



REVIEW OF AGENCY PLANNING APPLICATION

THIS IS NOT A PROPOSAL TO PROVIDE WATER SERVICES			
The technical data supplied herein is based on preliminary information, is subject to revision and is to be used for planning purpose ONLY			
DATE: 09/28/2022	EBMUD MAP(S): 1551B502,1548B502	EBMUD FILE:S-11311	
AGENCY: Department of Conservation and Development Attn: Syd Sotoodeh 30 Muir Road MARTINEZ, CA 94553	AGENCY FILE: CDTP22-00045	FILE TYPE: Other	
APPLICANT: Sagiv Weiss-Ishai 201 Castle Hill Ranch Road Walnut Creek, CA 94595			OWNER: Same as applicant
DEVELOPMENT DATA			
ADDRESS/LOCATION: 201 Castle Hill Ranch Road City:WALNUT CREEK Zip Code: 94595-2708			
ZONING:R-20 PREVIOUS LAND USE: Residential			
DESCRIPTION: Allow the removal of five code protected trees and work within the driplines of seven trees for the purpose of constructing an addition to the existing single-family residence and a detached ADU			TOTAL ACREAGE:0.69 ac.
TYPE OF DEVELOPMENT: <div style="text-align: center;">Single Family Residential:2 Units</div>			
WATER SERVICES DATA			
PROPERTY: in EBMUD	ELEVATION RANGES OF STREETS: 220-220	ELEVATION RANGE OF PROPERTY TO BE DEVELOPED: 216-222	
All of development may be served from existing main(s) Location of Main(s):Castle Hill Ranch Road		None from main extension(s) Location of Existing Main(s):Castle Hill Ranch Road	
PRESSURE ZONE	SERVICE ELEVATION RANGE	PRESSURE ZONE	SERVICE ELEVATION RANGE
F3A	250-450	F3A	250-450
COMMENTS			
See attachment			
cc: Matt Elawady			
CHARGES & OTHER REQUIREMENTS FOR SERVICE: Contact the EBMUD New Business Office at (510)287-1008.			
<div style="border-top: 1px solid black; width: 30%; margin: 0 auto;"></div> Chien Wang,Associate Civil Engineer; DATE WATER SERVICE PLANNING SECTION			

**Attachment
Review of Agency Planning Application**

City File: CDTP22-00045

EBMUD File: S-11311

The addition of an accessory dwelling unit with expanded water use may require an upgrade to the existing water service and payment of associated fees.

When the development plans are finalized, the project sponsor should contact EBMUD's New Business Office and request a water service estimate to determine the costs and conditions of providing water service to the development. Engineering and installation of water mains and meters requires substantial lead time, which should be provided for in the project sponsor's development schedule. No water meters are allowed to be located in driveways. The project sponsor should be aware that Section 31 of EBMUD's Water Service Regulations requires that water service shall not be furnished for new or expanded service unless all the applicable water-efficiency measures described in the regulation are installed at the project sponsor's expense. Due to EBMUD's limited water supply, all customers should plan for shortages in time of drought.

EBMUD owns and operates 6-inch and 8-inch water distribution pipelines in EBMUD rights of way (R/W 4124 and 1548) located within and adjacent to the southwestern and eastern, boundaries, respectively, of this property. This pipeline provides water service to the existing residential property. The integrity of this pipeline needs to be maintained at all times. Any proposed construction activity within the right of way would need to be coordinated with EBMUD and may require relocation of the pipeline and/or right of way, at the project sponsor's expense. No buildings or structures shall be constructed in EBMUD's right of way unless specific approval is given by EBMUD.

NL

CC: M. Elawady

Potable Distribution System

- Potable Pipeline
- Service Lateral
- ⊙ System Valve (OL = Opens Left)
- ⊙ Check Valve
- ⊙ Zone Valve
- Change of Pipe ID
- ⊙ Rate Control Station
- ⊙ Regulator
- ⊙ Pressure Reducing Station
- ⊙ Flow Meter
- Manhole
- Service Connection
- Hydrant
- Facility
- ▶ Pumping Plant

Supply System

- Supply Pipeline
- Service Connection

Recycled Distribution System

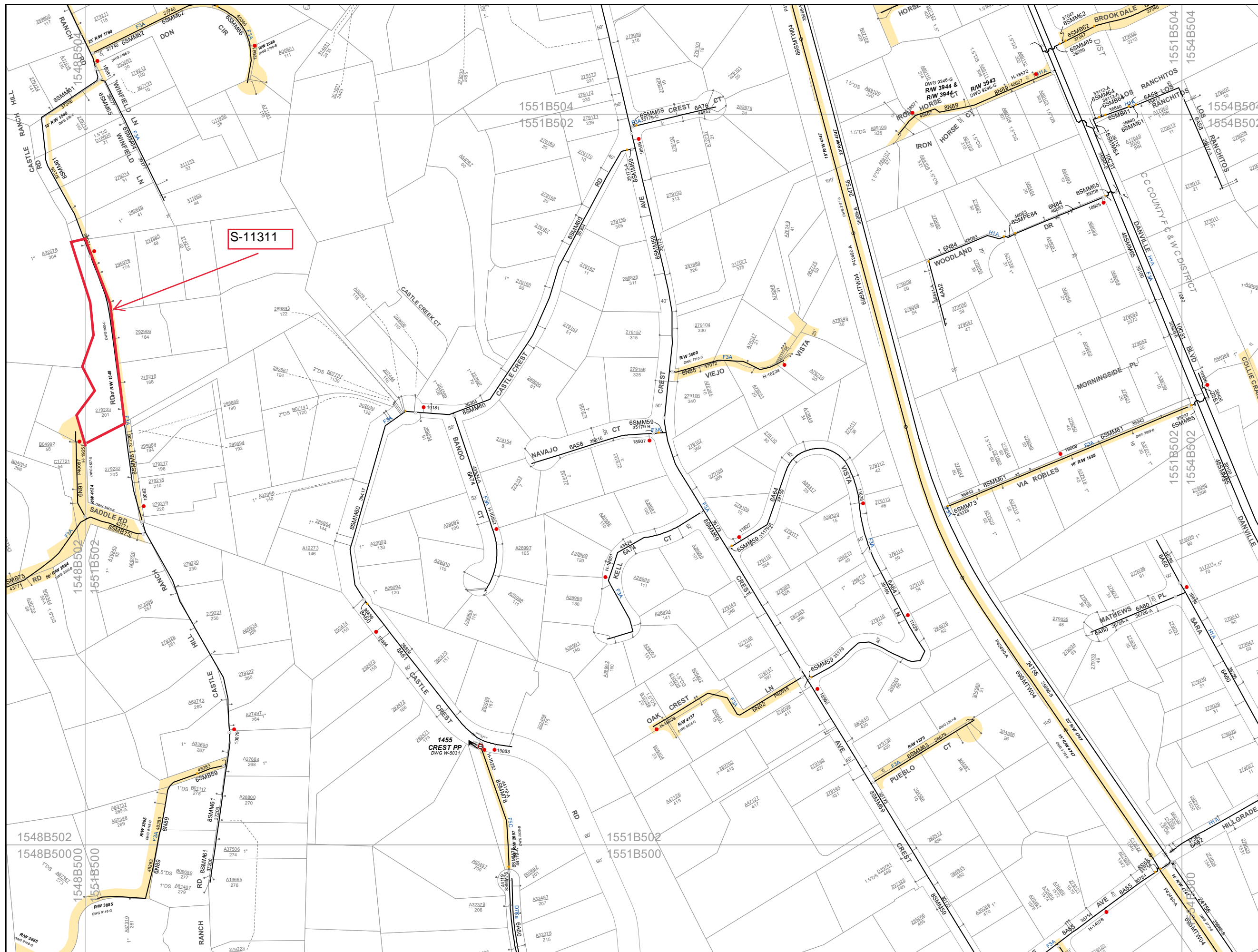
- Recycled Pipeline
- Service Lateral
- Service Connection
- Hydrant

Wastewater System

- Wastewater Interceptor

Landbase

- EBMUD Right of Way
- Shared Right of Way
- Right of Way Crossing
- EBMUD Property



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1551B502



October 24, 2022

Syd Sotoodeh, Planner II
Contra Costa County
Department of Conservation & Development
Community Development Division
30 Muir Road
Martinez, CA 94553

Subject: **Geologic Peer Review / 30-Day Comments**
CDTP22-00045 / S. Weiss-Ishai (owner & appli.)
APN 188-150-010 / 201 Castle Hill Ranch Road
Walnut Creek Area, Contra Costa County
DMA Project 3053.22

Dear Syd,

Based on your authorization we have reviewed documents submitted with the captioned application, which include the following:

- (i) Correspondence from Applicant explaining the project, which includes an addition to the main house and the construction of an accessory dwelling unit (ADU).
- (ii) Topographic Survey Map of the project site (5 ft. contour interval) showing the location of the a) existing house b) detached garage, b) footprint of proposed ADU, and c) Castle Hill Ranch Road, and d) channel of Tice Creek tributary, including various channel-related improvements.
- (iii) Geotechnical Report that includes subsurface exploration, laboratory testing, evaluation of potential hazards, along with providing specific criteria and standards for the geotechnical aspects of the planned improvements.

Purpose and Approach

The purpose of the peer review letter presented herein is to provide the opinion of an engineering geologist on the adequacy of the documents reviewed for the full processing of the application. Our approach to this review has included (i) analysis of vertical angle aerial photographs using a mirror stereoscope equipped with 3x and 8x binoculars, (ii) review of pertinent geologic maps and reports, and (iii) review of Safety Element hazard maps and policies. With this background we reviewed the geotechnical report of the project.

Figure 1, Vicinity Map, shows the location of the site on a base map that shows the local road network, blue-line creeks and water bodies, parklands (shaded dark green) and private open space (shaded pale green). It also shows segments of the Alquist-Priolo Earthquake Fault Zones delineated by the California Geological Survey (CGS). The A-P zone (shaded orange) encompasses recently active and potentially active traces of the active of the Concord and Calaveras fault. These known active faults pass approximately 4 miles northeast and 6 miles southeast of the site, respectively. Each is considered capable of generating an earthquake of magnitude 6.5 to 7.0.

Background

1. Active Faults

The project site is located in the southwest portion of the Walnut Creek area on the floor of a narrow update valley, with a tributary of Tice Creek passing along the property boundary. As noted previously, Figure 1 shows the A-P Zone that encompasses recently active and potentially active traces of the Concord and Calaveras fault. Other active faults in the East Bay area include Greenville and Hayward faults, which pass more than 6 miles to the east and southwest of the site, respectively. According to the State, recently active and potentially active traces of the active faults may be present anywhere in the A-P Zones. The location of surface rupture generally can be assumed to be along an active major fault trace. The site is not within the A-P Zone. Therefore, the probability of the project site experiencing surface rupture can be considered very low.

It should be recognized that the CGS does not delineate an A-P zone unless it believes that there is clear evidence that surface fault rupture has occurred during Holocene time (i.e., during the last 11,000 years±). In the case of the Calaveras fault, review of technical data by CGS geologists determined that the northern portion of the Calaveras fault, which passes through the San Ramon, Danville, Alamo areas, has no proven Holocene offset. Consequently, although geologic maps have confirmed that the Calaveras fault generally coincides with the toe of Las Trampas Ridge and extends north into the hillside areas of Walnut Creek, this northern fault trace(s) are not considered active because of the absence of proven Holocene displacement at the ground surface. Two pertinent fault investigations of the northern Calaveras fault are the following:

- (i) In 2002 Lettis & Associates performed an investigation that was funded by the U.S. Geological Survey of a parcel located in the Alamo area. The purpose of the investigation was to provide information on the displacement history of the northern segment of the Calaveras fault during Holocene time.¹ Although the exploratory trench was positioned over the inferred trace of the Calaveras fault and excavated to a depth of 16 ft., no evidence of fault displacement was uncovered. Radiocarbon age dating was performed on two sample collected from the walls of the trench. The testing yielded date of 3,600-4,000 before present (bp) for one sample; and 5,600-6,000 years bp for a second sample. Thus, the soils and alluvial deposits penetrated in the trench walls only established the absence of evidence of fault rupture during the last 6,000 yrs.±
- (ii) In 1998, a fault hazard investigation was performed in the south Walnut Creek area by Geomatrix for a proposed expansion of the EBMUD water treatment plant.² The scope of the investigation included logging of an exploratory trench that was intended to provide information of the potential hazard posed by the ancestral Calaveras fault. That investigation found evidence of fault rupture during the Late Quaternary on the segment of their exploratory trench of the (minor offset, with a right-normal-oblique sense of displacement). Radiometric age dating was performed on organic material within alluvial deposits that were offset by fault rupture. The alluvium that was offset was dated at 31,410 radio-carbon years before present. In summary, the report confirms that faulting occurred after deposition of the alluvium (i.e., fault rupture offset alluvial deposits of Late Pleistocene age). The fault displacement reported by Geomatrix may have occurred in Late Pleistocene time (or possibly early Holocene). In summary, although the Ancestral trace of the

¹ Unruh, J.R. & K. I. Kelson, 2002, *Critical Evaluation of the Northern Terminus of the Calaveras Fault, Eastern San Francisco Bay Region, California*, William Lettis & Associates, in support by USGS 1434-HQ-97-GR-03146.

² Geomatrix, Inc. 1998. *Final report, Walnut Creek Water Treatment Plant Expansion, Seismic Study - Phase II*. Geomatrix Job #3970 (report dated October 30, 1998).

Calaveras fault is not proven to offset Holocene deposits in the Walnut Creek area. This fault trace exhibits evidence of Quaternary fault displacement and it represents a potential seismic source.

2. Bedrock Geology

In 1994 the USGS issued a digitized, color bedrock geology map of Contra Costa County.³ Figure 2 shows the site and surrounding area at a scale of 1 in.=1,000 ft., with the boundaries of the site represented by a solid red line. According to this map the project site is underlain by surficial deposits (Qu). Outcropping at/ near the west boundary of the site are marine sedimentary rocks of Miocene age. No faults bisect the site, but inactive bedrock faults are shown on the USGS map (each fault is represented by a solid green line in Figure 2). The fault trace mapped nearest the site trends generally to the north-northwest and passes approximately 600 ft. east of the site. Its location corresponds to the inferred location of the ancestral trace of the Calaveras fault in the Walnut Creek area.

During preparation of the 1994 USGS map, its authors were able to access unpublished data of petroleum exploration firms, including Chevron. This deep subsurface data allowed the tracing of a throughgoing fault from the vicinity of the I-680 / State Route 24 interchange to the north. However, the petroleum data is not useful in evaluating the Quaternary displacement history of this buried fault.

3. Quaternary Deposits

The most recent map of Quaternary deposits is mapping of the USGS.⁴ According to this map, the site is within an area of alluvial fan and fluvial deposits of Pleistocene age (see Figure 3). Other surficial deposits mapped in this area include both alluvial fan and fluvial deposits of Holocene age (Qhaf); historic stream channel deposits of Tice and San Ramon creeks (Qhsc); and artificial stream channel (Qhasc). The Pleistocene Epoch began 2.6 million years before present and ended approximately 11,000 years before present. Table 1 presents a description of these surficial deposits.

Table 1
Quaternary Deposits Mapped in Site Vicinity

Qhsc **Stream Channel (Historic)**. Locally the channel has been modified, usually where it was straightened and realigned.

Qhaf **Alluvial Fan and Fluvial Deposits (Holocene)**. Alluvial fan deposits are brown or tan, medium dense to dense, gravely sand or sandy gravel that generally grades upward, to sandy or silty clay. Near the digital fan edges, the fluvial deposits are typically brown, never reddish, medium dense sand that fines upward to sandy or silty clay. The best developed Holocene alluvial fans in Contra Costa County are on the Richmond Bay Plain and the fans of Sand and Deer Creeks in the Brentwood Area. All other alluvial fans and fluvial deposits are confined to narrow valley floors.

Qpaf **Alluvial Fan and Fluvial Deposits (Pleistocene)**. Brown, dense gravely and clayey sand or clayey gravel that fines upward to sandy clay. They are distinguished from younger alluvial fans and fluvial deposits by higher topographic position, greater degree of dissection, and stronger soil profile development. Maximum thickness is unknown but at least 50 meters.

br bedrock

Source: Helley & Graymer (1997)

³ Graymer, R., D.L. Jones & E.E. Brabb, 1994. *Preliminary Geologic Map Emphasizing Bedrock Formations in Contra Costa County, California*. U.S. Geological Survey Open File Report 94-622.

⁴ Helley E.J. and R.W. Graymer, 1997. *Quaternary Geology of Contra Costa County and Surrounding Parts of Alameda, Marin, Sonoma, Solano, Sacramento and San Joaquin Counties, California. A Digital Database*. U.S. Geological Survey, Open File Report 97-98.

4. Nilsen Landslide Mapping

In 1975 the U.S. Geological Survey issued photo-interpretive maps of Contra Costa County that show the distribution landslide and other surficial deposits.⁵ These maps were prepared by an experienced USGS geologist, who analyzed stereo pairs of 1960s and early 1970s aerial photographs to identify geomorphic features that were characteristic of landslide deposits. The maps were based solely on geologic interpretation of aerial photographs, without the benefit of a site visit or any subsurface data. Moreover, they do not show landslides that may have formed since 1975. It should also be recognized that the landslides shown are not classified on the basis of the activity status (i.e., active or dormant), depth of slide plane (shallow or deep seated), or type of landslide deposit. The slides identified in the USGS map were included in the Safety Element of the County General Plan (page 10-24). It should be recognized that the USGS map is not a substitute for a detailed site-specific geologic/ geotechnical investigation. Nevertheless, the map serves its intended purpose which was to “red flag” site that may present of risk of ground failure. Contra Costa County uses the maps on a project-by-project basis as a “screening criteria.” In areas where landslides are mapped of a site (or where a concentration of slides is indicated in the vicinity of a proposed land development project on a hillside with similar slope gradients), detailed site specific investigations are required to fully evaluate landslide hazards.

Figure 4 presents the USGS landslide map of the site and surrounding area. Landslides are outlined with a red line, and a black arrow indicates the general direction of down slope displacement. The base map for Figure 4 is a parcel map, showing the local road network, along with creeks (represented with a blue line). The boundary of the project site is outlined with a green line. No landslides were confirmed on the property by the USGS, but six (6) landslides are a mapped within the watershed of the tributary stream that defines the east boundary of the property. Based on topography and proximity of the creek channel, there is a risk of slope failure. can be considered less than significant.

5. Liquefaction Potential

Liquefaction is a phenomenon in which saturated, cohesionless soils are subject to a temporary loss of shear strength because of pore pressure build-up under the cyclic shear stresses associated with earthquakes. The consequences of liquefaction include the following: (i) slope failure involving the soils that overlie the layer that liquefies, including lateral spreading failures (ii) settlement due to the consolidation of the layer that is subject to liquefaction, and (iii) ground cracking/ sand boils. A hazard map in the Safety Element of the County General Plan (pg. 10-15) divides the County into three categories: “generally high”, “generally moderate to low”, and “generally low” liquefaction potential (see Figure 4). This map is used as a *Screening Criteria* by Contra Costa County during the processing of land development applications. The County requires rigorous evaluation of liquefaction potential in areas of *Generally High* potential; less comprehensive investigations are required for project sites that are rated *Moderate to Low Potential*; and there is no routine requirement for assessment of liquefaction potential for sites rated *Generally Low* potential. category.

It should be recognized that the classification *Generally High* liquefaction potential does not imply the presence of liquefiable sands on a parcel. The map attempts to be conservative of the side of safety. Where geologically young alluvial deposits are shown on soils maps of the County, the General Plan considers the site to be in the *Generally High* category. Site specific investigations are needed to determine if liquefiable sands are present and to provide stabilization measures where liquefiable sands are confirmed. Figure 4 indicates that the site is classified *Moderate to Low* liquefaction potential. Consequently, the map indicates the site has an unknown (but potentially significant) risk of liquefaction.

⁵ Nilsen, T.H., 1975. *Preliminary Photointerpretive Map of Landslide and Other Surficial Deposits of the Las Trampas Ridge, 7.5-Minute Quadrangle, Contra Costa and Alameda Counties*, U.S. Geological Survey, Open File Report 75-277-24.

6. Seismicity

The San Francisco Bay Region is considered one of the most seismically active regions of the United States. Consequently, it can be assumed that the proposed improvements will be subject to one or more major earthquakes during their useful life. Earthquake intensities vary depending on numerous factors, including (i) earthquake magnitude, (ii) distance of the site from the causative fault, (iii) geology of the site. The USGS has stated that there is a 72 percent chance of at least one magnitude 6.7 or greater earthquake striking the Bay Region between 2014 and 2043.⁶

The Safety Element includes a figure titled “Seismic Ground Response” (General Plan, pg. 10-13). It classifies building sites underlain by Pleistocene alluvium as *Moderately Low Damage Susceptibility*; sites within the outcrop belt of Pre-Pliocene bedrock are classified the *Lowest Damage Susceptibility*. This assessment assumes that foundation materials and critical slopes stable. The risk of structural damage from earthquake ground shaking is controlled by building and grading regulations. The California Building Code (CBC) mandates that for structures requiring building permits (including the proposed residential buildings, retaining walls over 3 ft. in height and most types of accessory structures), must take into account both foundation conditions, proximity of active faults and their associated ground shaking characteristics. Design-level geotechnical reports must include CBC seismic design parameters. Those parameters are used by the structural engineer in the design of civil engineering structures. With conservative design and quality construction, ground shaking damage can be kept to a practical minimum.

7. Soil Survey

According to the Soil Survey of Contra Costa County, the soil series that occurs on the narrow upland valley bottom area is the Clear Lake clay (Cc); the soil series on the adjacent upland areas is the Lodo clay loam (LcE, 9-30% slopes and LcF (30-50% slopes).⁷ The Clear Lake clay occurs on nearly level floodplains of small creeks and has a soil profile that is 60 inches thick. The A-horizon is 30 inches thick and is described as follows: very dark gray clay, slightly acid to moderately alkaline. The AC_{ea} horizon is very dark gray clay that is mottled with fine concretions of lime that extends from 30 to 46 inches below the ground surface (bgs). During the dry summer season desiccation cracks ranging from ½ to 2 inches in width are common. The C horizon is an olive to light brown and grayish brown clay loam, silty clay loam or light clay that extends from 46 to 60 inches bgs. The Lodo series consists of somewhat excessively drained soils underlain by soft sandstone. The representative soil profile is 22 inches in thickness. The A horizon extends from the ground surface to 18 inches bgs., and is underlain by severely weathered, soft shale or sandstone from 18 to 22 inches. It is a dark gray clay loam subangular, blocky structure below the ground surface. With regard to engineering properties, the Clear Lake clay is highly expansive and very highly corrosive; the Lodo clay loam is rated moderately expansive and moderately corrosive.

Safety Element Policies

1. Liquefaction & Ground Failure Policies

Safety Element Policies that are most applicable to the proposed improvements on the CDTP22-00045 project site are liquefaction potential policies (for any improvement located on the floor of the narrow upland valley bottom area, and ground failure policies for building sites underlain by bedrock that underlies the topsoil. Table 2 and 3 present these general plan policies.

⁶ Aagaard, Blair, Boatwright, Garcia, Harris, Michael, Schwartz, and De Leo, 2016, *Earthquake Outlook for the San Francisco Bay Region, 2014-2043*, USGS Fact Sheet 2016-3020, revised August 2016; ver. 1.1)

⁷ Welch, L.E., 1977, *Soil Survey of Contra Costa County, USDA Soil Conservation Service.*

Table 2
Safety Element Liquefaction Policies

Policy 10-18. This General Plan shall discourage urban or suburban development in areas susceptible to high liquefaction dangers and where appropriate subject to the policies of 10-20 below, unless satisfactory mitigation measures can be provided, while recognizing that there are low intensity uses such as water-related recreation and agricultural uses that are appropriate in such areas.

Policy 10-19. To the extent practicable, the construction of critical facilities, structures involving high occupancies, and public facilities shall not be sited in areas identified as having a high liquefaction potential, or in areas underlain by deposits classified as having a high liquefaction potential.

Policy 10-20. Any structures permitted in areas of high liquefaction damage shall be sited, designed and constructed to minimize dangers from damage due to earthquake-induced liquefaction.

Policy 10-21. Approvals to allow the construction of public and private development projects in areas of high liquefaction potential shall be contingent on geologic and engineering studies which define and delineate potentially hazardous geologic and/or soils conditions, recommend means of mitigating these adverse conditions, and on proper implementation of the mitigation measures.

Table 3
Safety Element Ground Failure Policies

Policy 10-22. Slope stability shall be a primary consideration in the ability of land to be developed or designated for urban uses.

Policy 10-23. Slope stability shall be given careful scrutiny in the design of development and structures, and in the adoption of conditions of approval and required mitigation measures.

Policy 10-24. Proposed extensions of urban or suburban land uses into areas characterized by slope over 15 percent and/or generally unstable land shall be elevated with regard to the safety hazard prior to the issuance of any discretionary approvals. Development on open hillsides and significant ridgelines throughout the County shall be restricted, and hillsides with a grade of 26 percent or greater shall be protected through implementing zoning measures and other appropriate actions.

Policy 10-26. Approvals of public and private development projects in areas subject to slope failures shall be contingent on geologic and engineering studies which define and delineate potentially hazardous conditions and recommend adequate mitigation.

Policy 10-27. Soil and geological reports shall be subject to the review and approval of the County Planning Geologist.

Policy 10-28. Generally, residential density shall decrease as slope increases, especially above a 15 percent slope.

Policy 10-31. Subdivisions approved on hillsides which include individual lots to be resold at a later time shall be large enough to provide flexibility in finding a stable buildable site and driveway location.

Policy 10-32. The County shall not accept dedication of public roads in unstable hillside areas or allow construction of private roads which would require an excessive degree of maintenance and repair costs.

O’Terra Geotechnical Investigation

1. Purpose and Scope

In 2022 the O’Terra Geotech Group, Inc., issued a geotechnical report for the proposed project.⁸ The purpose of the investigation was to provide (i) preliminary geotechnical recommendations, (ii) assessment of potential geotechnical and seismic hazards, and (iii) provide preliminary recommendations for initial

⁸ O’Terra Geotech Group, Inc., 2022, *Geotechnical Report, Residential Addition and ADU, 201 Castle Hill Ranch Road, Walnut Creek, California*, APN 188-150-010 (report dated September 1, 2022).

land planning and cost estimating purposes. At the time of their investigation no architectural plans were available, and no detailed grading plans has been prepared. In summary, the report was intended to identify the primary concerns associated with the residential improvements being proposed. Based on O'Terra's advice the plans for the ADU were revised to provide a 10 ft. creek structure setback. O'Terra does not reference grading, drainage or foundations plans. Consequently, their investigation was aimed providing a preliminary characterization of potential geologic, geotechnical, and seismic hazards; and provide guidance to their client on approaches to mitigate the hazards that were confirmed to be present. O'Terra has not approved building plans; further geotechnical review will be required. Depending on the approach to development, additional geotechnical investigation and/or engineering analysis may be warranted.

O'Terra's scope of work included: (i) site reconnaissance data; (ii) review of pertinent geologic maps and reports; (iii) limited subsurface exploration of the project site; (iv) evaluation of the data gathered; and (v) preparation of a report intended document the investigation and present the geotechnical engineer's evaluation of potential hazards, provide preliminary recommendations and specifications the geotechnical aspects of the project, including standards and criteria addressing earthwork, building foundations, retaining walls, slabs-on-grade and exterior concrete flat work, etc.), followed by statement of limitations.

2. Review of Existing Data

Commencing on pg. 3 of their report the geotechnical engineer provides an overview of the geologic setting of the site. The report presents a list of key references that were examined during the investigation on pg. 13, Key references cited by O'Terra include (i) California Building Code (2019), (ii) Soil Survey of Contra Costa County (1977), and (iii) Geologic Map of the Las Trampas Ridge Quadrangle (Dibblee & Minch, 2005).

3. Subsurface Investigation

Field exploration was performed on August 12, 2022. The approach was to utilize a Minuteman-type portable equipment for continuous flight auger drilling. Using this approach, two borings were drilled and logged to characterize subsurface conditions within the area of the proposed addition (B-1 & B-2); and two borings were drilled/ logged to characterize foundation conditions adjacent to the proposed ADU (borings B-3 & B-4). The O'Terra borings ranged from 17 to 26½ ft. in depth. The approximate location borings is presented on Figure 15 of the geotechnical report. The base map of this exhibit is a topographic map showing parcel boundary, and the footprint proposed for construction of improvements. No grading or drainage improvements is indicated.

The borehole logs are presented in Appendix A. The logs provide information on the date drilled, equipment used, intervals sampled in each borehole, results of field tests (i.e., blow counts to advance the bit 1 ft. and measurement of compressive strength (measured using a pocket penetrometer), depth of the water table at the time of drilling, backfilling of each boring with cement grout etc. O'Terra describes the sediments penetrated based on review of cuttings and samples. (We note that in boring B-1 O'Terra indicates weathered siltstone at a depth of 9 to 12 ft. bgs, underlain by fine-grained sediments from 12 ft. to the full depth explored (26½ ft. bgs). The engineering properties and description of the fine-grained sediments are characteristic of Pleistocene alluvium. Consequently, it is our opinion that the interval from 9 to 12 bgs is likely a silty alluvial layer (not siltstone). It is possible no bedrock was encountered in boring B-1.

In boring B-2 O'Terra reports siltstone bedrock from a depth of 14 ft. to the full depth explored (19¼ ft.). The siltstone bedrock may be misidentified. The unit may be severely weathered Pleistocene alluvium. In boring B-4 the log indicates bedrock was encountered at a depth of 6 ft. bgs. However, from 13 ft. bgs to the total depth explored (26½ ft.) the log indicates highly weathered grey siltstone. This unit has relatively low blow counts (i.e., 15 blows/ ft.) for the last sample at the bottom of the boring. This suggests the material

penetrated was Pleistocene alluvium (not bedrock). Siltstone bedrock is typically characterized by low permeability and the depth of siltstone weathering is expected to be on the order of 5 ft. (not 26½ ft. bgs).

4. Laboratory Testing

Appendix B presents laboratory test results. The data presented included the result of testing of a single sample from boring B-2 at a depth of 5½ ft bgs. The sample is described as *very dark olive, sandy, silty clay*. Testing yielded the following results: (i) Liquid Limit 46.5; (ii) Plastic Limit 22.0 and (iii) Plastic Index 24.5 (indicative of a moderately/ highly expansive clay). Additionally, one sample was subject to gradation testing. That sample was collected from boring B-1 between a depth of 10 to 11 ft. bgs. This sample is described as a dark gray silty, clayey sand. The test indicates that 53.8% of the sample passed through the #200 screen. (A fines content of greater than approximately 35% is generally regarded as indicating a sand that is too cohesive to liquefy.)

5. Hazards Evaluation

Commencing on pg. 5 of their report, O'Terra provides a preliminary assessment of potential hazards (e.g., a table on pg. 5 identifies known active faults that are sufficiently near the site to pose a hazard from earthquake ground shaking, The consultant also addresses the hazards posed by liquefaction of alluvial deposits. Based on the gradation testing performed on the sand sample collected from Boring B-1, O'Terra concludes that the risk of liquefaction is low. We consider the consultant's findings to be adequately justified. In our view the sample tested was of Late Pleistocene age. Clearly a fines content of 53.8% is above the threshold for liquefaction. Additionally, in our experience no geotechnical investigations in Contra Costa County have confirmed the presence of potentially liquefiable sands in alluvial deposits of Pleistocene age.

A hazard not specifically addressed by O'Terra is retreat of the creek bank. The cross-section presented on pg. 16 of the consultant's reports shows an over-steepened eroding slope that is 7 to 8 ft. in height. As proposed, this slope is 10 ft. from the footprint of the ADU. No structural measures are proposed to prevent retreat of the creek bank, or to prevent further downcutting of the channel. Although the hazard posed by the creek has not been evaluated, the exhibit on pg. 16 indicates that the hazard posed by the eroding creek bank to the dwelling is to be mitigated by a foundation is to extend 16 ft. below the ground surface. This type of foundation system would also serve to mitigate the effects of moderately to highly expansive soils on the planned ADU and the expansion of the primary residence (see pgs., 10 & 11 of the O'Terra report foundation design recommendations).

Another hazard not addressed by O'Terra is the soil corrosion hazard. According to the Soil Survey of Contra Costa County the soils that occur on the project site are very highly corrosive. To address this hazard, we recommend that a qualified corrosion engineer be retained to provide testing of soils on the site. If corrosive soils are confirmed to be present on the site, recommendations will be needed for protection of underground improvements (i.e., steel and/or concrete that is in contact with the ground). Evaluation of the corrosion potential of soils must be addressed prior to installation of underground utilities, and prior to issuance of building permits for the ADU and addition to the primary residence on the property.

Finally, we note that drainage recommendations are presented on pg. 10 of the O'Terra report. In our experience, proper control of runoff can be critical to the success of a project. O'Terra provides recommendations that require (i) positive drainage within 10 ft. of the ADU and exterior of the building addition, (ii) collection of a roof gutter water in a closed conduit and taken away from the foundation. The geotechnical engineer's drainage recommendation does not address the location of suitable discharge points (e.g., is runoff to be directed toward the creek channel and discharged in a non-erosive manner?)

Ultimately all surface runoff on the site drains to the creek channel. Where or how will drainage be directed is not indicated.

DMA Evaluation

1. Corrosive Soils

Soils on the site are considered to be very highly corrosive. Testing of samples by a certified laboratory is needed for evaluations of this hazard. If testing confirms the presence of corrosive soils, a corrosion engineers should be retained to provide recommendations to mitigate the effects of corrosion on concrete and/or steel that is in contact with the ground.

2. Expansive Soils

The project geotechnical engineers have acknowledging that soils on the site are expansive. Recommendations have been provided for a drilled pier foundation system, and for the adverse situation posed by seepage of groundwater into the pier holes prior to pouring concrete. The piers design shall take into account the corrosion potential of soils and O'Terra shall provide adequate observation and testing services during all foundation related work (The County Planning Commission has indicated on several occasions that monitoring of foundation-related work is critical to the success of projects.

3. Drainage.

The information required by the Ordinance Code is *the outline of any geologic or potentially hazardous soil conditions and areas subject to inundation or ponding*. Historically this has be interpreted by the County as requiring an exhibit showing landslides, areas of heavy erosion, undocumented fills, etc. The eroding creek bank is a concern for this project and the location of the outfall of roof drainage is required. If drainage outfalls directly into the creek the outfall must be shown on an exhibit with measure to control erosion.

4. Driveway and Flatwork

It is our understanding that off-street parking is required for ADUs, We do not understand the parking/ access for the ADU. Therefore, we recommend a grading plan showing grading for driveways and recommendations for the road section and compaction of the ADU driveway. Additionally, provide recommendations for flatwork (patios, walkways, garbage enclosures, etc.).

5. Monitoring During Construction

The clearing, earthwork and foundations-related work, and drainage improvements should be inspected by O'Terra. This includes that backfilling of holes created by removal of trees. In our opinion, a hard hold should be placed on the final building inspection until the owner/ applicant has submitted a final report from the geotechnical engineer that documents the monitoring services performed (including pier drilling for foundations) and presenting the geotechnical engineer's opinion on compliance of the as-built project with geotechnical recommendations in the approved geotechnical report that was the basis for issuance of the building permit(s).

DMA Findings

The primary geotechnical concerns include (i) earthquake ground shaking, (ii) slope stability (i.e., creek bank erosion and sloughing), (iii) expansive soils and bedrock, and (iv) corrosive soils. Final design studies are not needed for the purposes of deeming the application complete or for CEQA compliance.

We have no objection to deeming the application complete, provided the five (5) concerns identified on the preceding page are addressed during the approval, and are implemented by the application and his consultant during the construction process. The required final report shall be subject to technical review by the Peer Review Geologist.

Purpose and Limitations

This review has been performed to provide technical advice to assist the Department of Conservation & Development with discretionary permit decisions. Our services have been limited to review of the documents identified in this peer review letter in combination with interpretation of historic aerial photographs. Our opinions and conclusions are made in accordance with generally accepted principles and practices of the engineering geology profession.

We trust this letter provides the evaluation and comments that you requested. Please call if you have any questions.

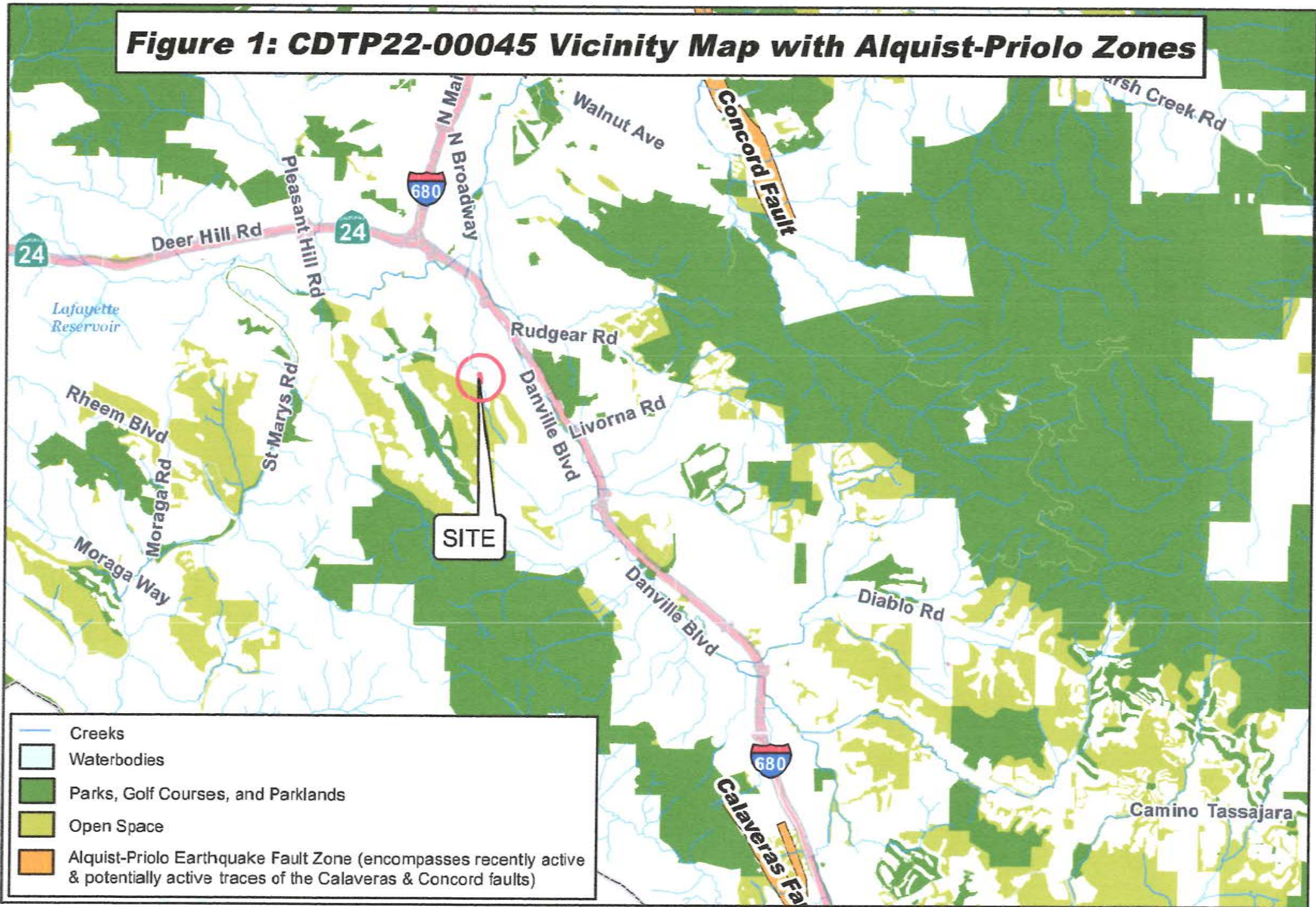
Sincerely,
DARWIN MYERS ASSOCIATES



Darwin Myers, CEG 946
Principal



Figure 1: CDTP22-00045 Vicinity Map with Alquist-Priolo Zones



0 0.5 1 2 Miles

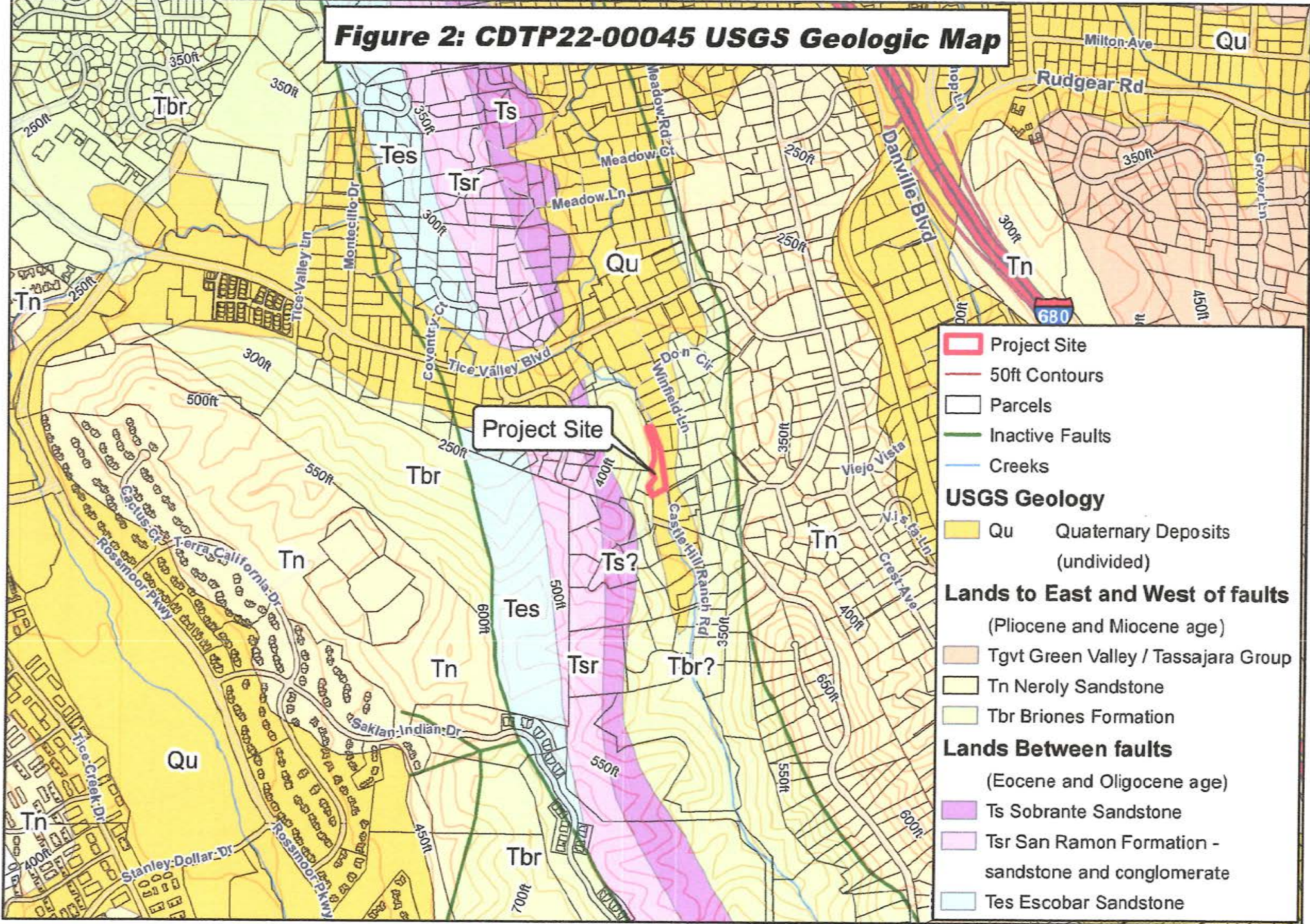
Map Created 10/5/2022
 by Contra Costa County Department of
 Conservation and Development, GIS Group
 30 Muir Road, Martinez, CA 94553
 37-56-41.791N 122-07-03.756W

Source: California Geologic Survey
 Serial Publication 47 (revised 2018)

This map was created by the Contra Costa County Department of Conservation and Development with data from the Contra Costa County GIS Program. Some base data, primarily City Limits, is derived from the CA State Board of Equalization's tax rate areas. While obligated to use this data the County assumes no responsibility for its accuracy. This map contains copyrighted information and may not be altered. It may be reproduced in its current state if the source is cited. Users of this map agree to read and accept the County of Contra Costa disclaimer of liability for geographic information.



Figure 2: CDTP22-00045 USGS Geologic Map



Project Site

- Project Site
- 50ft Contours
- Parcels
- Inactive Faults
- Creeks

USGS Geology

- Qu Quaternary Deposits (undivided)

Lands to East and West of faults
(Pliocene and Miocene age)

- Tgvt Green Valley / Tassajara Group
- Tn Neroly Sandstone
- Tbr Briones Formation

Lands Between faults
(Eocene and Oligocene age)

- Ts Sobrante Sandstone
- Tsr San Ramon Formation - sandstone and conglomerate
- Tes Escobar Sandstone



0 0.075 0.15 0.3 Miles

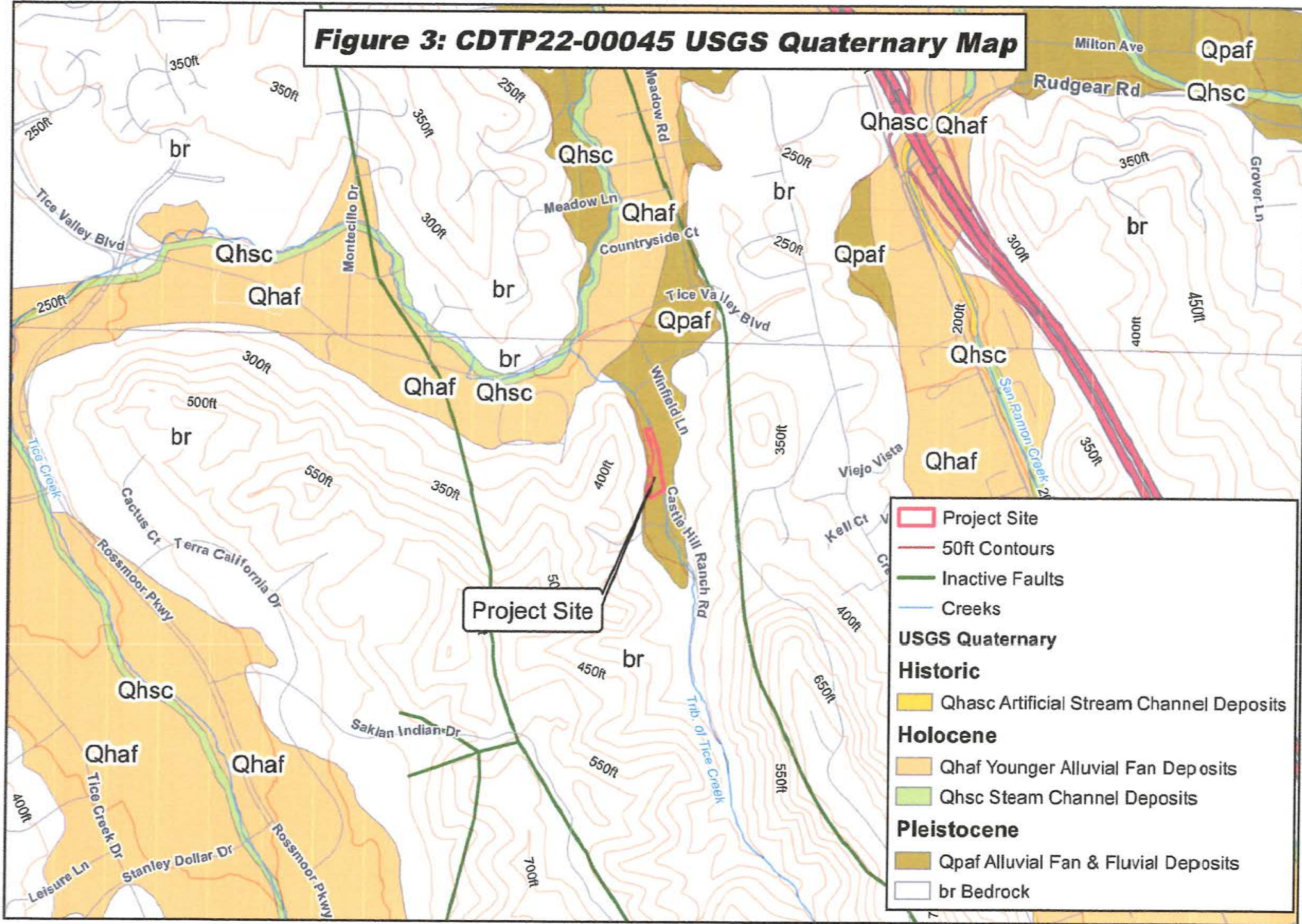
Map Created 10/5/2022
 by Contra Costa County Department of Conservation and Development, GIS Group
 30 Muir Road, Martinez, CA 94553
 37.59°41.79'N 122.07°03.75'W

Source: USGS Open File Report 94-622

This map was created by the Contra Costa County Department of Conservation and Development with data from the Contra Costa County GIS Program. Some base data, primarily City Limits, is derived from the CA State Board of Equalization's tax rate areas. While obligated to use this data the County assumes no responsibility for its accuracy. This map contains copyrighted information and may not be altered. It may be reproduced in its current state if the source is cited. Users of this map agree to read and accept the County of Contra Costa disclaimer of liability for geographic information.



Figure 3: CDTP22-00045 USGS Quaternary Map



0 0.075 0.15 0.3 Miles

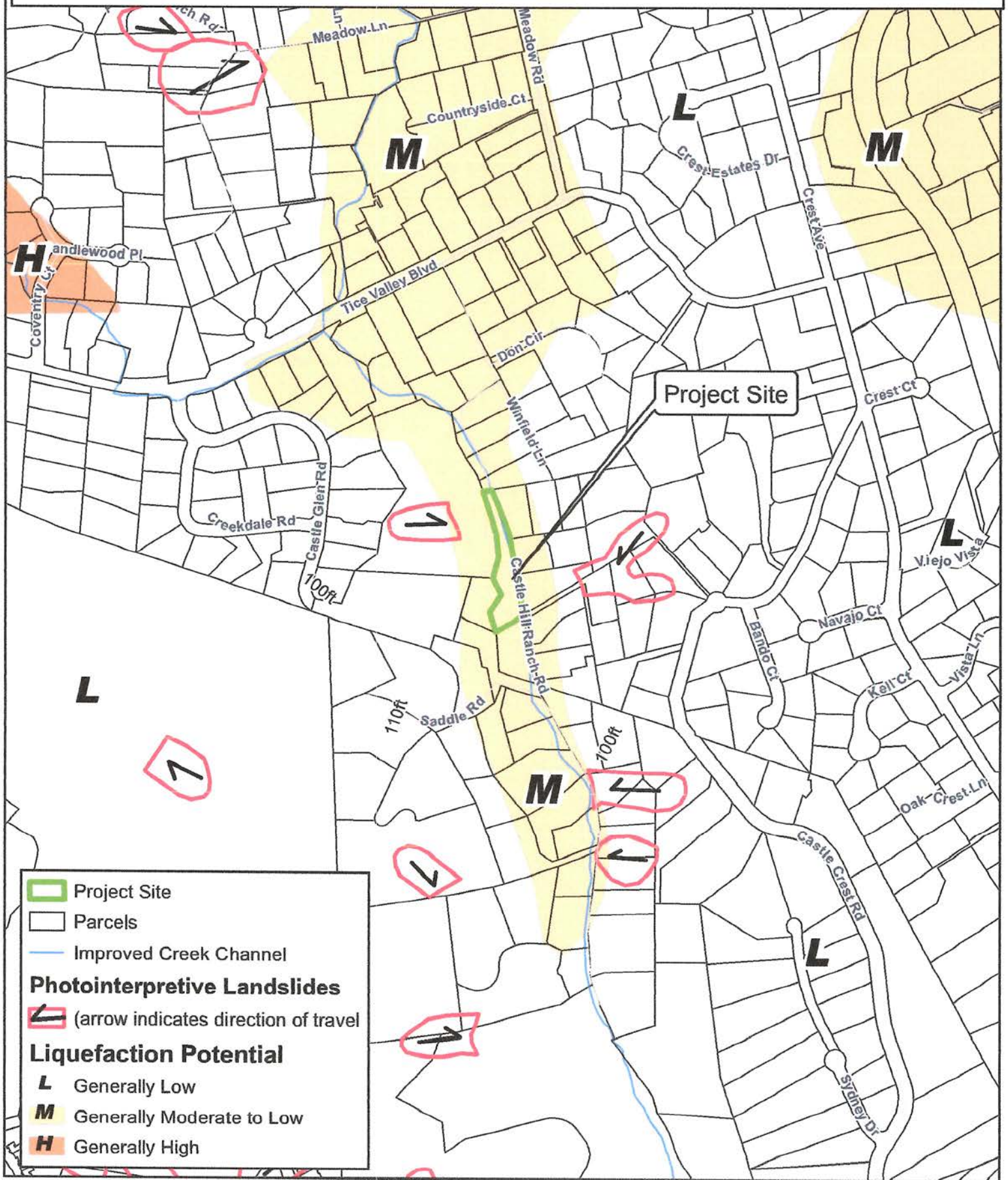
Source: USGS Open File Report 97-98

Map Created 10/5/2022
 by Contra Costa County Department of
 Conservation and Development, GIS Group
 30 Muir Road, Martinez, CA 94553
 37.59:41.791N 122.07:03.756W

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Figure 4: CDTP22-00045 Landslide & Liquefaction Potential Map



Map Created 10/5/2022
 by Contra Costa County Department of
 Conservation and Development, GIS Group
 30 Muir Road, Martinez, CA 94553
 37:50:41.791N 122:07:03.756W

This map was created by the Contra Costa County Department of Conservation and Development with data from the Contra Costa County GIS Program. Some base data, primarily City Limits, is derived from the CA State Board of Equalization's tax rate areas. While obligated to use this data the County assumes no responsibility for its accuracy. This map contains copyrighted information and may not be altered. It may be reproduced in its current state if the source is cited. Users of this map agree to read and accept the County of Contra Costa disclaimer of liability for geographic information.





October 18, 2022

Syd Sotoodeh
Contra Costa County - Planning
30 Muir Rd
Martinez, CA 94553

Subject: Addition to SFR and a detached ADU
201 Castle Hill Ranch, Walnut Creek
Project #CDTP22-00045
CCCFPD Project No.: P-2022-019411

Dear Syd Sotoodeh:

We have reviewed the application for an addition to main house of 2,180 sq-ft to main house and a detached ADU at the subject location. The following is required for Fire District approval in accordance with the 2019 California Fire Code (CFC), the 2019 California Residential Code (CRC), and Local and County Ordinances and adopted standards:

The size of the addition and resulting total square feet of main house requires installation of fire sprinklers. ADU will also have fire sprinklers.

1. Access for any proposed new structures would need to meet fire code requirements. Provide emergency apparatus access roadways with all-weather (paved) driving surfaces of not less than 16 feet unobstructed width, and not less than 13 feet 6 inches of vertical clearance, to within 150 feet of travel distance to all portions of the exterior walls of every building. Access shall have a minimum outside turning radius of 45 feet, and must be capable of supporting the imposed fire apparatus loading of 37 tons. Access roadways shall not exceed 20% grade. Grades exceeding 16% shall be constructed of grooved concrete per the attached Fire District standard. (503) CFC
2. All bridges used for emergency apparatus access shall be provided with a minimum unobstructed access width of 16 feet, and shall be structurally designed and certified to support a vehicle-load rating of 37 tons. Parking is not permitted on bridges. Bridges shall have vehicle load limits posted at both entrances. (503.2) CFC
3. Any Access gates for Fire District apparatus shall be a minimum of 16 -feet wide. Access gates shall slide horizontally or swing inward and shall be located a minimum of 30 feet from the street. Electrically operated gates shall be equipped with a Knox Company key-operated switch. Manually operated gates shall be equipped with a non-casehardened lock or approved Fire District lock. Contact the Fire District for information on ordering the key-operated switch. (D103.5) CFC.
4. For any future new buildings, the developer shall provide an adequate and reliable water supply for fire protection as set forth in the California Fire Code (507.1) CFC

5. A land development permit is required for access and water supply review and approval prior to submitting building construction plans.

The developer shall submit a minimum of two (2) copies of full size, scaled site improvement plans indicating:

All existing or proposed hydrant locations,
Fire apparatus access to the public way to include slope and road surface
Size of building and type of construction,
Gates, fences, retaining walls, bio-retention basins, any obstructions to access.
If a rural water system is required: Cubic footage of building

This is a separate submittal from the building construction plans. These plans shall be approved prior to submitting building plans for review. (501.3) CFC

6. **Emergency apparatus access roadway and hydrant shall be installed, in service, and inspected by the Fire District prior to construction or combustible storage on site.** (501.4) CFC

Note: A temporary aggregate base or asphalt grindings roadway is not considered an all-weather surface for emergency apparatus access. The first lift of asphalt concrete paving shall be installed as the minimum roadway material and must be engineered to support the designated gross vehicle weight of 22 / 37 tons.

7. The homes as proposed shall be protected with an approved automatic fire sprinkler system complying with the 2016 edition of NFPA 13D or Section R313.3 of the 2019 California Residential Code. Submit three (3) sets of plans to this office for review and approval prior to installation. (R313.3) CRC.
8. The owner/contractor is responsible for contacting the water district to determine if the existing domestic service (meter) is adequate for a dual service application.
9. The owner shall cut down and remove all weeds, grass, vines, or other growth that is capable of being ignited and endangering property. (304.1.2) CFC

CONTACT THE FIRE DISTRICT (MINIMUM 2 WORKING DAYS IN ADVANCE) AT 925-941-3300 EXT 3902 TO SCHEDULE AN INSPECTION OF THE ACCESS AND HYDRANT INSTALLATION PRIOR TO CONSTRUCTION OR THE STORAGE OF COMBUSTIBLE MATERIALS ON THE JOB SITE.

Our preliminary review comments shall not be construed to encompass the complete project. Additional plans and specifications may be required after further review.

If you have any questions regarding this matter, please contact this office at (925) 941-3300.

Sincerely,



Michael Cameron
Fire Inspector I

Syd Sotoodeh

From: Anne Nounou
Sent: Tuesday, October 25, 2022 8:07 AM
To: Syd Sotoodeh
Subject: FW: Anne Nounou shared the folder "CDTP22-00045" with you.--201 Castle Hill Ranch Rd, Walnut Creek--log-in, and if so, to whom?
Attachments: DA Fee Calc - 201 Castle Hill Ranch Rd.pdf

From: Anesia Canty <Anesia.Canty@pw.cccounty.us>
Sent: Monday, October 24, 2022 6:50 PM
To: Anne Nounou <Anne.Nounou@dcd.cccounty.us>
Cc: Gus Amirzehni <Gus.Amirzehni@pw.cccounty.us>; Jorge Hernandez <jorge.hernandez@pw.cccounty.us>
Subject: RE: Anne Nounou shared the folder "CDTP22-00045" with you.--201 Castle Hill Ranch Rd, Walnut Creek--log-in, and if so, to whom?

Hello Ms. Nounou,

The Contra Costa County Flood Control and Water Conservation District (FC District) has reviewed the Department of Conservation & Development's (DCD's) Tree Permit # CDTP22-00045, which includes the "Weiss-Ishai – Addition & ADU" plans (Plans) by Team2 Architecture + Design at 201 Castle Hill Ranch Road (APN 188-150-010) in unincorporated Walnut Creek. We submit the following comments:

1. This project is located within Drainage Area 67 (DA 67), for which a drainage fee is due in accordance with Flood Control Ordinance Number 89-12. By ordinance, all building permits or subdivision maps filed in this area are subject to the provisions of the drainage fee ordinance. Effective April 16, 1989, the current fee in this drainage area is \$0.38 per square foot of newly created impervious surface.
2. The FC District is not the approving local agency for this project as defined by the Subdivision Map Act. As a special district, the FC District has an independent authority to collect drainage fees that is not restricted by the Subdivision Map Act. The FC District regularly adjusts its drainage fees to reflect increasing construction costs. The drainage fee rate does not vest at the time of tentative map approval. The drainage fees due and payable will be based on the fee in effect at the time of fee collection.
3. The DA 67 fee for this project is estimated to be \$1,284. Please see the attached spreadsheet for our drainage fee calculation. The drainage area fee for this lot should be collected prior to issuing a building permit for this project.
4. The applicant should contact the Engineering Services Division of the Public Works Department to determine if this development is required to adhere to the creek structure setback requirements in accordance with Division 914 of the Ordinance Code. If so, the developer will be required to show the creek structure setback line on the tentative map and dedicate development rights to the County by separate instrument. In the next submittal, please have the applicant provide a clear demonstration of how the creek structure setback was determined. Creek cross-sections that clearly superimpose the ordinance requirement with the actual creek cross-section would be acceptable.
5. The permit for the proposed addition and ADU should include conditions of approval that require the applicant to design and construct storm drain facilitate to adequately collect and convey stormwater entering or

originating within the development to the nearest adequate man-made drainage facility or natural watercourse, without diversion of the watershed, per Title 9 of the County Ordinance Code.

6. The applicant should be required to submit hydrology and hydraulic calculations to the Engineering Services Division of the Public Works Department that prove the adequacy of the in-tract drainage system and the downstream drainage system. We defer review of the local drainage to Engineering Services. However, the FC District is available to provide technical review under our Fee-for-Service program.
7. The applicant should be conditioned to contact the appropriate environmental regulatory agencies such as the U.S. Army Corps of Engineers, State Department of Fish and Wildlife, and State Regional Water Quality Control Board to obtain all the necessary permits for this project, or show that such permits are not necessary.
8. The applicant should be aware that per the Contra Costa County 1010 Drainage Ordinance, a Drainage Permit from the FC District is required prior to conducting any grading, excavation, or construction within the banks of the Tice Creek Tributary.

We appreciate the opportunity to comment on the plans for the addition and ADU under Tree Permit # CDTP22-00045 at 201 Castle Hill Ranch Road in unincorporated Walnut Creek and welcome continued coordination with the DCD. If you have any questions, please contact me at your earliest convenience.

Thank you,



Anesia Canty | Staff Engineer

Contra Costa County Flood Control & Water Conservation District
255 Glacier Drive, Martinez, CA 94553
p: 925.313.2109 | f: 925.313.2333
e: anesia.canty@pw.cccounty.us | cccpublicworks.org

Hours: 9/80 (M-Th 9a–6:30p, F 9a–5:30p, B Fri off)

Summary of Drainage Fees

Development #: 201 Castle Hill Ranch Rd

Date: 24-Oct-22

APN: 188-150-010

Fee Schedule: 2022

Ordinance: 89-12

Drainage Area: 67

Commercial/Industrial/Downtown
Office (Medium)
Office (Light)

Multifamily Residences

Less than 2,500 square ft of land
2,500-2,999 (square feet per unit)
3,000-3,999
4,000-4,999
5,000-5,999
6,000-6,999
7,000-7,999
8,000 +

Single Family Residential

4,000-4,999 (square feet per unit)
5,000-5,999
6,000-6,999
7,000-7,999
8,000-9,999
10,000-13,999
14,000-19,999
20,000-29,999
30,000-39,999
40,000 +

Building			Subdivision		
Unit Price	QTY	Amount	Unit Price	QTY	Amount
\$ 15,625		-	\$ 16,785		-
13,390		-	14,965		-
11,205		-	12,630		-
Building			Subdivision		
Unit Price	QTY	Amount	Unit Price	QTY	Amount
\$ 12,310		-	\$ 12,310		-
730		-	730		-
835		-	835		-
975		-	975		-
1,115		-	1,115		-
1,250		-	1,250		-
1,385		-	1,385		-
1,450		-	1,450		-
Building			Subdivision		
Unit Price	QTY	Amount	Unit Price	QTY	Amount
\$ 1,020		-	\$ 1,640		-
1,070		-	1,705		-
1,115		-	1,775		-
1,160		-	1,845		-
1,230		-	1,940		-
1,365		-	2,140		-
1,590		-	2,460		-
1,970		-	2,955		-
2,445		-	3,525		-
2,930		-	4,060		-

(Amount Below to be added to the total.)

Amount of	Sqr Ft.	Unit Price	Amount
impervious surface.	3,380	0.38	\$ 1,284
to account for:			

TOTAL: \$1,284

Calculate DA 130 fee if checked

Mark box to add mitigation fee n/a

Comments:

This fee is based on the "Weiss-Ishai - Addition & ADU" plans dated September 22, 2022 and prepared by Team2 Architecture + Design included in the DCD Tree Permit # CDTP22-00045. 3,380 sq ft (2,180 sq ft addition + 1200 sq ft ADU) was charged at the DA 67 rate of \$0.38 / sq ft.

Prepared by: Anesia Canty

Lot Closure

LOT #	(square feet)				
1	-	35	-	69	-
2	-	36	-	70	-
3	-	37	-	71	-
4	-	38	-	72	-
5	-	39	-	73	-
6	-	40	-	74	-
7	-	41	-	75	-
8	-	42	-	76	-
9	-	43	-	77	-
10	-	44	-	78	-
11	-	45	-	79	-
12	-	46	-	80	-
13	-	47	-	81	-
14	-	48	-	82	-
15	-	49	-	83	-
16	-	50	-	84	-
17	-	51	-	85	-
18	-	52	-	86	-
19	-	53	-	87	-
20	-	54	-	88	-
21	-	55	-	89	-
22	-	56	-	90	-
23	-	57	-	91	-
24	-	58	-	92	-
25	-	59	-	93	-
26	-	60	-	94	-
27	-	61	-	95	-
28	-	62	-	96	-
29	-	63	-	97	-
30	-	64	-	98	-
31	-	65	-	99	-
32	-	66	-	100	-
33	-	67	-		
34	-	68	-		

Total Area (ft²): -
Total Area (Acres): -

Comments:

AREA (SF)	QTY
<2,500	-
2,500-2,999	-
3,000-3,999	-
4,000-4,999	-
5,000-5,999	-
6,000-6,999	-
7,000-7,999	-
8,000-9,999	-
10,000-13,999	-
14,000-19,999	-
20,000-29,999	-
30,000-39,999	-
40,000 +	-



Contra Costa County
**Public Works
Department**

Brian M. Balbas, Director
Deputy Directors
Stephen Kowalewski, Chief
Allison Knapp
Warren Lai
Carrie Ricci
Joe Yee

Memo

November 29, 2022

TO: Syd Sotoodeh, Project Planner, Department of Conservation and Development
FROM: Larry Gossett, Senior Civil Engineer, Engineering Services Division
By: Joshua Laranang, Engineering Technician, Engineering Services Division
SUBJECT: **TREE PERMIT TP22-0045**
30-DAY COMMENTS – INCOMPLETE
(Weiss-Ishai/Castle Hill Ranch Road/Walnut Creek/ APN 188-150-010)
FILE: TP22-0045

We have reviewed the application for tree permit TP22-0045 received by your office on June 5, 2022, and submit the following comments:

Background

The property is located at 201 Castle Hill Ranch Road in the unincorporated Walnut Creek/Alamo area. The parcel is very long and narrow in shape with a creek running through the middle. It is bounded by Castle Hill Ranch to the east and single-family residential lots to the north, west, and south. In addition to the creek running through the property and underneath the existing house, a tributary of Tice Creek has been undergrounded on the property along the easterly property line near Castle Hill Ranch Road.

The applicant seeks approval of a Tree Permit to allow the removal of five code protected trees and work within the driplines of seven trees for the purpose of constructing an addition to the existing single-family residence and a detached ADU on the subject property. The applicant also requests approval of an exception to allow a 10-foot creek structure setback for the building addition and the ADU.

Traffic and Circulation

The site gains access from Castle Hill Ranch Road, a privately maintained road that traverses many private properties. No additional easement width or pavement widening is necessary.

Drainage

Division 914 of the County Ordinance Code requires that all storm water entering and/or originating on this property to be collected and conveyed, without diversion and within an adequate storm drainage system, to an adequate natural watercourse having a definable bed and banks or to an

existing adequate public storm drainage system which conveys the storm water to an adequate natural watercourse.

As noted, there is an onsite creek on the property. No additional information about drainage was provided as part of this submittal. The applicant should provide a preliminary drainage analysis utilizing Contra Costa drainage standards to verify the existing creek and appurtenances are adequate and meet the Code requirements.

Creek Structure Setback

The County Ordinance Code requires the establishment of a creek structure setback line within proximity of unimproved earthen channels. The creek structure setback is determined by using the criteria outlined in Chapter 914-14, "Rights of Way and Setbacks," of said Code.

The applicant has requested an exception from the Code's setback requirements. The provided site plan shows the addition to the existing residence, as well as the proposed ADU located at a proposed reduced creek structure setback of 10 feet from the top of bank. The Code required setback should be added to the site plan for reference.

In conjunction with the exception request, the applicant provided a geotechnical report to verify the stability of the existing creek bank, along with foundation design recommendations to mitigate potential geologic hazards that may be increased as a result of the setback reduction. However, in addition to that report, a hydrology and hydraulic study showing design water surface depths and flow velocities should be submitted for consideration. The hydrology and hydraulic study shall be based upon the ultimate development of the watershed

Stormwater Management and Discharge Control

A Stormwater Control Plan (SWCP) is required for applications that will create and/or redevelop impervious surface area exceeding 10,000 square feet in compliance with the County's Stormwater Management and Discharge Control Ordinance (§1014) and the County's Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit. This project proposes less than 10,000 square feet which is below the threshold for requiring submittal of a SWCP.

Floodplain Management

The property does not lie within the Special Flood Hazard Area (100-year flood boundary) as designated on the Federal Emergency Management Agency Flood Insurance Rate Map.

Area of Benefit Fee

The applicant shall comply with the requirements of the Bridge/Thoroughfare Fee Ordinances for the South Contra Costa (SCC) Regional, Tri-Valley and South County Areas of Benefit, as adopted by the Board of Supervisors. These fees shall be paid prior to issuance of building permits.

Drainage Area Fee and Creek Mitigation

The applicant will be required to comply with the drainage fee requirements for Drainage Area 67 as adopted by the Board of Supervisors. This fee shall be paid prior to issuance of a building permit.

The submitted application should be considered incomplete. Before accepting the application as complete, the following concerns should be addressed:

- Provide adequate information on existing property information, rights of way, easements, etc. which may affect the design.
- Provide adequate information on the existing and proposed drainage improvements (layout, easements, access) which may affect the design. This should include hydrology and hydraulic information to verify adequacy of the drainage facilities and the velocity of stormwaters in earthen watercourses in order to evaluate erosion potential of the creek banks.
- Provide an exhibit showing the creek structure setback using the criteria outlined in Chapter 914-14, "Rights of Way and Setbacks," of the Subdivision Ordinance. The exhibit should include adequate cross sections for determining creek structure setback per County Ordinance Code.
- Any exceptions requested from County Ordinance Code Standards must be requested in writing by the applicant in conjunction with the submittal in accordance with Chapter 92-6 of the County Ordinance Code.

Should you have any questions, please contact Joshua Laranang at extension 3-2136 or me at extension 3-2016.

LG:JL:ss
G:\engsvc\Land Dev\TP\TP22-0045\30-Day Comments_November 2022.docx

Cc: J. LaRocque, Engineering Services
K. O'Connor, Engineering Services
Sagiv Weiss-Ishai, owner/applicant
201 Castle Hill Ranch Road
Walnut Creek, CA 94595



Contra Costa County
Public Works
Department

Brian M. Balbas, Director
Deputy Directors
Stephen Kowalewski, Chief
Allison Knapp
Warren Lai
Carrie Ricci
Joe Yee

Memo

June 27, 2023

TO: Syd Sotoodeh, Project Planner, Department of Conservation and Development
FROM: Larry Gossett, Senior Civil Engineer, Engineering Services Division
SUBJECT: **TREE PERMIT TP22-0045**
SUBMITTAL COMMENTS – INCOMPLETE
(Weiss-Ishai/Castle Hill Ranch Road/Walnut Creek/ APN 188-150-010)
FILE: TP22-0045

In response to our previous memo dated November 29, 2022, the applicant submitted additional documents, specifically storm drain calculations and a grading and drainage plan. Unfortunately, these documents do not fully address the issues and concerns raised.

It appears the applicant is attempting to retain the nominal additional runoff resulting from the impervious surfaces of the home addition and ADU. The engineer attempted to calculate the volume of runoff from a 30-minute event using what was purported to be a "rational method" hydrology. The rational method is used to determine the peak flow rate of runoff for a given design event, it does not determine the volume of water. A volume can be generated by multiplying the rate by the duration of the storm event, but in this case, only a 30-minute event was used. We typically route the design storm through a 24-hour cycle. The retention volume proposed is unacceptable. The rainfall data used in the hydrology study was not based on Contra Costa County's rainfall data, which is readily available on our web site. Our Duration-Frequency-Depth charts for the 24-hour storm would have served the intended purpose for a rough estimate .

For detention design, it is generally recommended to use a time-based hydrograph method to create a dynamic storm model to route through the detention facilities to verify their capacity and effectiveness.

Another issue that was unaddressed is the adequacy of the creek and nearby downstream facilities themselves. Our Code requires conveying stormwater runoff to adequate facilities. Mere mitigation does not satisfy that requirement if the existing facilities are inadequate, although it may be a consideration if an exception is requested. An analysis of the design storm flow depth and velocity in the creek is necessary to determine its adequacy. The depth of flow is also a factor in determining the County's creek structure setback requirements. The velocity of the flow also weighs in when evaluating the erosion potential within the creek, a consideration where exceptions to the setback requirements are being requested.

This request is to add on to an existing residence that appears to already encroach into the creek itself and add an accessory dwelling unit within 10 feet of the creek bank. Both are potentially hazardous situations that need to be evaluated using standard engineering practices and judgment.

The submitted application should be considered incomplete. Before accepting the application as complete, the following concerns should be addressed:

- Provide adequate hydrology and hydraulic information to verify adequacy of the drainage facilities and the velocity of stormwaters in earthen watercourses to evaluate erosion potential of the creek banks.
- Provide an exhibit showing the creek structure setback using the criteria outlined in Chapter 914-14, "Rights of Way and Setbacks," of the Subdivision Ordinance. The exhibit should include adequate cross sections for determining creek structure setback per County Ordinance Code.
- Any exceptions requested from County Ordinance Code Standards must be requested in writing by the applicant in conjunction with the submittal in accordance with Chapter 92-6 of the County Ordinance Code.

Should you have any questions, please contact me at extension 3-2016.

LG:ss

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Cc: J. LaRocque, Engineering Services
K. O'Connor, Engineering Services
Sagiv Weiss-Ishai, owner/applicant
201 Castle Hill Ranch Road
Walnut Creek, CA 94595

Syd Sotoodeh

From: Larry Gossett <Larry.Gossett@pw.cccounty.us>
Sent: Friday, May 10, 2024 2:38 PM
To: Allison Knapp; Sagiv
Cc: Reza Abdi; Warren Lai; ~Mehrdad Building; Jocelyn LaRocque; Syd Sotoodeh; dweissishai@gmail.com; Sagiv Weiss-Ishai
Subject: RE: 201 Castle ADU Hydrology report
Attachments: Rough Drainage Area.pdf; Site near Saddle Road.pdf

Hi Sagiv,

I reviewed the drainage calculations and they generally follow the format requested. However, the drainage area assumed for the hydrology appears to be grossly understated. Based on the information available to us, the drainage area to the west is not intercepted by the neighbors driveway, but instead, continues up the hill to the ridge above Rossmoor. Similarly, the drainage area to the east should extend up to or near Castle Crest Road. The subdivision to the south of Saddle Road did not appear to install any drainage facilities within Castle Hill Ranch Road to intercept any of the runoff from the south either.

From what I can determine, the drainage area extends about 2500 feet south of the subject property to a peak near the City Limit line. A very rough sketch is enclosed, along with a photo overlay with contours of the neighboring properties near the southwest corner of your site.

Unless some evidence can be provided indicated most of the runoff in this valley is being intercepted and re-directed around this creek, I cannot accept the finding presented.

Larry



Lawrence Gossett, PE, QSD/P, CFM | Senior Civil Engineer/Floodplain Manager

Contra Costa County Public Works Department, Engineering Services Division
255 Glacier Drive, Martinez, CA 94553
Direct: 925.313.2016 | Office: 925.313.2000
larry.gossett@pw.cccounty.us

Office Hours M-Th, 7:30-6:00

"Accredited by the American Public Works Association"



Legend

AMI_ASSETS: NOT Dispos

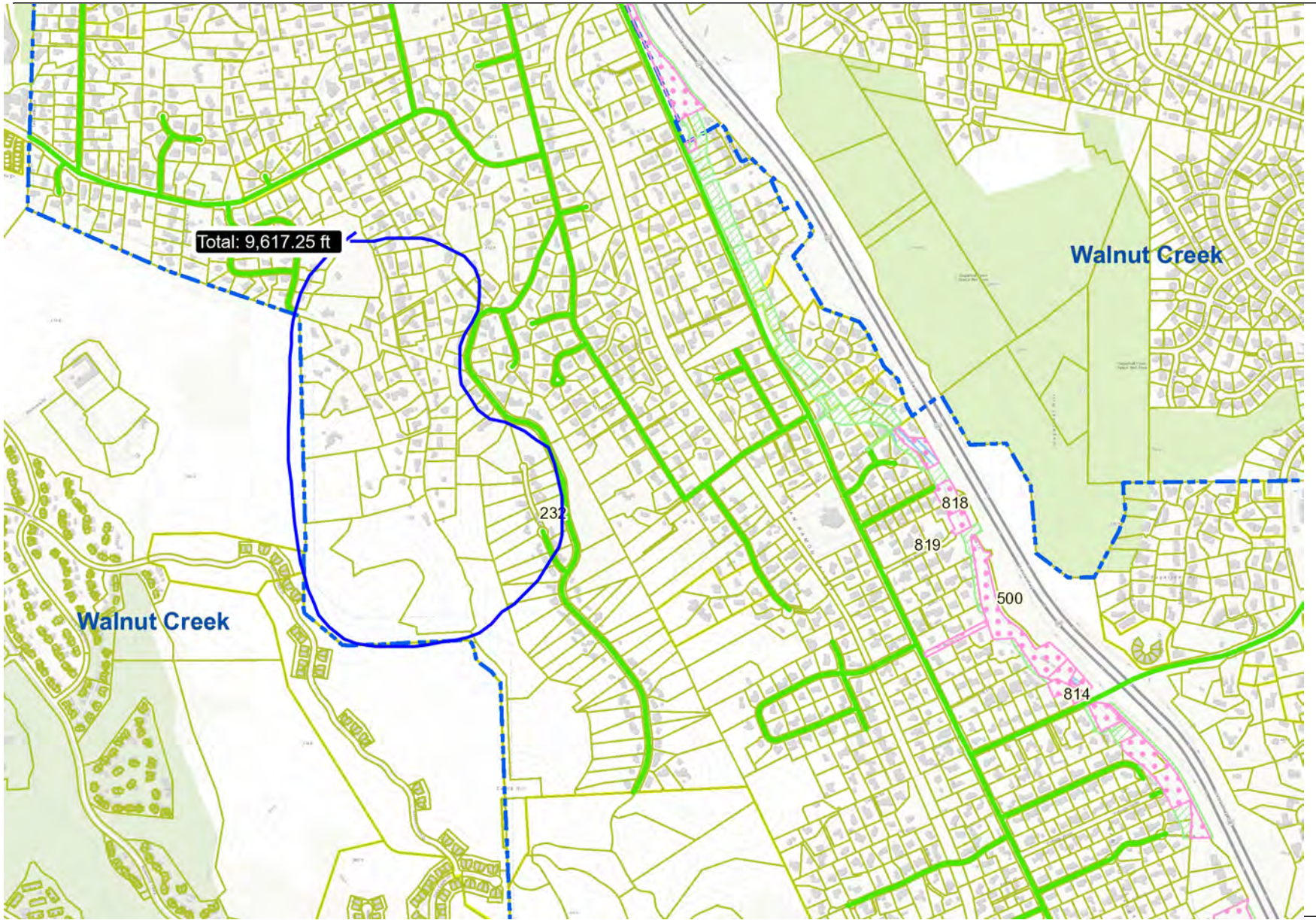
- County
- County owned on Leased land
- County-State (State has minorit
- Lessor (Leased by County, NO
- Operational Agreement (Cities)
- State
- State-County (County has mino

All Assets in AMI: Building I

FCROW - ALL

- QUITCLAIM
- FCD FEE TITLE
- FEE TITLE TRANSFER FROM
- FCD EASEMENT
- EASEMENTS GRANTED TO C
- EASEMENTS RETURNED TO
- PERMIT/LICENSE
- OTHER
- UNKNOWN

- City Legal Limits
- County Maintained Roads
- Full Parcels
- Subdivisions
- County Boundary



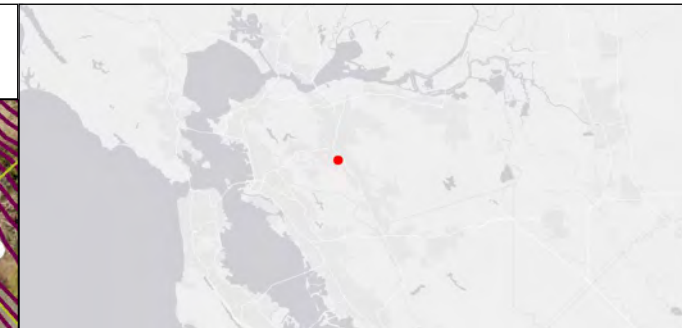
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1: 18,056



This map is a user generated static output from PWMAPS. Data that appears on this map may not be accurate or current.



Legend

AMI_ASSETS: NOT Disposed - OWNERSHIP

- County
- County owned on Leased land
- County-State (State has minority stake)
- Lessor (Leased by County, NOT owned)
- Operational Agreement (Cities pay all costs, County manages)
- State
- State-County (County has minority stake)

All Assets in AMI: Building Numbers

FCROW - ALL

- QUITCLAIM
- FCD FEE TITLE
- FEE TITLE TRANSFER FROM FCD
- FCD EASEMENT
- EASEMENTS GRANTED TO OTHERS
- EASEMENTS RETURNED TO FCD
- PERMIT/LICENSE
- OTHER
- UNKNOWN

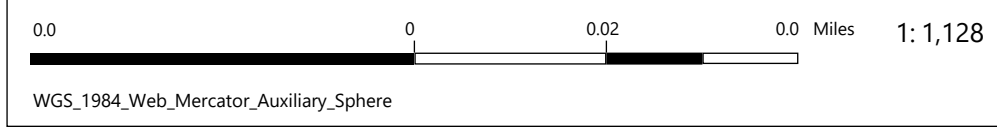
City Legal Limits

- County Maintained Roads
- Full Parcels
- Subdivisions
- County Boundary

100 ft
10 ft
2 ft

Image

- Red: Band_1
- Green: Band_2
- Blue: Band_3



Notes:

This map is a user generated static output from PWMAPS. Data that appears on this map may not be accurate or current.



Contra Costa County
**Public Works
Department**

Warren Lai, Director
Deputy Directors
Stephen Kowalewski, Chief
Allison Knapp
Sarah Price
Carrie Ricci
Joe Yee

Memo

October 2, 2024

TO: Syd Sotoodeh, Project Planner, Department of Conservation and Development
FROM: Larry Gossett, Senior Civil Engineer, Engineering Services Division
SUBJECT: **TREE PERMIT TP22-0045**
STAFF REPORT AND CONDITIONS OF APPROVAL
(Weiss-Ishai/Castle Hill Ranch Road/Walnut Creek/ APN 188-150-010)
FILE: TP22-0045

We have reviewed the application for tree permit TP22-0045 and supplemental documents received by your office on September 24, 2024, and submit the following comments:

Background

The property is located at 201 Castle Hill Ranch Road in the unincorporated Walnut Creek/Alamo area. The parcel is long and narrow in shape with a creek running through the middle. It is bounded by Castle Hill Ranch to the east and single-family residential lots to the north, west, and south. In addition to the creek running through the property and underneath the existing house, a tributary of Tice Creek has been undergrounded on the property along the easterly property line near Castle Hill Ranch Road.

The applicant seeks approval of a Tree Permit to allow the removal of five code protected trees and work within the driplines of seven trees for the purpose of constructing an addition to the existing single-family residence and a detached ADU on the subject property. The applicant also requests approval of an exception to allow a 10-foot creek structure setback for the building addition and the ADU. The exception request is the issue that is being referred to Public Works for review and comments and is the focus this memorandum.

Creek Structure Setback

The County Ordinance Code requires the establishment of a creek structure setback line within proximity of unimproved earthen channels. The creek structure setback is determined by using the criteria outlined in Chapter 914-14, "Rights of Way and Setbacks," of said Code.

The applicant has requested an exception from the Code's setback requirements. The provided site plan shows the addition to the existing residence, as well as the proposed ADU located at a proposed reduced creek structure setback of 10 feet from the top of bank which, while not calculated, is considerably less than the 30-foot minimum usually expected for a watercourse such as this.

In conjunction with the exception request, the applicant provided a geotechnical report to verify the stability of the existing creek bank, along with foundation design recommendations to mitigate potential geologic hazards that may be increased as a result of the setback reduction. These recommendations were made in advance of any data regarding stormwater velocity in the creek and should be considered as preliminary.

Subsequent to the preparation of the geotechnical report, hydrology and hydraulic calculations were submitted to determine the 100-year flood depth in the vicinity of the proposed addition to the existing house. These computations also yielded the velocity of the flood waters in the creek as an aid to the geotechnical engineer in evaluating erosion potential of the creek bank.

In the event the "Advisory Agency opts to grant the exception request, the factors described above should be considered in the final foundation design incorporated into the structures.

Floodplain Management

Although the site is not located within a FEMA designated Special Flood Hazard Area, permits issued for buildings, including accessory dwelling units (ADU) , are required to comply with the drainage requirements of Division 914 of the County Ordinance Code. This includes they be constructed above the 100-year floodplain elevation. A specific flood depth at the ADU site has not been determined. This portion of the creek has been partially filled and replaced a culvert. Prior to issuance of the building permit for the ADU, supplemental calculations of the 100-year flood depth will be required to verify compliance with County Code.

Drainage Area Fee and Creek Mitigation

Regardless of the tree permit or setback exception, building permits creating additional impervious surfaces are subject to the drainage fee requirements for Drainage Area 67 as adopted by the Board of Supervisors. This fee is paid prior to issuance of a building permit.

LG:bg
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Cc: A. Knapp, Deputy Director
J. LaRocque, Engineering Services
K. O'Connor, Engineering Services
Sagiv Weiss-Ishai, owner/applicant
201 Castle Hill Ranch Road
Walnut Creek, CA 94595

**PUBLIC WORKS RECOMMENDED
CONDITIONS OF APPROVAL FOR PERMIT TP22-0045**

Applicant shall comply with the requirements of Title 8, Title 9 and Title 10 of the Ordinance Code. Any exceptions must be stipulated in these Conditions of Approval. Conditions of Approval are based on the site plan and supplemental documents submitted to the Department of Conservation and Development on September 24, 2024.

COMPLY WITH THE FOLLOWING CONDITIONS OF APPROVAL PRIOR TO ISSUANCE OF A BUILDING PERMIT.

General:

- For Public Works compliance review relative to this Permit, a Compliance Review Fee deposit shall be submitted directly to the Public Works Department in accordance with the County's adopted Fee Schedule for such services. This fee is separate from similar fees required by the Department of Conservation and Development and is a deposit to offset staff costs relative to review and processing of these conditions of approval and other Public Works related services ancillary to the issuance of building permits and completion of this project.

Creek Banks and Creek Structure Setbacks:

- Property owner shall relinquish "development rights" over that portion of the site that is within the structure setback area of the tributary of Tice Creek traversing the subject property. The structure setback area shall be determined by using the criteria outlined in Chapter 91414, "Rights of Way and Setbacks," of the Subdivision Ordinance. "Development rights" shall be conveyed to the County by grant deed.

Exception subject to approval of the Advisory Agency

- The structure setback area may be reduced per the site plan considering the flowrate and velocity of the runoff in the creek reviewed by the Public Works Department and with the Geotechnical Engineer's evaluation and recommendations as to foundation design and concurrence the creek banks and structure will be stable.

Hold Harmless

- The property owner shall be aware that the creek banks on the site are potentially unstable. The property owner shall execute a recordable covenant which states that the property owner and the future property owner(s) will hold harmless Contra Costa County and the Contra Costa County Flood Control and Water Conservation District in the event of damage to the on-site and off-site improvements as a result of creek-bank failure or erosion.

Floodplain Management

- Prior to issuance of the building permit for the ADU provide calculations of the 100-year flood depth at the ADU's site. The ADU is subject to the requirements of Section 914-2.002(a) of the County Ordinance Code

Drainage Area Fee Ordinance:

- Applicant shall comply with the drainage fee requirements for Drainage Area 67 as adopted by the Board of Supervisors. This fee shall be paid prior to issuance of building permits.

ADVISORY NOTES

- Applicant will be required to comply with the requirements of the Bridge/Thoroughfare Fee Ordinance for the South Contra Costa (SCC) Regional, Tri-Valley and South County Areas of Benefit as adopted by the Board of Supervisors. Payment is required prior to issuance of a building permit.
- Applicant shall comply with all rules, regulations, and procedures of the National Pollutant Discharge Elimination Systems (NPDES) for municipal, construction and industrial activities as promulgated by the California State Water Resources Control Board, or any of its Regional Water Quality Control Boards (San Francisco Bay - Region II).
- This project may be subject to the requirements of the Department of Fish and Wildlife. It is the applicant's responsibility to notify the Department of Fish and Wildlife of any proposed construction within this development that may affect any fish and wildlife resources, per the Fish and Game Code.
- This project may be subject to the requirements of the Army Corps of Engineers. It is the applicant's responsibility to notify the appropriate district of the Corps of Engineers to determine if a permit is required, and if it can be obtained.