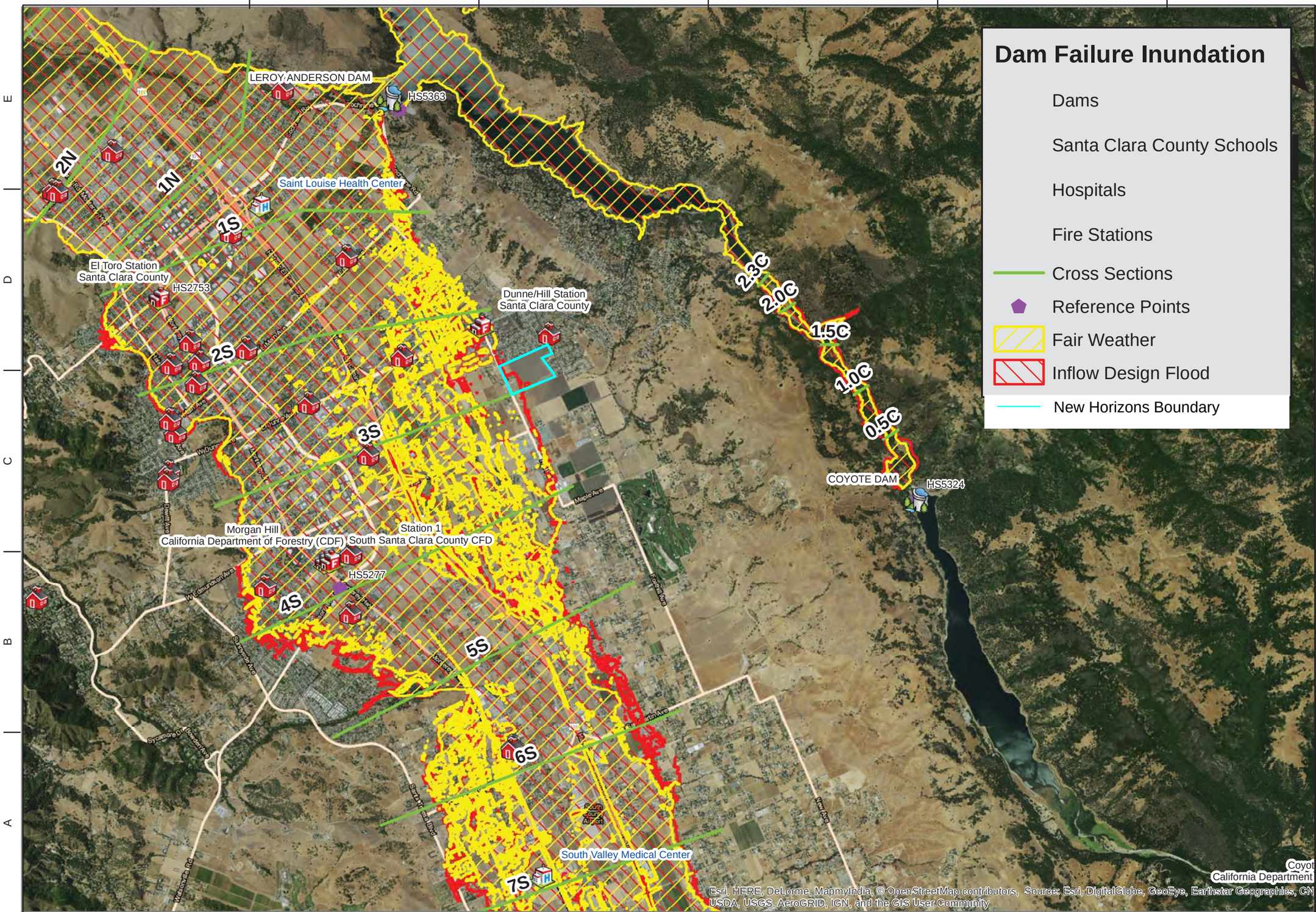
ACCEPTED BY:

FINAL DRAFT

DATE APR2016
DESIGN JX
DRAWN JX
CHECKED

AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing



SCALE 1" = 4000'

SHEET 9

SANTA CLARA VALLEY WATER DISTRICT

5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265 - 2600

LEROY ANDERSON DAM
FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009
SANTA CLARA COUNTY

REVIEWED BY:

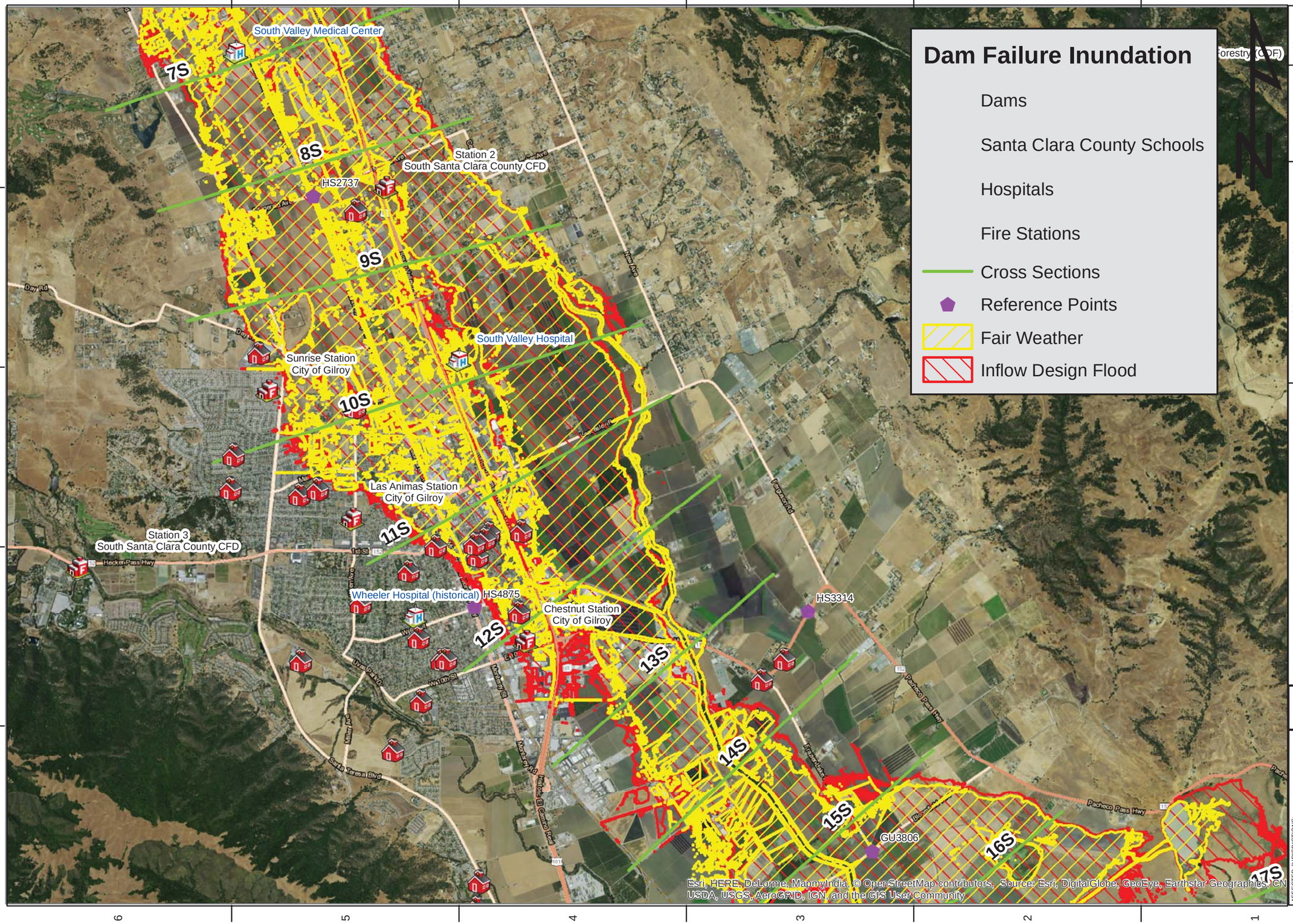
FINAL DRAFT

ACCEPTED BY:

DATE	DESIGN	DRAWN	CHECKED
APR 2016	JX	JX	

AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing



SCALE 1" = 4000'

SHEET 10

SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265 - 2600

LEROY ANDERSON DAM FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009 SANTA CLARA COUNTY

FINAL DRAFT

REVIEWED BY:

ACCEPTED BY:

DATE APPROVED

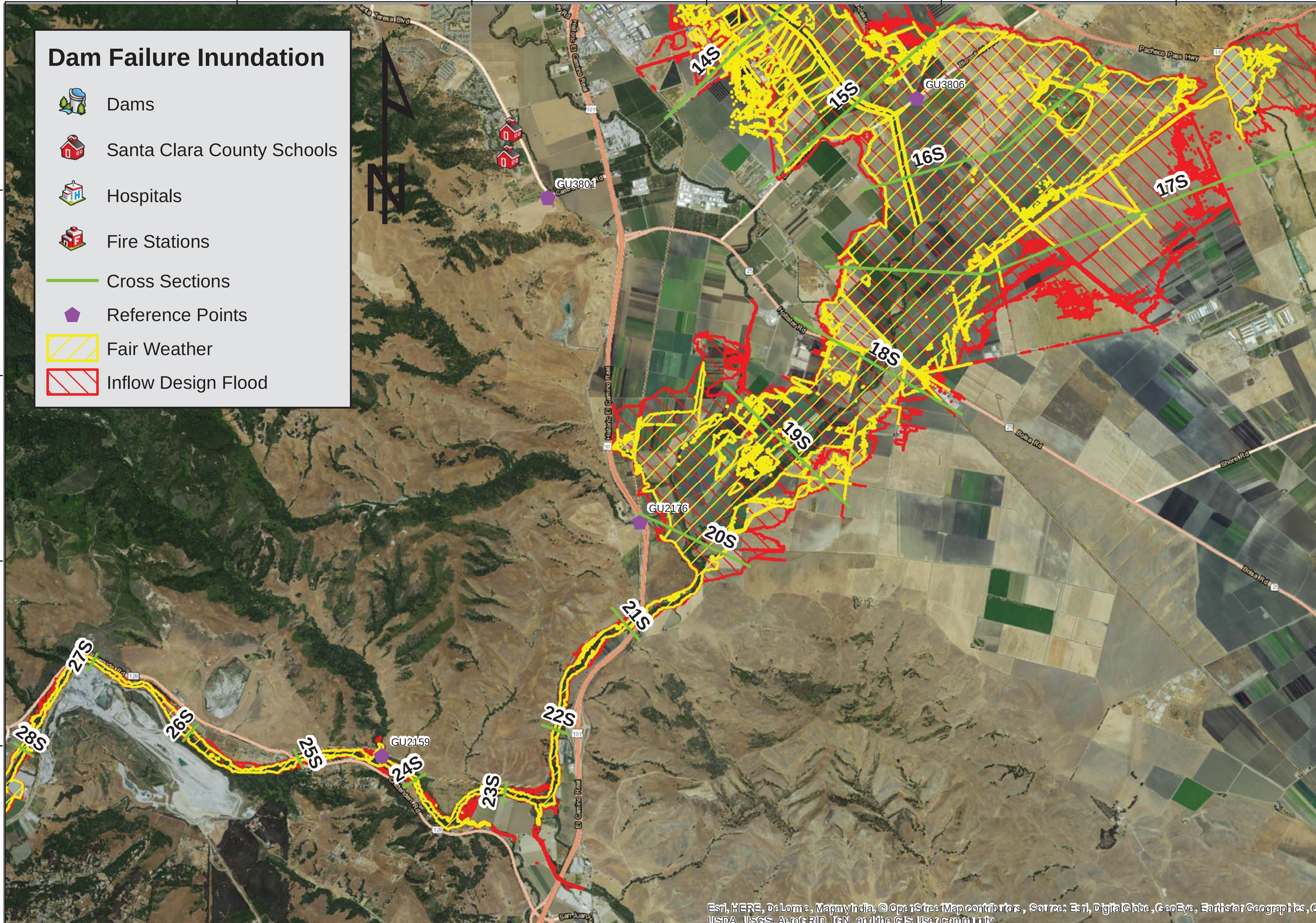
DESIGN JX

DRAWN JX

CHECKED

AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing



SCALE 1" = 4000'

SHEET 11

SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265 - 2600

LEROY ANDERSON DAM FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009 SANTA CLARA COUNTY

Santa Clara Valley Water District

FINAL DRAFT

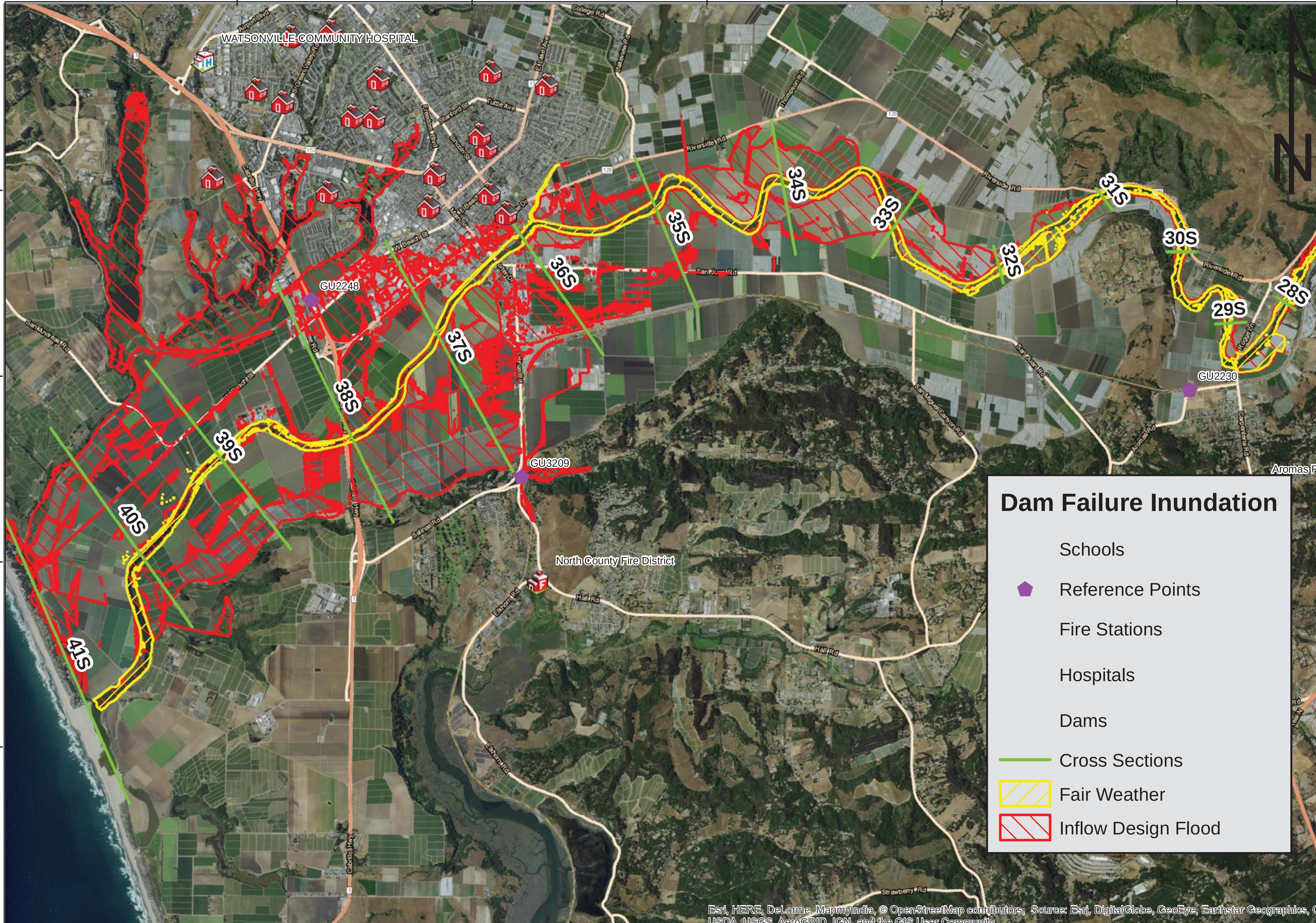
REVIEWED BY:

ACCEPTED BY:

DATE APR2016	DESIGN JX
DRAWN JX	CHECKED

AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing



SCALE 1" = 4000'

SHEET 12

SANTA CLARA VALLEY WATER DISTRICT
5750 ALMADEN EXPWY
SAN JOSE, CA
95118-3614
(408) 265 - 2600

LEROY ANDERSON DAM FLOOD INUNDATION MAPS

CA DWR DAM ID# 72-009 SANTA CLARA COUNTY

FINAL DRAFT

REVIEWED BY:

ACCEPTED BY:

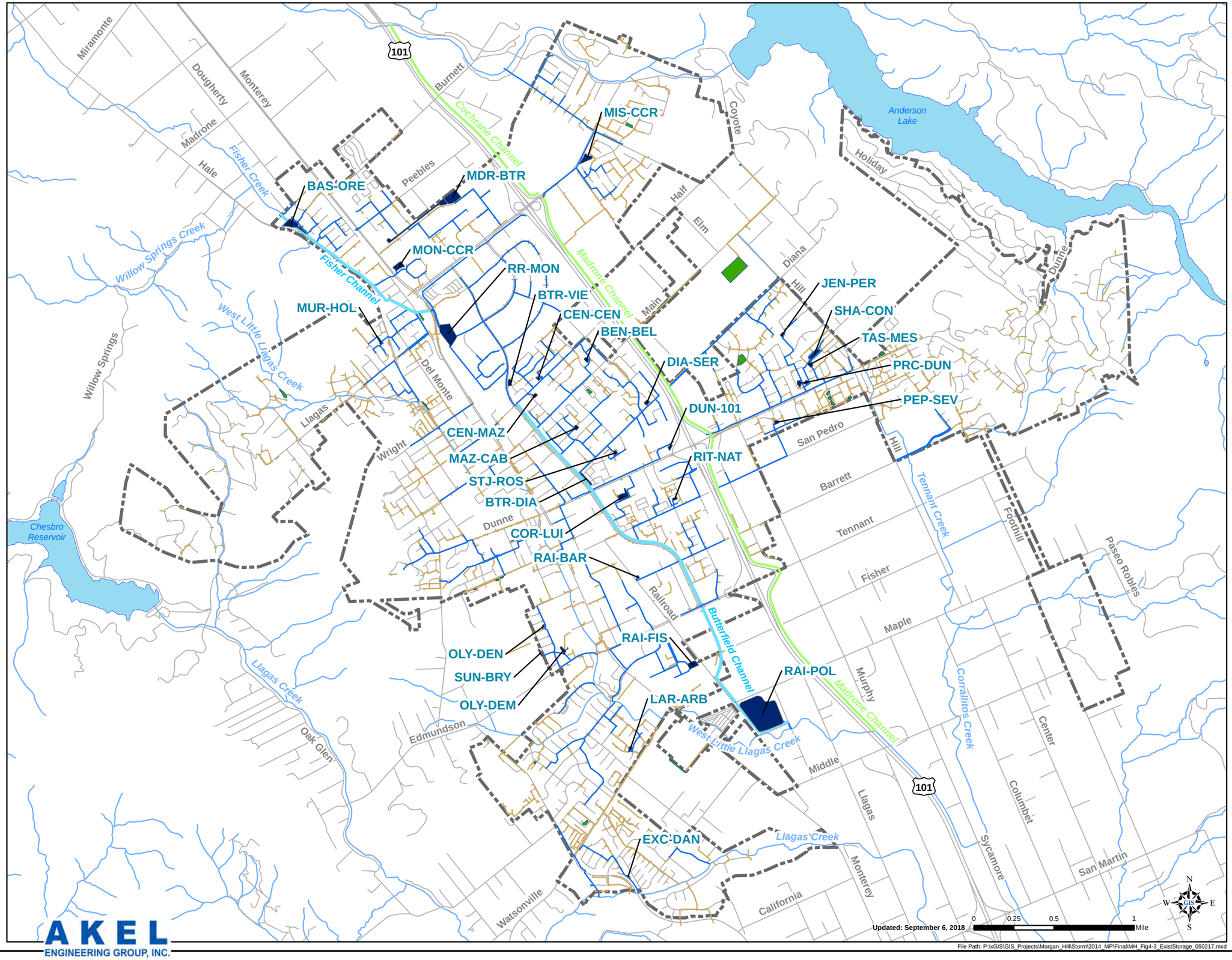
DATE APR2016
DESIGN JX
DRAWN JX
CHECKED

AFFECTED JURISDICTIONS:
Santa Clara County, San Benito County, Santa Cruz County, Monterey County, City of San Jose, City of Santa Clara, City of Milpitas, City of Sunnyvale, City of Mountain View, City of Gilroy, City of Morgan Hill, City of Watsonville

USGS QUADRANGLES:
Mountain View, Milpitas, San Jose West, San Jose East, Santa Teresa Hills, Morgan Hill, Gilroy, Mount Sizer, Mount Madonna, Chittenden, San Felipe, Watsonville East, Watsonville West, Moss Landing

Attachment 3:

City Morgan Hill Drainage System Master Plan



Legend

Existing Modeled System

- Channels
- Storage

Non-Modeled System

- Pipes
- Channels
- Storage
- Roads
- City Limits
- Creeks
- Lakes

Figure 4.3
Modeled Storage Basins
Storm Drainage System Master Plan
City of Morgan Hill

AKEL ENGINEERING GROUP, INC.

CITY OF MORGAN HILL