MARIN COUNTY COMMUNITY DEVELOPMENT AGENCY

DIPSEA RANCH LAND DIVISION PROJECT INITIAL STUDY / MITIGATED NEGATIVE DECLARATION AMENDMENT

COMMENTS ON THE IS/MND AMENDMENT AND RESPONSES TO COMMENTS

1. Introduction

A. Background of Previous Project Approval

The Dipsea Ranch Land Division project (the "Project") would permit a Land Division to subdivide an existing 8.29-acre lot, located at 455 Panoramic Highway in unincorporated Mill Valley (the "Project site"), to create 3 single-family residential lots. The Project Applicant (the "Applicant") is the property owner, Daniel Weissman.

The Project site is currently developed with a 2,745 square foot (sf) single-family residence, a 1,400 sf 4-car garage, and a 480 sf detached accessory building. Several unpaved roads traverse the lower part of the property, including a gated "Fire Road" that provides access from Panoramic Highway. Access to the new lots would be provided via the existing entry driveway at 455 Panoramic Highway, which would be improved and extended. The Project proposes installation of two new on-site sewage disposal (i.e., septic) systems. Water service would be provided by the Marin Municipal Water District (MMWD), which currently serves the existing residence. The Project proposes the development of a stormwater management system that would utilize a system of storm drains, cisterns, and bioswales to control runoff.

The Project also proposes the permitting of grading activity that took place in March 2014 without the benefit of permits, when a quantity of soil was brought onto the Project site and used as fill to elevate the Fire Road.

As Lead Agency under the California Environmental Quality Act (CEQA), Marin County prepared an Initial Study/Mitigated Negative Declaration (the "IS/MND") for the Project.[1] The 2020 IS/MND, prepared by Sicular Environmental Consulting and Natural Lands Management ("Sicular"), concluded that, with the addition of several mitigation measures, the Project would not have a significant adverse effect on the environment. The Applicant agreed to incorporate the mitigation measures in the Project and the Project therefore qualified for a Mitigated Negative Declaration (MND). During a 30-day public comment period, Marin County received numerous comments on the Project and on the IS/MND. The County responded to all comments,[2] and, on July 27, 2020, the Planning Commission voted 7-0 to adopt the IS/MND and to approve the Project. The Planning Commission's decision was appealed to the Marin County Board of Supervisors by the Watershed

[1] Marin County Community Development Agency, 2020. Dipsea Ranch Land Division Initial Study and Mitigated Negative Declaration. Prepared by Sicular Environmental Consulting & Natural Lands Management. Adopted by the Marin County Board of Supervisors October 6, 2020. As used in this document, the "IS/MND" includes the Initial Study and Draft Mitigated Negative Declaration issued by the Community Development Agency in December 2019, as well as the response to comments documents cited in the following footnotes, and, by extension, all documents in the Administrative Record.

[2] Marin County Community Development Agency, 2020. Dipsea Ranch Land Division Project Initial Study/Draft Mitigated Negative Declaration: Comments On The Initial Study And Responses To Comments. Prepared by Sicular Environmental Consulting & Natural Lands Management, March 2020.

Alliance of Marin, Sierra Club, and Friends of Muir Woods Park, who submitted additional comments accompanying the appeal. The County responded to the comments received from the appellants, as well as additional comments received during the appeal process.[3] Following a public hearing, the Marin County Board of Supervisors on October 6, 2020 denied the appeal, upholding the adoption of the MND and the approval of the Project. A Notice of Determination was filed by the County Clerk and posted by the State Clearinghouse on October 13, 2020.

B. Lawsuit and Court Order

In November 2020, two of the appealing parties, the Watershed Alliance of Marin and Friends of Muir Woods Park ("Petitioners"), filed a Petition for Writ of Mandate with the Marin County Superior Court, seeking to set aside the County's adoption of the MND and approval of the Project, alleging that the Project would have numerous significant adverse impacts on the environment. On January 10, 2022, the Court issued an Order after Hearing (the "Court Order") granting the Petition for Writ of Mandate in part. The Court found that the IS/MND did not satisfy the informational requirements of State CEQA Guidelines Section 15063 with respect to three areas: (1) the description of the Project as it pertains to the location of surplus fill, to the extent left on-site; (2) the current condition of soil stability around the Fire Road; and (3) the location of drainages on the property in relation to stream or wetland conservation areas, any mechanisms to be employed to divert water from these areas as discussed by the consultant at the Board of Supervisors hearing, and associated environmental impacts, if any, from the drainages and diversion of water from those areas. The Court denied the Petition as to all other issues raised by the Petitioners.

The Court issued a limited writ directing the County to set aside its resolutions adopting the MND and approving the Project, and to take further action necessary to comply with CEQA and the State CEQA Guidelines, specifically Section 15063. The Court did not direct the County to prepare an Environmental Impact Report (EIR), finding that the Petitioners had not identified substantial evidence supporting a fair argument that the Project may have a significant effect on the environment. Instead, the Court ordered the County to satisfy the instructional requirements of State CEQA Guidelines Section 15063, including whether to issue an MND or order preparation of an EIR.

The Court also found that any further judicial review, including the return on the writ of mandate, shall be limited to the evidence contained in the Administrative Record (AR) lodged in that litigation, plus the addition of any new information limited to the three areas

[3] Sicular, Dan, 2020. Memo from Dan Sicular, Sicular Environmental Consulting & Natural Lands Management, to Sabrina Cardoza, Rachel Reid, and Tammy Taylor, Marin County Community Development Agency, re: Responses to Issues Raised in the Appeal of the Planning Commission's Approval of the Dipsea Ranch Land Division Project. September 22, 2020. Hudson, Peter, and Justin Taplin, 2020. Letter from Peter Hudson and Justin Taplin, Sutro Science, to Dan Sicular, Sicular Environmental Consulting, re: Technical Review of Lotic Environmental Services Technical Memorandum Submitted in Support of Appeal of Planning Commission Decision on 7/27/20: Dipsea Ranch Land Division Initial Study, Marin County, California. October 5, 2020.

subject to the limited writ. The Court also found that any further judicial review will not include additional information or evidence beyond that already in the AR, concerning environmental impacts that are not subject to the three issues identified in the limited writ.

To comply with the Court Order, Sicular prepared an Amendment to the 2020 IS/MND (the IS/MND Amendment)[4] on the County's behalf. The IS/MND Amendment was circulated for a 20-day public review period beginning Friday, June 24 and ending Friday, July 15**.** The County advised reviewers to limit comments to the three issues outlined in the Court Order. The IS/MND Amendment will be presented for consideration to the County Board of Supervisors on August 23, 2022, along with the Board's consideration of re-adoption of the IS/MND and Project approval.

C. Response to Comments

This document contains copies of comment letters on the IS/MND Amendment received during the public review period, and the responses to those comments. The letters are included in Section 3, Comment Letters and Individual Responses. Each written comment letter is designated with a number (1 through 29) in the upper right-hand corner of the first page of the letter. Within each written comment letter, individual comments are labeled with a number in the margin. Comments are referred to in the format: comment 3-4, designating, in this example, comment 4 in Letter 3. Immediately following each comment letter is an individual response to each numbered comment. Only substantive comments addressing the IS/MND Amendment are responded to: comments expressing the commenter's support for or opposition to the Project are not responded to. Comments addressing issues other than the three identified in the Court Order are responded to by referring to the relevant sections of the IS/MND and other documents produced as part of the environmental review, or with a brief response recounting past analysis of the issue.

Section 2 of this document presents three "Master Responses," one covering comments on each of three issues raised in the Court Order. Master Responses are cross-referenced in the individual responses.

Comments were received from the following individuals and organizations:

Letter Designation	Commenter's Name and Affiliation (if any)
1.	Laura Chariton, Watershed Alliance of Marin
2.	Laura Chariton, Watershed Alliance of Marin
3.	Jinesse Reynolds, Marin Sierra Club
4.	Edward Yates, Law Office of Edward E. Yates, with attached letter from Laurel Collins

[4] Marin County Community Development Agency, 2022. Dipsea Ranch Land Division: Amendment to the 2020 Initial Study/Mitigated Negative Declaration. Prepared by Sicular Environmental Consulting & Natural Lands Management, June 2022.

Letter Designation	Commenter's Name and Affiliation (if any)
5.	Louette Colombano
6.	Lonnie Barbach
7.	Douglas Ullman
8.	Arlene Hoffman
9.	Diana Williams
10.	Robert Cantor & Gail Mason
11.	Dorothy McQuown
12.	Abby Hill
13.	Woodward Payne
14.	Beverly Anderson
15.	Susan Hayes
16.	Robert Wright
17.	Gordon Robinson
18.	Judy Schriebman, with attached letter from Preston Brown
19.	Susan Letteer
20.	Rebecca Heitz
21.	Lee Budish
22.	Susan Hopp
23.	John & Elizabeth Graham
24.	Mark & Roberta Weis
25.	Michele McCabe
26.	Scott Summit
27.	Sara Burgess
28.	Ty Cashman
29.	Edward Hyman

D. Summary and Conclusions

After reviewing all comments received during the public comment period, the conclusions of only less-than-significant impacts reached in the IS/MND and in the IS/MND Amendment remain unchanged: the Project, as mitigated, would not result in a significant environmental impact. As detailed in the following responses, comments do not provide substantial evidence to support a fair argument of a significant impact. An EIR is not required.

2. Master Responses

Master Response 1: Disposition of Surplus Fill

As noted in the IS/MND Amendment, the Project has been modified by the Applicant to specify that the approximately 140 cubic yards of surplus soil resulting from site grading will be disposed off-site in accordance with applicable laws and regulations, not stockpiled on-site. Per the Court Order, p. 15, "If the fill is expected to be removed off-site or placed in an area where potential erosion into the streams is not an issue, the issue of surplus fill may be summarily addressed." Per the Court Order, the IS/MND Amendment addresses the issue briefly.

Numerous commenters, however, go beyond the scope of the Court Order and request information on where excess soil would be disposed. They furthermore call for a commitment by the Applicant to adhere to a disposal plan. The commenters state that it is difficult to dispose of soil and speculate that soil from the Project could be disposed improperly, posing a hazard to water quality and the salmonid fishery in Redwood Creek. As a courtesy to the commenters, and in the interest of being as reasonably thorough and responsive as possible, these issues are addressed briefly below.

Contrary to the statement by commenters that surplus soil is difficult to dispose of, there is a substantial and steady demand for uncontaminated earthen material for construction. Grading contractors typically use surplus soil from one project as fill for another. If it needs to be disposed, landfills typically accept clean fill for low charge or no charge, as it used as cover material in landfill operations. Redwood Landfill, north of Novato, lists the fee for disposal of "clean dirt (Non-Hazardous)" at $15 per cubic yard[5] (Redwood Landfill, 2022). The Marin Resource Recovery Center in San Rafael also accepts clean soil (no weeds or branches) at $70 per cubic yard.[6] If there is any indication that the soil may be contaminated, it could fall under testing, handling, and disposal regulations of the State Department of Toxic Substances Control, and the federal Resource Recovery and Conservation Act, potentially requiring on-site remediation and/or disposal in a Class I or Class II disposal facility. However, as discussed in IS/MND Section IV.9, Hazards and Hazardous Materials, there is no indication of soil contamination at the Project site.

Applications for County Grading Permits (a grading permit will be required for the Project) are required to include, "a notation stating the amount and location of any material to be deposited in areas [of the subject property] other than that shown on the [grading] plans"

[5] Redwood Landfill, Inc. 2022. Rates. https://redwoodlandfill.wm.com/about-us/rates.jsp. Accessed August 8, 2022.

[6] Marin Resource Recovery Center, 2022. Telephone inquiry by Dan Sicular, Sicular Environmental Consulting, to Marin Resource Recovery Center customer service, August 8, 2022.

(Municipal Code Section 23.08.050 (3) (g)). There is no requirement to specify the destination for surplus material that will be hauled off-site, however.

With regard to the laws and regulations governing disposal, Marin Municipal Code Section 7.04.120 addresses illegal dumping:

> No person shall place, deposit or dump, or cause to be placed, deposited or dumped, any garbage, rubbish or refuse upon any public or private highway or road, including any portion of the right-of-way thereof, or any private property without the consent of the owner, or in or upon any public park or other public property.

Municipal Code Section 7.04.130 establishes the penalty for violation:

> Any person who violates the provisions of this chapter, except where other penalties are specified, shall be guilty of a misdemeanor and upon conviction thereof shall be punished by imprisonment in the county jail for a period not to exceed six months, or a fine not to exceed the sum of five hundred dollars, or by both such imprisonment and fine.

Municipal Code Section 23.18.091 addresses littering that may result in pollution of waterways:

> Except for pollutants lawfully disposed of by way of containers or at lawfully established dumping grounds, no person shall throw, deposit, leave, maintain, keep, or permit to be thrown, deposited, placed, left or maintained, any refuse, rubbish, garbage, or other discarded or abandoned objects, articles and accumulations, in or upon any street, alley, sidewalk, storm drain, inlet, catch basin, conduit or other drainage structures, business place, or upon any public or private lot of land in the county, such that, in the opinion of the agency [i.e., the Public Works Department], the same might be or become a pollutant discharged to the waters of the United States.

Section 23.18.100 states that such violations constitute a public nuisance requiring abatement and restoration:

> Any condition caused or allowed to exist in violation of any of the provisions of this chapter constitutes a threat to the public health, safety and welfare, and is deemed and declared to be a public nuisance and may be summarily abated and/or the property restored to its original condition, and/or enjoined or otherwise be compelled to cease and desist, by the agency, or by actions taken by the county counsel.

Given that clean fill is readily disposable in a safe, responsible, and usually relatively inexpensive manner, and also given the penalties for illegal dumping, it is reasonable to anticipate that surplus soil from the Project will be properly disposed, according to applicable laws and regulations, without a significant environmental impact, as stated in the IS/MND Amendment. There is no legal requirement for an applicant for a grading permit or subdivision to specify where surplus soil will be disposed.

Master Response 2: Fire Road Soil Stability

Introduction

As discussed in the IS/MND Amendment, the Court Order states that, "[w]hile the description of the current state of the property around the roads appears on its face to address slope instability concerns, the IS/MND does not describe the more recent investigation or studies that were conducted to reach these conclusions or support the description of the current state of the property in the IS/MND" (Court Order, p. 15:22-23). In response to the Court Order, an additional field examination of the Fire Road was conducted on May 4, 2022 by the consulting team's California Certified Engineering Geologist (see resumé for Peter Hudson in Appendix A). As detailed in Section 2.B of the IS/MND Amendment, observations during that examination revealed no conditions indicating slope instability or failure on the Fire Road fill prism. The Fire Road fill appears intact and the dense vegetation (i.e., a dense stand of acacia trees) that has established on the 4(H):1(V) embankment slope contributes to its overall stability. Additionally, field examination of the culvert underneath the Fire Road fill revealed that it is effectively conveying surface flow beneath the Fire Road from upslope. Based on these observations, the Certified Engineering Geologist concluded that the Fire Road is a well-drained structure that has remained stable for the past 8 years, and that exhibits no indication of future instability.

Many comments received on the IS/MND Amendment focus on the stability of the Fire Road fill, the stability of the slope underlying the Fire Road fill, and stability of the slopes that support existing fire trails on the sloped, lower portion of Project site, and the potential for slope failure and delivery of sediment to tributaries to Redwood Creek. No comments received on the IS/MND Amendment directly refute the conclusions drawn by the Certified Engineering Geologist's May 4, 2022 evaluation of the Fire Road fill and its current stability. Most of the comments addressing the Fire Road fill and slope stability are contained in the comments from Laurel Collins (Letter 4) and Joseph Brunner (Letter 2). Ms. Collins' letter, in particular, focuses on what she describes as the "East Slide," which, as described below, is a feature that exhibits characteristics of past slope failure in the eastern portion of the property. The IS/MND and the IS/MND Amendment both acknowledge the presence of this feature. Ms. Collins also attempts to draw a connection between slope instability in both the "East Slide" and slope failures around other existing fire trails (described by Ms. Collins as "Older Fire Trails") and sediment delivery to the stream system.

In response to these comments, a supplemental evaluation and field reconnaissance to field-check the commenters' claims was conducted in August 2022. During that evaluation, features and conditions discussed in the comments were examined by the consulting team's California Certified Engineering Geologist. It should be noted that Ms. Collins is not a California licensed engineer or geologist. According to her Curriculum Vitae, which is included as comment 4-42, she lacks a graduate degree or a degree in science. Furthermore, she lacks any State certification as a geologist, and therefore cannot legally

practice geology in the State of California, as defined in Title 16, California Code of Regulations Section 3003(f). While she has a lengthy work history as a field and lab technician and as a natural resources planner, her conclusions in the comments above are not based on fact or observation of the natural world, but on conjecture, speculation, mistaken assumptions, and misinterpretations. Her evaluation of site conditions was based solely on review of historic aerial photography and observations of the Project site from adjoining properties and publicly accessible roads and trails. Most, if not all, of the conclusions made by Ms. Collins were not based on actual field observation, site-specific analysis, or additional testing, but rather are interpretations based on her remote observations, opinions, and presumptions. Given her lack of qualifications and her questionable methodologies, her views cannot be considered evidence-based opinions of a qualified expert.

The letter submitted by Ms. Collins best represents the comments on Fire Road stability and slope failure on the property and, therefore, this Master Response responds primarily to her comments. Mr. Brunner's comments focus on the construction of the Fire Road fill and its ability to remain stable under load (i.e., to support firefighting equipment). Comments on the issue of Fire Road fill and slope stability from other commenters appear to have been informed by Ms. Collins' and Mr. Brunner's comments, and repeat the same issues raised. These issues are addressed below. In addition, some of the comments from Ms. Collins and Mr. Brunner are responded to individually in Section 3.

The 2015 Herzog Preliminary Geotechnical Report

Ms. Collins expends considerable effort commenting on her perceived shortcomings of Herzog's 2015 preliminary geotechnical report[7] and its accompanying "landslide map," as she terms it. It should be noted that Herzog's 2015 report and its accompanying Exploration Plan/Geologic Map were prepared to evaluate the geological and geotechnical conditions on the Project site for what was originally proposed as a 13-lot subdivision. Preparation of preliminary geotechnical investigations is a standard industry practice, which is conducted to assess whether a development project is feasible from a geotechnical perspective. These studies typically use existing published geologic information, coupled with site investigation and mapping, to evaluate site topography, surface and subsurface geology, geological hazards, and associated development constraints. The findings from the studies typically provide preliminary engineering recommendations for foundation design and the mitigation of issues such as slope instability, liquefaction, expansive soils, and ground shaking. In most cases, the preliminary geotechnical investigation is followed by a design-level geotechnical investigation, which is far more comprehensive and includes site reconnaissance, subsurface exploration, and soil testing adequate to provide building lot and foundation-specific geotechnical recommendations based on the localized conditions.

[7] Herzog Geotechnical Consulting Engineers, 2015. Preliminary Geotechnical Investigation, 455 Panoramic Highway (APN 46-161-11 & 46-221-07) Mill Valley California. Project No. 2147-02-15, November 3, 2015. Prepared for Daniel Weissman.

Throughout her comments, there are references to what Ms. Collins implies are shortcomings of the 2015 Herzog report and map (Ms. Collins refers to these as the "Herzog Geotechnical Report" ("HGR") and the "Herzog Landslide Map" ("HLM")). Several examples of these supposed shortcomings are contained in comment 4-30 on page 46 of her letter. The absence of these elements (e.g., HGR does not assess activity status, depth, or mode of failure of all on-site landslides; the HLM does not delineate the protected wetland) in Herzog's report does not constitute a deficiency or error in the report. The 2015 Herzog report provided the information necessary to assess the Project site at a preliminary level for geotechnical feasibility, performed under a scope of work consistent with accepted industry standards for that level of investigation, assuming that a design-level geotechnical investigation would be completed at a later stage of Project design. Ms. Collins erred in her expectation that the 2015 Herzog geotechnical investigation would or should be an all-encompassing and comprehensive slope stability and drainage analysis that would include all of the elements listed in comment 4-30. This underscores Ms. Collins' misunderstanding of the proposed Project, the current stage of Project design, and the sources available for data and information. The IS/MND and IS/MND Amendment were based on several sources, including the 2015 Herzog report and Herzog's 2018 update,[8] but also including the hydrology report prepared for the Project,[9] a seminal report published by the California Geological Survey,[10] as well as repeated site reconnaissance by the consulting team's Certified Engineering Geologist and Hydrologist. See complete reference list in IS/MND Section IV.7, Geology and Soils, and in citations in Response to Comments on the IS/MND, Master Response 4 and in the IS/MND Amendment, Section 2.B.

The "East Slide"

The term "East Slide" was used by Ms. Collins to refer to the topography Herzog identified as landslide deposits in the eastern-most portion of the Project site. Herzog mapped landslide deposits encompassing much of a south-trending swale. As discussed in the IS/MND, Herzog field-verified potential slope failures that were originally identified by regional landslide mapping completed by Rice in 1976. During the 2015 geotechnical investigation, Herzog advanced a soil boring through the Fire Road fill and encountered soft, wet sandy clay starting at a depth of 8 feet, identified as slide debris. Other than noting hummocky and lobate surface topography indicative of past landsliding, Herzog did not identify features in this area that suggested active downslope soil movement. Furthermore, Herzog's 2015 investigation, which was conducted after the 2014

[8] Herzog Geotechnical Consulting Engineers (Herzog), 2018. Report Update Preliminary Geotechnical Investigation, 455 Panoramic Highway (APN 46-161-11 & 46-221-07) Mill Valley California. Project No. 2147-02-15, May 1, 2018. Prepared for Daniel Weissman.

[9] Ziegler Civil Engineering, 2018a. Dipsea Ranch Land Division Plan Set. Revised December 20, 2018.

[10] Rice, Salem J., Smith T., and Strand R., 1976. Geology for Planning: Central and Southeast Marin County, CDMG Open File Report 76-2 California Geological Survey (CGS) 1976. [formerly the California Department of Conservation, Division of Mines and Geology (CDMG)].

unpermitted grading of the Fire Road, did not identify features on or around the Fire Road that suggested downslope failure of the recently completed fill structure.

Ms. Collins attempts to establish that the "East Slide" is an active landslide. Much of the evidence she presents to support that assertion is based on observations of features identified on low-resolution, single-frame aerial photographs overlaid onto Google Earth topography. This not the best available, or even a generally accepted method of landslide interpretation (see response to comment 4-14). None of her interpretations were verified by field reconnaissance. For example, Ms. Collins identified fallen trees (comment 4-21, Figures 28 - 31) and postulated that they fell due to movement on the "East Slide" as a consequence of the Fire Road fill placement. She also identified features that she interpreted as slumps[11] and scarps[12], and speculated that they were indicative of downslope movement of the Fire Road fill (comment 4-19, Figures 26a and 26b). Without verification during an onsite field reconnaissance, many of the observations Ms. Collins made in her attempt to establish that the "East Slide" is an active landslide were merely speculative and based on no actual field data. The fallen trees and areas of potential slump identified by Ms. Collins were examined in the field by the consulting team's California Certified Engineering Geologist in August 2022 and it was determined that Ms. Collins' interpretations were incorrect: these features, where they do exist, do not indicate movement on the "East Slide." Some do not exist at all, and are apparently photographic anomalies or Ms. Collins' incorrect interpretations.

A further illustration of Ms. Collins' misinterpretation of the "East Slide" is shown on Figure 31 in comment 4-21, where she superimposes yellow outlines at her interpreted upper and lower extent of the "East Slide," and labels this area *"Extent of entire East Slide, activity status currently unknown, as interpreted by L. Collins."* This type of geologic interpretation is not only erroneous but dangerously misleading. A licensed Professional Geologist or Certified Engineering Geologist would not have made such a baseless interpretation. Ms. Collins did not evaluate the boundaries of this feature in the field, nor does she offer any concrete evidence that her sketched boundaries: actually represent the extent of the "East Side;" these yellow demarcations are based on aerial photographs and speculation and are nothing more than lines drawn on a map. The "slide" area identified by Ms. Collins extends beyond that which was field-mapped by Herzog, a qualified and licensed geoscience professional, in 2015.

Figure 35 in comment 4-22 is yet another example of improper and incorrect geologic interpretation, made without the benefit of actual field mapping and analysis. In Figure 35, Ms. Collins identifies what she interprets as landslide scars and "landslides within landslides" on the lower slopes of the Project site, along the unnamed tributary she

[11] A slump is a form of mass wasting that occurs when a coherent mass of loosely consolidated materials or a rock layer moves a short distance down a slope. Movement is characterized by sliding along a concave-upward or planar surface. Causes of slumping include earthquake shocks, thorough wetting, freezing and thawing, undercutting, and loading of a slope.

[12] A scarp, or escarpment, is a steep slope or long cliff that forms as a result of faulting or erosion and separates two relatively level areas having different elevations.

identifies as “Headwater Creek” (and sometimes as “Headward Creek”). Ms. Collins appears to have taken the photographs used in this figure from the opposing bank. She has added interpretive white lines in areas where she speculated that slope failures may have occurred. The image underlying the figure is actually a composite of at least two images, clumsily and imperfectly joined together, producing distortions in the image. Field reconnaissance by the consulting team’s Certified Engineering Geologist in August, 2022, verified that a small landslide, as mapped by Herzog in 2015, did occur in this area. This field examination revealed that the slide has stabilized and is not at high risk of depositing sediment to the creek.

There is no evidence that the “East Slide” is an active landslide. This was verified in the field on three separate occasions by the consulting team’s California Certified Engineering Geologist. During the August 2022 field reconnaissance, the entire area of the “East Slide” between the Fire Road fill and the tributary channel downslope was inspected, and each feature Ms. Collins identified as “evidence” of slope movement was examined and evaluated. There was no evidence of downslope movement of the slide feature or the Fire Road fill structure, and no evidence that either is actively delivering elevated levels of sediment to the stream system.

Older Fire Trails and Landslide Deposits

In addition to the landslide deposits in the south trending swale (“East Slide”), Herzog also identified other landslide features along the unimproved roads that were previously graded on the slopes within the property. Ms. Collins devotes several pages (see comment 4-19 and the individual response to that comment in Section 3) to describe these roads and contends that they represent potential slope instability hazards capable of depositing sediment into the stream system. These “Older Fire Trails” were examined during the August 2022 field reconnaissance by the consulting team’s California Certified Engineering Geologist and were found to be in relatively stable condition, with no observed indication of active transport of hillside sediments to the stream system. Many of the “Older Fire Trails” are overgrown with vegetation, an indicator of stability. The slope failures associated with these roads previously identified by Herzog also appeared stable: they are vegetated and show no sign of active downslope movement, surface erosion, or discharge of sediment to the stream system. It is important to reiterate that these roads and landslide deposits on the lower, steeply sloped portions of the Project site are an existing condition and, while they were discussed in the IS/MND, they do not constitute a significant impact of the proposed Project. As discussed in the IS/MND, neither does the Project, which focuses proposed development on a relatively flat ridge, have the potential to reactivate slope failures or erode the fire trails along the lower, less stable portions of the property.

Evidence of Stability of the Fire Road

As discussed in the IS/MND and IS/MND Amendment, the Fire Road fill was placed over an area that exhibited characteristics of past slope instability, described by Herzog as an

earthflow landslide. As discussed above, the area within the boundaries of this landslide appears stable, with well-established vegetation. Based on repeated field evaluation by the consulting team's Certified Engineering Geologist, there is no evidence that this landslide is active. Upslope of the Fire Road fill prism is a vegetation-covered slope with a gradient of approximately 5(H):1(V). Vegetation consists of a dense mixture of grasses, low bushes, and trees. The fill embankment downslope of the roadbed is at a gradient of about 4(H):1(V) and supports vegetation similar to that in the upslope portion in addition to a dense thicket of acacia trees. Acacia trees are effective at stabilizing slopes, because their deep roots help bind the soil and they remove excess pore water from between soil particles. Based on repeated field observations, the consulting team's Certified Engineering Geologist concluded that, since its construction in 2014, the Fire Road fill prism has remained stable and there is no evidence of catastrophic or gradual "creep' failure. In certain cases, especially on steep slopes with active landslides, adding weight to a slope could trigger a downslope failure. This is not, however, the case with the Fire Road. Based on pre-grading topographic mapping (see IS/MND Figure 7), the fill was placed on a low angle slope. The final embankment slope developed after grading was approximately 4:1 and photographic evidence revealed the use of a "sheepsfoot" soil compactor, suggesting that the fill was compacted as it was placed. Drainage of the area upslope of the Fire Road prism is facilitated by a culvert that conveys surface water under the roadway. Considering the existing drainage culvert, the presence of well-established vegetation growing on the fill slopes, and active surface drainage, there is no evidence that the Fire Road fill would become saturated to a degree that would trigger downslope failure of the fill prism.

As stated in the IS/MND Amendment, page 11,

> The examination of the graded Fire Road section involved a visual assessment of the road and downslope fill embankment, which specifically focused on common indicators of soil movement and slope instability or failure. These include sloughing along the embankment face, longitudinal or arcuate cracking on the roadbed, distressed or downslope angled trees (indicator of slope creep), locally displaced soil on the embankment slope (indicator of landsliding and slope failure), areas of comparatively sparse vegetation (indictor of soil creep or areas of sloughing), gully or rill erosion on the road bed (indicator of concentrated stormwater flow over exposed soil) and depressions on the roadbed above the culvert (indicator of "piping"[13]). Consistent with the observations made during the March 14, 2019 field examination, observations made on May 4, 2022 revealed no conditions indicating slope instability or failure.

These observations were confirmed in a follow-up field inspection by the consulting team's Certified Engineering Geologist on August 4, 2022,

Comments suggesting that the Fire Road fill will most likely destabilize and erode are speculative and not based on empirical evidence. There is no evidence that the Fire Road

[13] Piping is the erosion of backfill material around a subsurface feature, such as a culvert, caused by percolating water. Piping can create voids that can lead to caving and localized settlement at the surface.

fill, over the 8 years since it was placed, has destabilized or eroded, or that destabilization or failure is imminent.

Potential for Soil Contamination

As discussed in the Response to Comments on the IS/MND, Master Response 4, the soil used as fill material to raise and widen the Fire Road originated from residential construction projects within Marin County (Tiburon and Ross) and there is no evidence, nor any reason to suspect, that the fill soils are contaminated.

Stability of the Fire Road Under Load

Several commenters state that, because the 2014 grading of the Fire Road was not engineered, the weight-bearing capacity of the road is not known, and it could pose an environmental or life safety hazard if used, for example, by the Fire Department for fire engine access or for other heavy vehicles. These comments raise an issue beyond the scope of the Court Order, which does not address potential future use of the Fire Road, only current soil stability and drainage associated with it. As a courtesy to commenters, and in the interest of being as reasonably thorough and responsive as possible, these issues are addressed briefly below:

- The Fire Department in commenting on the application for the Project did not require improvements to the Fire Road for emergency vehicle access (Albers, 2017). At its discretion, the Fire Department may specify standards for road geometry, weight-bearing capacity, pavement, etc., if an internal road or driveway is to be used for emergency access. The proposed development's driveway (the existing driveway used for accessing the existing residence on the Project site, which would be modified under the Project) is designed for fire engine access and turn-around, apparently to the satisfaction of the Fire Department, which did not comment on its design;
- The Fire Road does not lead to the areas proposed for development and has no turn-around. There is therefore no reason for a fire engine or other emergency vehicle to use this road;
- In terms of fire suppression and fire risk reduction, the Fire Road and other connecting unimproved roads within the Project site have some value as fuel breaks and for access for vegetation management, and may provide access for fire-fighting crews, most likely travelling on foot as the lack of a turn-around precludes safe access for fire engines;
- The Fire Road entrance at Panoramic Highway is gated and padlocked; it is not a public right-of-way nor is it open to the public;
- The Fire Road does not fall into any of the classifications of "roads" in Marin Municipal Code Section 24.04.030, and so is not subject to the County's road construction standards contained in Municipal Code Section 24.04.020 et seq;

- Neither does the Fire Road meet the definition of a “driveway” in Marin Municipal Code Section 24.04.019, as it does not “terminate at a designated on-site parking area.” It therefore is not subject to the County’s driveway construction standards contained in Municipal Code Section 24.04.235 et seq. The designated driveway for the proposed Project is the existing driveway for the existing residence, which would be modified under the Project, as discussed above;
- The Fire Road, along with the other unimproved roads within the Project site, is maintained by the landowner for his own access and property management activities, including vegetation management. The landowner’s use of these internal ranch roads is at his own discretion and his own risk.

Conclusions Regarding Substantial Evidence

Commenters have not produced substantial evidence to support their concerns regarding the stability of the Fire Road and the potential for slope failure or erosion of the Fire Road to result in environmental or health and safety impacts. Commenters’ claims of significant impacts are not based on facts, reasonable assumptions predicated upon facts, or expert opinion supported by facts; they are based on argument, speculation, unsubstantiated opinion or narrative, and evidence which is clearly erroneous or inaccurate. The many and voluminous comments expressing these concerns do not, therefore, provide substantial evidence to support a fair argument that the Project would result in a significant impact. In contrast, the conclusions of the IS/MND and the IS/MND Amendment, as well as the conclusions reached in these responses, are based on substantial evidence, as defined in State CEQA Guidelines Section 15384.

Master Response 3: Stormwater System

Introduction

This Master Response provides additional clarification on baseline conditions at the Project site, the proposed stormwater management system, and the assessment of potential Project impacts on hydrology and water quality in the context of the proposed stormwater management system. Further clarification is also provided regarding existing and proposed stormwater drainage patterns in the context of the Stream and Wetland Conservation Areas and setbacks (SCA and WCA). The hydrology and water quality related comments received on the IS/MND Amendment focus primarily on erosion and sedimentation issues, with a focus on the stability of the Fire Road fill (addressed in Master Response 2), perceived alterations to stormflows and drainage patterns from implementation of the Project, and potential impacts to surface water features resulting from the (inaccurate) perception that stormflows will be concentrated and/or newly directed into SCAs and the WCA within or outside of the Project site.

Most of the IS/MND Amendment comments on issues addressing stormwater and erosion assert that erosion and sediment transport under baseline conditions and following Project

implementation will degrade downstream aquatic habitat, including Coho salmon habitat in the lower Redwood Creek watershed. The most representative of these comments are contained in the comment letters from the Watershed Alliance of Marin (Letter 2) and Preston Brown (Letter 18). No comments received on the IS/MND Amendment credibly or with defensible technical analysis refute the conclusions presented in the IS/MND or the IS/MND Amendment. Instead, many of the comments broadly describe the general mechanism by which an erosion or water quality impact may occur and then speculate about future impacts, providing no informed conclusion based on analysis and empirical facts. For example, Preston Brown (comment 18-3) writes:

> "Excess fine sediment coming from the project, coupled with changes in hydrology, *could* result in salmonid mortality downstream. For example, impacts from excessive sediment runoff, landslides, or heavy rainfall events *can* send fine sediment pouring downslope into the gravel beds of salmon and steelhead nests in Redwood Creek below the property. . . The proposed development's incredibly complex Stormwater Control Plan and routing patterns into the existing wetland and ephemeral creek setbacks *will likely* adversely impact downstream salmon habitat and critical base flows. It *will likely* cause erosion and suspended sediment loads." [emphasis added]

While other commenters refer to Mr. Brown as a "Fisheries Biologist" and he describes himself in his Curriculum Vitae (comment 18-2) as previously holding a position as a "Watershed Biologist," we note that he does not hold a degree in biology. He is not, therefore, a qualified expert in biology. Conclusions in the IS/MND and IS/MND Amendment of less than significant impacts of the Project on aquatic resources in Redwood Creek were made by qualified experts, based on substantial evidence in the record.

Many of the comments (summarized in each section below by technical issue area) raise issues beyond the scope of the Court Order, which concerns only the location of drainages on the property in relation to stream or wetland conservation areas, any mechanisms to be employed to divert water from these areas, and associated environmental impacts, if any, from the drainages and diversion of water from those areas. These issues were thoroughly addressed in the IS/MND Amendment. As a courtesy to commenters, however, and in the interest of being as reasonably thorough and responsive as possible, comments submitted on a range of technical issue areas are addressed in this master response.

As discussed in detail below, the Initial Study's conclusion of a less-than-significant impact remains the same and the concerns raised by the commenters, as well as the information provided as part of comments submitted on the IS/MND Amendment, do not identify substantial evidence supporting a fair argument that the Project would result in a significant impact on or off the Project site related to the alteration of drainage patterns, hydromodification, erosion, sedimentation, water quality degradation, or aquatic habitat. In contrast, the conclusions presented in the IS/MND, the IS/MND Amendment, as well as this RTC, are based on substantial evidence supported by field verification by the County's qualified technical experts.

Existing Conditions

Several commenters expressed concerns that erosion of various land features, such as historic landslide deposits, occurs under baseline conditions, and that such existing conditions represent ongoing "impacts" related to sedimentation of downgradient water courses that were not fully assessed in the IS/MND (e.g. Letter 2 and Letter 4). The concerns raised by commenters are not supported by evidence or direct observation (e.g. Letter 2 and Letter 4 detail that concerns expressed are not supported by observations or measurements on the Project site). Further, existing conditions on the Project site represent not impacts of the Project, but the baseline condition against which potential impacts to water resources were assessed. Specifically, Section IV.4, Biological Resources, and IV.10, Hydrology and Water Quality, of the IS/MND comprehensively analyzed the potential for implementation of the Project, including construction and operation of the stormwater management system, to result in on-site and downgradient impacts related to erosion, sedimentation, hydromodification, and degradation of water quality and aquatic habitat. The analysis of impacts included consideration of whether the stormwater management system would cause new erosion or exacerbate existing erosion conditions on slopes and within drainage pathways as a result of construction or long-term operation and concluded that it would not. Existing and on-going erosion, sedimentation, and hydromodification, and resulting degradation of water quality and aquatic habitat, whether from natural processes, previous development, or past land uses are considered part of the baseline condition, not impacts of the Project and so are not identified as impacts in the IS/MND.

Fire Road and Associated Drainages

Commenters expressed concerns that the areas downstream and upstream of the Fire Road have not been assessed in the context of surface water features, drainages, channel stability, and erosion potential (e.g. Letter 18) and assert (without presenting substantial evidence) that impacts to water quality on-site and downstream are occurring due to hydromodification resulting from the past action involving grading and the placement of fill related to the unpermitted improvements to the Fire Road in 2014 (e.g. Letter 4).

Short-term (during construction) and long-term (post-construction) impacts to water resources and aquatic habitat from implementation of the Project, including past grading and fill associated with the 2014 work on the Fire Road, were comprehensively addressed in Section IV.4, Biological Resources and IV.10, Hydrology and Water Quality of the IS/MND, in Master Responses 2, 3, and 4 in the Response to Comments on the IS/MND, and in responses to comments received during the appeal process.[14] The Initial Study's conclusion of a less-than-significant impact is supported by site-specific studies as well as on-site observations by qualified expert members of the consulting team working as

[14] Hudson, Peter, and Justin Taplin, 2020. Letter from Peter Hudson and Justin Taplin, Sutro Science, to Dan Sicular, Sicular Environmental Consulting, re: Technical Review of Lotic Environmental Services Technical Memorandum Submitted in Support of Appeal of Planning Commission Decision on 7/27/20: Dipsea Ranch Land Division Initial Study, Marin County, California. October 5, 2020.

impartial analysts on behalf of the County. As clarified in detail in the following paragraphs, the qualified technical experts preparing the IS/MND and IS/MND Amendment conducted a number of site visits specifically to assess baseline conditions and potential impacts related to the past action of the 2014 Fire Road grading, as well as proposed future implementation of the Project, including the proposed stormwater management system.

As described in Section IV.10 of the IS/MND, a site visit was conducted on March 14, 2019, by members of the consulting team (see Appendix A), including a Hydrologist and a Certified Engineering Geologist, to determine the location, condition, and stability of drainage features on the Project site and downstream, and also to identify areas of existing or potential future erosion both upstream and downstream of the Fire Road relevant to the proposed stormwater management system. As detailed in Section IV.10, Hydrology and Water Quality of the IS/MND, the Hydrologist who conducted the site visit on March 14, 2019 observed that the erosion control features installed by the property owner were present, in good repair, and were effective in minimizing erosion and sedimentation associated with the Fire Road improvements. Further, dense vegetation observed upslope and downslope of the Fire Road improvements and on the areas adjacent to the culvert and associated ephemeral/intermittent drainage swales and channels, was observed to have stabilized drainage pathways. No evidence of ongoing erosion, including from seasonal winter storms or peak run-off events, was observed.

As described in detail in Section C of the IS/MND Amendment, a follow-up hydrologic field examination was conducted on May 4, 2022 by the Hydrologist who prepared the IS/MND. The hydrologic field examination involved a visual assessment of the existing topography, drainage patterns, and fall lines[15] as well as identifying the boundaries of the Stream Conservation Areas (SCAs) and Wetland Conservation Area (WCA), as defined in the Countywide Plan and shown on Project plans. Project plans[16] were carefully reviewed in the field to confirm the location of proposed built elements (e.g., cisterns, conveyance pipes, and bioswales) associated with the stormwater management system as well as confirmation of the condition and conveyance capacity of existing drainage features and the locations where on-site stormwater runoff flows into and through the SCAs and WCA as part of the planned stormwater system. The hydrologic field examination confirmed the information and findings presented in the IS/MND, Section IV.10, Hydrology and Water Quality, of less-than-significant impacts related to altered drainage patterns, hydromodification, and water quality.

Subsequent to publication of the IS/MND Amendment, a third comprehensive site visit was conducted on August 4, 2022, by the consulting team's Hydrologist and Certified

[15] The most direct drainage pathway for runoff based on local topography.

[16] The following 2018 Plan Set sheets were reviewed in the field:
Sheet 6: Site Plan Overview: 50 Scale;
Sheet 17: Drainage Plan BASMAA;
Sheet 19 - Tentative Map – Site Plan.
Citation: Ziegler Civil Engineering, 2018a. Dipsea Ranch Land Division Plan Set. Revised December 20, 2018.

Engineering Geologist (see Master Response 2) with a focus on slope stability, landslides, the Fire Road, and drainages upstream and downgradient of the Fire Road. Consistent with the findings of the site visit conducted on March 14, 2019 and May 4, 2022, dense vegetation on the slopes and areas adjacent to the culvert and ephemeral channels and other surface water features throughout the site continue to demonstrate well stabilized drainage pathways. No evidence of ongoing erosion related to the Fire Road was observed (see Master Response 2 for further discussion).

No evidence was provided by commenters to support the assertion that ongoing erosion and sediment transport related to historic landslide deposits or other landform features is occurring on the Project site (see Master Response 2 for additional details) to a degree that could degrade water quality and aquatic habitat in downgradient surface waters, including Redwood Creek. The Initial Study's conclusion of a less-than-significant impact remains the same. Concerns raised by the commenters are speculative, and are not based on observation of actual conditions on the Project site. Consequently, they do not represent substantial evidence supporting a fair argument that the Project would result in a significant impact.

Proposed Stormwater Management System

Regarding drainage patterns, commenters expressed concerns that alterations to runoff pathways, the concentration of flows on steep slopes, the routing of stormwater into wetland and stream setback areas, and changes in stormwater discharge (volume and rate) will impact salmon habitat and water quality downstream. Regarding water quality, comments raised concerns that Project stormwater will cause erosion and that development of the site will result in the transport of fine sediment, potentially degrading water quality and aquatic habitat through hydromodification and sedimentation, potentially resulting in salmon mortality. Regarding the proposed stormwater management system and groundwater, concerns were raised that implementation of the stormwater system and development of the site will alter groundwater infiltration, potentially reducing seasonal baseflow in Redwood Creek and degrading water quality while also increasing water temperatures. Commenters present no empirical evidence to support any of these concerns; they are based on speculation, not fact.

The proposed stormwater management system, including design, location, drainage pathways, stormwater discharge, and the assessment of impacts is described in detail in the IS/MND in Section IV.4, Biological Resources and in the IS/MND Amendment under Section C. In summary, and for clarification purposes, the implementation of the Project, including construction and operation of the proposed stormwater management system, would not substantially alter existing drainage conditions on the Project site (see IS/MND Section IV.10, Hydrology and Water Quality, and Response to Comments on the IS/MND, Master Responses 2, 3, and 4). Site stormwater would continue to flow within the existing network of channels, swales, ephemeral/intermittent channels, and culverts that currently

convey stormwater on site.[17] The rate and volume of stormwater would be managed by the proposed stormwater management system such that, through the use of cisterns, vegetated swales, and check dams, the rate and volume of stormwater would not increase on-site where stormwater would flow into and/or through SCAs and/or the WCA or off-site as stormwater leaves the site and flows into tributaries and ultimately to Redwood Creek.[18] No new stormwater management system components would be constructed within SCAs or WCAs.[19] Where stormwater flows into or through an SCA or WCA, as occurs under baseline conditions (representing natural upper watershed contributions of surface flows to onsite wetlands, Redwood Creek and its tributaries), stormwater would be conveyed through the existing on-site drainage features (such as swales, ditches, ephemeral channels, topographic depressions on vegetated slopes) that are hydrologically connected to and associated with SCA and WCA areas.

Based on the proposed design of the stormwater management system, the assessment of impacts presented in the IS/MND considered the potential for implementation of the Project to cause erosion and sedimentation as a result of hydromodification, including as a result of concentrating stormwater flows. The proposed Project would not concentrate stormwater flows (i.e., the rate and volume of stormwater would be managed via the use of vegetated swales, check dams, and cisterns placed or constructed along the existing drainage network) and would not alter drainage pathways. It therefore would not concentrate flows onto steep slopes or in a manner that would cause erosion or gullying and transport sediment into SCA or WCA areas or to downgradient receiving waters. Further, as detailed in IS/MND Section IV.4, Biological Resources, and Section IV.10, Hydrology and Water Quality, the proposed stormwater system is designed to capture fine sediment and particulates, as well as other pollutants, ensuring that development of the proposed building envelopes does not result in sediment transport or degradation of water quality in downgradient receiving waters.

Impacts relating to groundwater resources, impervious surfaces, and infiltration are assessed in detail under topic b) in Section IV.10, Hydrology and Water Quality, of the 2020 IS/MND. In summary, the Project would not add a substantial amount of impervious surface to reduce local groundwater recharge from rainfall infiltration into soils. The addition of 0.31 acres of impervious surface would not markedly alter local groundwater recharge because most precipitation flows as runoff to drainages rather than infiltrating into soils or the underlying bedrock. The addition of the proposed impervious surfaces would not substantially alter this drainage pattern; runoff would continue to run off the site and infiltrate into soils and creek beds downgradient. Additionally, proposed stormwater

[17] See 2018 Plan Set sheets:
Sheet 6: Site Plan Overview: 50 Scale;
Sheet 17: Drainage Plan BASMAA;
Sheet 19 - Tentative Map – Site Plan.

Citation: Ziegler Civil Engineering, 2018a. Dipsea Ranch Land Division Plan Set. Revised December 20, 2018.

[18] See 2020 IS/MND Section IV.10, Hydrology and Water Quality, topic c), as well as Table 10-2.

[19] See IS/MND Amendment Section C.

system features such as bioswales and check dams promote and facilitate infiltration, which would partially compensate for increased impervious surface. Therefore, the Project would not interfere with groundwater recharge or result in reduced baseflows or seasonally increased water temperature in Redwood Creek. Further, the proposed stormwater management system would ensure that drainage patterns, runoff rates, and runoff volumes following Project constrction are substantially similar to existing conditions.

The Initial Study's conclusion of a less-than-significant impact remains the same. Concerns raised by commenters are not based on observations or on an analysis of site conditions and Project plans. They are conjecture and speculation, not fact, and do not represent substantial evidence that could support a fair argument that the Project would result in a significant impact.

Stormwater Management System Maintenance

Regarding water quality and maintenance of the stormwater management system, comments raised concerns that a lack of maintenance of the stormwater management system could result in the transport of fine sediment, potentially degrading water quality and aquatic habitat on-site and downstream.

As described in the project description (see IS/MND page 11), the stormwater management system has been designed to comply with regulatory requirements, including Marin County Stormwater Pollution Prevention Program (MCSTOPPP) and other local, state, and regulatory requirements (see IS/MND Section IV.10, Hydrology and Water Quality). Stormwater system maintenance required under MCSTOPPP and other local County regulations ensure that stormwater systems designed to meet treatment and stormwater control requirements for environmental protection operate as designed over the life of a project in terms of hydraulic capacity, sediment capture, peak runoff attenuation, erosion control, and dissipation.

Under MCSTOPPP, a final Operation and Maintenance Plan (O&M Plan) is required for a Regulated Project as part of final design. The final O&M Plan must include as-built documentation of how the facilities are constructed as well as a complete and detailed list of maintenance and inspection requirements, including inspection frequencies. Specific requirements can include, but are not limited to, removal of soil or debris blocking inlets or overflows, vegetation management and weed control, and mulching soils. MCSTOPPP regulatory requirements for development of a Regulated Project include ownership and responsibility requirements for maintenance in perpetuity.[20]

Additionally, where a Stormwater Control Plan is required for development (the Project would require a Stormwater Control Plan as an MCSTOPPP "Regulated Project"), Marin County Municipal Code Section 24.04.627 (Permanent Stormwater Controls for New and Redevelopment) requires that:

[20] Typically, municipalities require an Operation and Maintenance Agreement that "runs with the land."

- All stormwater management facilities be designed in a manner to minimize the need for maintenance and reduce the chances of failure.
- All stormwater management facilities be maintained according to the approved O&M plan. The person(s) or organization(s) responsible for maintenance must be designated in the plan and stormwater management facilities must be inspected by those responsible for maintenance at least annually. The O&M plan must also describe how the maintenance will be funded.
- The County may perform the maintenance and recover its costs from the responsible person following failure of a responsible person to maintain the stormwater management facilities in accordance with the O&M plan.
- Access by the County to stormwater management facilities for inspections, as provided in Section 23.18.120, must be provided by the property owner.

As part of the proposed Project, a Conceptual Stormwater Control Plan for a Regulated Project[21] (Stormwater Plan) has been developed and submitted to Marin County. As described in Section 6.0 of the Stormwater Plan ("Stormwater Facility Maintenance"), a final stormwater facility maintenance plan will be developed for review and approval by the County, but at a minimum, all of the facilities will be maintained by the owner of the individual parcels where the stormwater improvements are specific to an individual site. In the case where stormwater systems benefit the use of multiple landowners, a cost sharing program will be determined, outlined, and made a part of the final map and deed restrictions or CCR's as appropriate. In the interim, and consistent with Marin County Municipal Code Section 24.04.627, while the established parcels are held by a common owner, the applicant accepts responsibility for interim operation and maintenance of stormwater treatment and flow control facilities until such a time as ownership is formally transferred to a subsequent owner.

The Initial Study's conclusion of a less-than-significant impact remains the same. Concerns raised by the commenters are speculative and not supported by substantial evidence.

Rainfall and Stormwater System Design

Commenters express concerns that the stormwater system design is based on inaccurate rainfall calculations. However, no evidence is presented to support such assertions. Commenters present only examples of historic storm totals (e.g., Comment 2-12 describes 24 inches of rain in 72 hours occurring on February 9, 2014). As described in IS/MND Section IV.10, Hydrology and Water Quality, and as further clarified and discussed in Response to Comments on the IS/MND, Master Response 11, and in responses to comments received during the appeal process,[22] the stormwater management system

[21] A "Regulated Project" is subject to the most stringent stormwater control and treatment design requirements under MCSTOPPP.

[22] Hudson, Peter, and Justin Taplin, 2020, op cit.

design and the assessment of impacts relating to hydrology, drainage patterns, and water quality is based on specific representative design storms. Further, the use of design storms for stormwater conveyance capacity design and environmental assessment is a standard methodology required by various resource agencies (such as the Regional Water Quality Control Board) with technical jurisdiction over water resources and aquatic habitat.

The stormwater management system design was based on the 2 year 24-hour storm (3.38 inches), and the 100-year 24-hour storm (8.73 inches) to determine peak runoff rates and volumes and to ensure the proposed stormwater system remains stable under extreme 100-year storm runoff events (i.e. does not fail, resulting in hydromodification, erosion, or sediment impacts on-site or downstream). Of note, the 100-year 24-hour storm design storm of 8.73 inches is not inconsistent with or of a lower peak intensity than the specific rain events commenters describe. Further, as described in Master Response 11 in the Response to Comments on the IS/MND, to correlate the model and the design storms to site-specific conditions, ensure the accuracy of design parameters, and validate model results used for design (given the acknowledged variability of rainfall at the Project site), field measurements of runoff were conducted to verify model results used for design purposes and to determined that the model results correlated well with measured filed conditions. Also as described in Master Response 11, the stormwater management system design and the assessment of impacts relating to hydrology, drainage patterns, and water quality is based on specific representative design storms, not mean annual rainfall depths of rainfall depths for individual historic storms. The use of design storms represents a conservative design that ensures sufficient capacity and system stability under “worst case” 100-year storm sustained peak rainfall intensity.

The Initial Study’s conclusion of a less-than-significant impact related to the proposed stormwater management system is supported by site specific studies that have been peer reviewed by the qualified technical expert members of the County’s consultant team. The concerns raised by the commenters are speculative and use erroneous assumptions; they do not constitute substantial evidence to support a fair argument that the Project would result in a significant impact.

3. Comment Letters and Individual Responses

Letter 1

From:	Taylor, Tammy
To:	Hall, Chelsea
Subject:	FW: Lotic Environmental CV
Date:	Monday, July 11, 2022 9:06:52 AM
Attachments:	ATT00001.png Pearson_Jason_CV_2020.pdf

FYI:

From: watermarin@comcast.net <lauracharitonn@comcast.net>
Sent: Sunday, July 10, 2022 5:09 PM
To: Taylor, Tammy <TTaylor@marincounty.org>
Cc: Judy Schriebman <judymarinsierra@gmail.com>
Subject: Lotic Environmental CV

Dear Tammy,
For your information here is the CV for the lead, Jason Pearson, that should have been included in the Administrative Record 04097 and with the Lotic Environmental Services Letter. 9/25/2020.

1

Thank you,

Laura Chariton

watermarin.org (501) C3
446 Panoramic Hwy. Mill Valley, CA 94941

WATERSHED ALLIANCE OF MARIN

415 234-9007 cell 415 855-5630

Jason Pearson

Hydrologist/Fluvial Geomorphologist

103 Sequoia Glen Lane
Novato, California 94747
707-363-3484
jason.pearson@lotic-env.com

Professional History

01/2018 – Present, Owner, Lōtic Environmental Services

10/2018 – Present, Applied Technology & Science (ATS), Hydrologist/Fluvial Geomorphologist

09/2004 – 01/2018, AECOM, Senior Hydrologist/Fluvial Geomorphologist

09/2004 – 10/2014, URS Corporation, Hydrologist/Fluvial Geomorphologist

06/2001 – 09/2004: Cal Poly Foundation, Swanton Pacific Ranch, Resource Technician/ Researcher, Davenport, CA

06/2000 – 09/2000: Mendocino Redwood Company, Forestry Technician, Fort Bragg, CA

01/1999 – 04/1999: Cal Poly Foundation, Swanton Pacific Ranch, Watershed Management Intern, Davenport, CA

06/1998 – 09/1998; 06/1997 – 09/1997: USDA Forest Service, Minarets R.D., Forestry Technician (GS-04; GS-03),

Overview

Mr. Pearson is a hydrologist and fluvial geomorphologist with more than 17 years of experience in habitat restoration, fluvial-geomorphology, hydrological studies, natural resource management, forestry, soil science, ecology, biology, and construction. Having worked for public agencies and private industry, Mr. Pearson provides creative solutions to complicated problems using an interdisciplinary and holistic approach.

Project Specific Experience (Lōtic Environmental Services)

Stream Crossings of State Route 1 (SR 1) - Northern Portion of Bolinas Lagoon, Marin County Parks, 2019: In collaboration with Marin County Parks, Parks Conservancy, and Watershed Sciences developed a presentation for the California Fish Passage Advisory Committee (FishPAC) to discuss issues relevant to fish passage and utilization of streams draining to the northern end of Bolinas Lagoon. Presented background knowledge of watershed geomorphology, hydrology, natural and human land use perturbations affecting watersheds, future impacts from sea level rise, salmonid presence and habitat limitations, and impacts of SR 1 and legacy highway improvements to water and sediment transport and alluvial fan morphology.

1 cont.

Phase 1A: Geomorphic Assessment of the Martin Griffin Preserve, Audubon Canyon Ranch (ACR), 2019: Conducted profile surveys of thirteen SR 1 culvert crossings, channels, drainage ditches adjacent to ACR property following Caltrans channel and culvert maintenance activities. Survey results and field assessments were documented in a technical memorandum. Winter 2019 storm assessments conducted at key locations on the four creeks and at the SR 1 culverts during peak flow events were conducted and documented in a technical memorandum addressing changes in channel morphology and current and future risks associated with the roadway, culvert design, sediment deposition, and sea level rise.

Phase 1: Geomorphic Assessment of the Martin Griffin Preserve, Audubon Canyon Ranch (ACR), 2018: Conducted a geomorphic reconnaissance of Pike County, Garden Club Canyon, Picher Canyon, and Volunteer Canyon watersheds to evaluate sources of sediment to streams and effects of a recent 4/2018 stormflow that resulted in noticeable aggradation on alluvial fans. Changes in Garden Club Canyon were specifically analyzed and compared to longitudinal and cross-sectional survey data collected in 2012 to help determine potential risks to SR 1 culverts, trails, and Parsen's Pond east of SR1. Methodology, results, and recommendations from field mapping, surveys, investigations, and the analysis and interpretation from historical documents were summarized in a report along with recommendations for further studies and planning addressing risks to infrastructure from streams and sea level rise. The analysis and results were presented to ACR's Board of Directors and stakeholders including Caltrans, Regional Water Quality Control Board, Greater Farallones National Marine Sanctuary, and Marin County Parks.

Sky Ranch Rehabilitation Project Monitoring, Marin County Parks, 2018: Provided post-construction site assessment and permit compliance monitoring in accordance with a Regional Water Quality Control Board (RWQCB) approved monitoring plan. The site was assessed for erosion and sedimentation issues within a rehabilitated ephemeral drainage and surrounding uplands. Comparative photo monitoring and point-line transect vegetation surveys were conducted to determine absolute cover of vegetation and California Invasive Plant Council ranked invasive species. A report summarizing the assessment methods, monitoring results and progress towards meeting set success criteria, and recommendations was prepared for approval by RWQCB. Project monitoring information was submitted to the San Francisco Estuary Institute's EcoAtlas database for public access.

Education

BS, Forestry and Natural Resources Management, California Polytechnic State University, 2001

MS, Forestry Sciences, California Polytechnic State University, 2004

Specialized Training

2018/ Certified Professional in Erosion Control (CPESC) General Principles Review, EnviroCert International, Inc.

2017/ Qualified Storm Water Pollution Prevention Plan (SWPPP) Practitioner/ Developer (QSP/QSD), Global Environmental Network, Inc.

2011/Level IV: River Restoration and Natural Channel Design, Wildland Hydrology Inc.

2010/Level III: River Assessment and Monitoring, Wildland Hydrology Inc.

2009/Level II: River Morphology and Applications, Wildland Hydrology Inc.

2005/Level I: Applied Fluvial Geomorphology, Wildland Hydrology Inc.

2008/Smith System Driver Safety Training

2007/Fish Passage at Stream Crossings Design Workshop, CDFG, Salmonid Restoration Federation, Fish Net 4C

2007/Wilderness First Aid and CPR Training, Foster Calm/Red Cross

Project Specific Experience (AECOM/URS)

Mindego Lake and Big Spring Bathymetric Surveys and Analysis, Los Altos, CA, Midpeninsula Regional Open Space District, 2017: Conducted a bathymetric and topographic survey of Mindego Lake using a robotic total station to develop a stage-storage curve used to determine lake storage volumes at any stage (elevation). Pond bathymetry and volume calculations were conducted using AutoCAD Civil3D software. Stage levels were referenced to staff gages installed at the lake. Conducted a soil profile analysis on the pond embankment to determine if there was evidence of fill material which would have artificially increased the storage volume of the naturally formed lake. Recorded water depths and aerial extent of Big Spring to provide an estimate of pond volume. Summarized survey methods, data analysis, findings, and recommendations in a memorandum.

Bolinas Lagoon North End Project, Marin County Parks, 2015 – 2017: Conducted fluvial geomorphic surveys on Lewis Gulch and Wilkins Gulch Creeks to assess existing conditions and characterize changes to the streams over time. Cross section and profile surveys were surveyed at various reaches to determine bankfull discharge and hydraulic geometry and compare results to regional curve predictions. Historical document and literature review were conducted to better understand geologic as well as human induced changes on the riparian systems that have affected channel morphology. Knowledge of the site history and channel morphology was used to inform the development of sea level rise/climate change adaptation plan alternatives and a preliminary construction cost estimate. Project alternatives, opportunities/constraints, and project costs were conveyed to project stakeholders and in public meetings. Project goals include alleviating roadway flooding while providing natural resource restoration and enhancement—including improving streams and riparian corridors, Bolinas Lagoon and its fringing marsh, and the surrounding uplands—and beginning climate adaptation to future sea-level rise.

As-Needed Environmental Services, CS-211.D Task Order 10, San Francisco Public Utilities Commission (SFPUC), 2012 – 2018: Provided various services to the SFPUC to maintain infrastructure and enhance various natural resources features as a part of the Goat Rock mitigation site. Services included surveying topography and bathymetry of five stock ponds with a survey grade GPS unit and completion of conceptual pond rehabilitation plans, maintaining a dirt access road during the winter months to minimize erosion and sedimentation to nearby streams, providing advice on managing and enhancing ponds, implementing a grazing experiment to rehabilitate eroded gullies, repairing fences, and oversight of a contractor conducting non-native invasive species control and installation of oak and riparian tree/shrub seedling browse protection cages.

Hydroelectric Compliance Services, Task #15 FERC C37.7 Geomorphology Evaluation, El Dorado Irrigation District, 2016: Lead a field team conducting fluvial geomorphic compliance monitoring surveys at five sites as a part of the El Dorado Hydroelectric Project No. 184 Federal Energy Regulatory Commission hydroelectric relicensing requirements. Survey and assessment work included longitudinal profiles, cross sections, pebble counts, bank erosion hazard index (BEHI) ratings of streambank erosion potential, photo monitoring, and general geomorphic site assessment. Data was analyzed to determine if the District was meeting geomorphic-specific objectives associated with Project No. 184 operations which included maintaining or restoring channel integrity; maintaining, improving, or restoring fluvial processes that provide for balanced sediment transport, channel bed material mobilization and distribution, and channel structural stability.

Bioregional Habitat Reserve Program, San Francisco Public Utilities Commission (SFPUC), 2008 – 2017: Conducted fluvial geomorphic studies on San Antonio, Alameda, Calaveras, and Sheep Camp Creeks to inform designs and specifications for stream restoration and habitat enhancement. Additional studies included soil mapping and testing, groundwater piezometer installation and analysis, and stream gage installation and analysis for hydrology and hydraulics studies. The studies were necessary for design of SFPUC's off-site impact compensation areas near San Antonio and Calaveras Reservoirs. The project included stream, wetland, pond, and gully restoration; oak woodland, savannah, riparian, native grassland rehabilitation, establishment, and enhancement; sagebrush and serpentine grassland enhancement; and grazing management on five separate mitigation areas. Assisted in development of a Mitigation and Monitoring Plan (MMP) for all SFPUC mitigation areas in the Sunol region. Developed conceptual

1 cont.

Specialized Training (cont'd)

2006/Backpack Electrofishing and Fish Handling Techniques, Northwest Environmental Training Center

2005/OSHA 40-Hour HAZWOPER Training, Compliance Solutions

2004/FEMA Public Assistance and Debris Monitoring

1999/Forest and Range Road Assessment and Inventory, Pacific Watershed Associates, Inc.

restoration design options for all mitigation areas, presented results of existing conditions surveys and options to the client and regulatory agencies to gain acceptance of the MMP. Served as the project engineer for the development of design plans, specifications, and cost estimate (PS&E) for the San Antonio and Sheep Camp Creek Mitigation Areas. Served as a lead designer for restoration PS&Es for the remaining four mitigation areas. Regularly presented design information and provided permitting support to the SFPUC at inter-agency task force meetings and site visits. Provided technical design support during the construction phase for four mitigation sites answering requests for information, submittals, and change orders. Provided implementation guidance to the construction managers and contractors to ensure conformance to project plans, specifications, and agency permitting requirements. Supervised contractor installation of in-stream grade control and bank protective structures.

Senador Mine Restoration, Santa Clara County Parks, 2016 – 2017: Provided field quality assurance/quality control inspections and guidance to a contractor implementing instream step-pool and channel construction activities as a part of a larger historic mine waste remediation project. Conducted routine inspections, attended client/contractor weekly meetings, and documented issues and concerns and worked with the contractor to successfully implement the project given time and budgetary constraints. Conducted a site assessment of the work following the first winter rains of the season and installed several photographic monitoring points. Drafted a monitoring memorandum to be submitted to the Regional Water Quality Control Board.

1 cont.

As-Needed Environmental Services, CS-211.D Task Order 12, San Francisco Public Utilities Commission (SFPUC), 2016 – 2017: Provided field assessment and design at four locations where erosion control issues where affecting stream and wetland resources at two mitigation sites. Provided assessment of a wetland that was failing success criteria and provided guidance and design of measures to improve wetland water retention time while minimizing site disturbance. Technical design guidance memos were drafted along with design plans with appropriate specification detail for contractor scoping and budgeting. Provided contractor oversite, supervision, and assistance in the implementation of a streambank erosion site and wetland enhancement site. Installed a sturdy wetland water level monitoring staff gage to replace a deteriorated staff gage. Provided routine guidance and advice on monitoring and assessment of unique issues and methods to improve or enhance the function of wetland and riparian habitats in order to better meet mitigation success criteria.

As-Needed Environmental Services, CS-883, CS-954/CS-211.D, San Francisco Public Utilities Commission (SFPUC), 2008 – 2017: Coauthored a grazing management plan for 31,000 acres of SFPUC lands in the Alameda Creek watershed. Assisted in development of a Geographic Information System (GIS) model to determining forage production and stocking rates across the watershed lands for years of differing climatic conditions. Mapped and assessed stock ponds, springs, troughs, and all other grazing infrastructure. Data was combined into a GIS database and Excel file to assess and sort infrastructure field data. In a separate task, assisted in writing a long-term management plan for several mitigation sites. The plan included a section on conservation of riparian resources and reduction of erosion and sedimentation in the watershed. In a third task, provided contractor guidance and supervision for the collection of native propagules in the Alameda Creek watershed lands for various mitigation sites.

Calaveras Dam Replacement Project, San Francisco Public Utilities Commission (SFPUC), 2011 – 2015: Served as project engineer for the rehabilitation design of a small stream channel and floodplain that was rebuild atop a portion of a large disposal site that filled in a portion of the valley floor. Supervised the construction and installation of rock grade control structures placed in the channel to protect the disposal site from erosion. Developed plans and specifications for an irrigation system used to establish onsite native vegetation along the rehabilitated channel. Assessed erosional problem areas on the dam abutment cut slope due to atmospheric exposure to a unique rock layer that decomposed to produce toxic levels of iron and low pH. Provided a memo of recommendations to prevent leaching of constituents and/or treat runoff, reduce erosion, improve slope drainage, and encourage native revegetation.

Hillside Park Landscape Restoration Design, Daly City, 2013: Developed erosion and sediment control recommendations for the Daly City Hillside Park following a large

mud/landslide. Recommendations were reviewed by various resource agencies and implemented following reconstruction of the hillslope.

Peyton Slough Remediation, Rhodia Inc., 2007 – 2013: Conducted hydrologic monitoring as a part of a 10-year monitoring program following remediation and restoration of Peyton Slough. Tasks included channel cross-sectional surveys, marsh plain sedimentation, and inundation monitoring.

San Antonio Pipeline Company Washout Site Restoration, Chevron Pipe Line Company, 2012: Conducted fluvial geomorphic surveys at four locations along a petroleum pipeline where the creek had potential to threaten the stability of the pipeline. Surveys assessed the stream geomorphic setting, stability, and anticipated morphology to determine suitable restoration alternatives to address problems. Survey data, site analysis, project design alternatives, and estimated costs for channel rehabilitation were provided in a memo.

Calaveras Dam Replacement Project, San Francisco Public Utilities Commission (SFPUC), 2010: Assisted in collection of baseline macro-invertebrate and hydrologic data required by the San Francisco Bay Regional Water Quality Control Board as a condition of SFPUC's NPDES permit for the Calaveras Dam construction. The assessment will be conducted pre and post project construction.

1 cont.

Alameda County Maintenance and Monitoring, County of Alameda Department of Public Works, 2006 – 2010: Managed the monitoring and maintenance of five county flood-control mitigation sites to make sure the mitigation plantings meet yearly success criteria required by regulatory agencies. Worked with the County project manager and a subcontractor to ensure the sites were maintained and the contractor remained within budget.

Long-Term Restoration Plan on Permanente Creek, Lehigh Southwest Cement Company, 2008 – 2009: Prepared a long-term restoration plan for the Regional Water Quality Control Board which addressed impacts to Permanente Creek from Lehigh's cement quarry operation and proposed restoration measures intended to rehabilitate the stream to a properly functioning condition. Work included a comprehensive fluvial geomorphic survey to classify the stream reaches and identify sediment sources and appropriate methods for restoration based on historical information as well as a survey of appropriate reference reaches.

Peyton Slough Tide Gate Fish Investigation, Mt. View Sanitary District and California Department of Fish and Game, 2008 – 2009: Conducted fish monitoring surveys. Sampled macroinvertebrates at various locations upstream and downstream of a tide gate installed to control tidal flows in and out of McNabney Marsh, a part of the Peyton Slough channel restoration project completed in 2006. Surveys were conducted to monitor the relative abundance, species diversity, and size of fish occupying the habitat before the tide gate is opened for the first time. Surveys were conducted following tide gate operation to monitor population dynamics.

Hat Creek and Pit River Fish Sampling, Pacific Gas and Electric (PG&E), 2007 – 2009: Assisted in conducting electrofishing surveys on Hat Creek and the Pit River as a part of PG&E's hydroelectric relicensing requirements for the Federal Energy Regulatory Commission. Used a three-pass backpack electrofishing technique to sample Hat Creek. Used a powerboat electrofisher, pontoon rowboat electrofisher, and backpack electrofisher to sample various reaches on the Pit River in varying habitats. Measured relative abundance, species diversity, size, and weight of fish species caught.

Santa Cruz Integrated Vegetation Management Plan, County of Santa Cruz Department of Public Works, 2006 – 2009: Conducted roadside surveys mapping invasive weeds and potential sediment sources for 60 miles of county roads within 150 feet of perennial streams and waters. Prepared an Integrated Vegetation Management Plan (IVMP) for the County, focusing on efforts to remove or reduce herbicide usage and effectively control invasive weeds and reduce sediment and herbicide impacts on perennial waters. Implemented several pilot projects to demonstrate to the County and Regional Water Quality Control Board (RWQCG) potential management techniques and monitor effectiveness of measures. Projects included modification of a muddy turn-out and an eroding roadside ditch with rock and native vegetation to prevent erosion, trap, and filter sediment. Other projects removed French broom, silver wattle trees, and other non-native

plants along roadways using hand pulling, mowing, and targeted herbicide use. Supervised crews removing non-native vegetation along roadways. Additional pilot projects were implemented as funding became available. The project was featured on a County of Santa Cruz sponsored training/informational film: “Pulling Together” available at: http://dpw.co.santa-cruz.ca.us/Home/TransportationRoads/RoadandDrainageMaintenance/ErosionControl.aspx

Highway 101 Relocation at Confusion Hill, Caltrans, 2008: Monitored construction activities removing bridge falsework footings and a temporary construction access bridge occurring within the 100-year flood zone of the South Fork Eel River. Monitoring was conducted to ensure Caltrans and contractors comply with strict environmental permit specifications, particularly water quality standards set for protecting the scenic river.

San Joaquin Pipeline, San Francisco Public Utilities Commission (SFPUC), 2007 – 2008: Assisted in field mapping and writing a wetland delineation report for the proposed 47-mile pipeline along the existing pipeline right-of-way. As a part of the wetland delineation process, analyzed soil for wetland indicators. Assisted in preparing the Biological Resources section of Volume II of the Baseline Conditions Report and EIR.

1 cont.

San Ardo to Coalinga Heated Crude Oil Pipeline, Chevron Pipeline Company, 2006 – 2008: Assisted in conducting rare plant and raptor surveys along the proposed 50-mile pipeline alignment. Monitored geotechnical exploration activities for safety concerns and for protection of biological resources. Installed erosion control measures on disturbed sites before the rainy season.

Napa Plant Site Restoration Project, California Department of Fish and Wildlife (formerly Department of Fish and Game, CDFG), 2005 – 2008: Queried and compiled biological data to complete a biological assessment and biological resources section of an environmental impact report for the former Cargill salt plant site being restored from salt ponds to tidal marsh along the Napa River. Conducted and submitted a wetland delineation report to the Army Corps of Engineers for the 1,460-acre site. Conducted an experiment to determine the effects of salinity leaching from salt pond soils on the water column in a post-restoration scenario under varying river water salinities.

Sacramento International Airport Expansion, Sacramento County Airport System, Federal Aviation Administration, 2005 – 2007: Conducted biological surveys in support of completing a biological assessment, technical memorandum, and biological resources section of an EIR/EIS for the proposed short- and long-term airport expansion activities.

San Antonio Reservoir Bay Area Product Line Relocation, Chevron Pipe Line Company, 2005 – 2007: Assisted in conducting biological surveys for raptors, rare plants, and wetland delineation for the 7-mile pipeline relocation. Assisted with the biological and safety monitoring for the construction of the pipeline in 2007. Conducted monitoring of wetlands disturbed and restored following construction of the pipeline. Prepared an annual monitoring report for various resource agencies

South San Francisco Bay Salt Pond Restoration Fish Surveys, NOAA Fisheries, 2006: Conducted fish surveys to identify species utilizing various-sized channels in restored former salt ponds. Used various methods including seining, gill netting, and otter trawling.

McNabney Marsh Restoration Improvements, Mt. View Sanitation District, 2005 – 2006: Conducted a plant habitat community survey in McNabney Marsh where Mt. View Sanitary District proposed to restore tidal action to the marsh. Completed a biological assessment for the proposed work.

Greenwood Creek Bridge Replacement, Caltrans, 2005: Completed surveys to assess impacts on red-tree voles, California red-legged and yellow-legged frogs, and avian species. Identified and cataloged all trees in the impact area of a proposed bridge replacement on Greenwood Creek.

Cottonwood Road Mitigation Project, Caltrans, 2005: Assisted in completion of rare plant, fairy shrimp, raptor, and wetland delineation surveys for a proposed Caltrans mitigation property in Butte County, California. Assisted in compiling data and writing the biological assessment.

East San Joaquin Water Quality Framework, San Joaquin River Group Authority, 2004 – 2005: Conducted water quality monitoring during and following storm runoff events

throughout the San Joaquin Valley as part of a program to monitor flow and quality of discharges into the eastside San Joaquin River tributaries. The data collected was used in the determination of the load and timing of pollutant discharges into the San Joaquin River and the Sacramento–San Joaquin River Delta. Monitoring data collected was intended to inform future development of management plans to protect and improve the quality of regional drinking water sources.

Project Specific Experience (Cal Poly State University)

Riparian Restoration of Queseria Creek, California Polytechnic State University-Foundation, 2001 – 2004: As a part of a Master's of Science degree project at Cal Poly, conducted baseline habitat, morphological, and topographical surveys as well as completed design plans, permitting, and construction of a riparian stream restoration, which included meander reconstruction, instream structures, bio-engineered structures, floodplain development, reconfiguring and installing a county road fish passage culvert, a rural railcar bridge-crossing design, removal of invasive species, native plant propagation, and revegetation. Biological and archeological monitoring was conducted throughout the construction of the project. The project was featured on a County of Santa Cruz sponsored training/informational film: "The Return Home" available at: http://dpw.co.santa-cruz.ca.us/Home/TransportationRoads/RoadandDrainageMaintenance/ErosionControl.aspx

1 cont.

Prior Work History

Forestry Technician, Mendocino Redwood Company, 2000: Performed various pre and post timber harvest duties including initial forest cruising and inventorying, flagging boundaries and special treatment zones, marking timber according to silvicultural objectives, assisting in haul and skid road location, flagging herbicide treatment areas, and post-harvest stocking surveys in accordance to California forest practice rules.

Forestry Technician, Timber Stand Improvement (TSI) Crew 59, Minarets Ranger District, Sierra National Forest, United States Forest Service (USFS), 1997 & 1998: Served on a ten-person TSI and initial attack fire crew for two summers in college. Main duties included the thinning and felling of trees following prescribed silvicultural objectives. Other duties included fighting forest fires, meadow rehabilitation through tree removal, grubbing (vegetation removal) around tree seedlings, removal of hazard trees and fuel reduction thinning along roads or parking lots, and chain saw maintenance. Obtained a B-feller's certification and firefighter red card for the USFS.

Letter 1. Laura Chariton, Watershed Alliance of Marin

1-1 This emailed comment letter consists entirely of a cover note and the Curriculum Vitae for Jason Pearson of Lotic Environmental Services. Mr. Pearson produced a report, dated September 25, 2020, that was submitted to the County prior to the appeal hearing before the Board of Supervisors on October 6, 2020. A review of and responses to the issues raised in that report were included in a letter produced by Sicular Environmental Consulting and submitted to the County prior to the hearing (Hudson, Peter, and Justin Taplin, 2020. Letter from Peter Hudson and Justin Taplin, Sutro Science, to Dan Sicular, Sicular Environmental Consulting, re: Technical Review of Lotic Environmental Services Technical Memorandum Submitted in Support of Appeal of Planning Commission Decision on 7/27/20: Dipsea Ranch Land Division Initial Study, Marin County, California. October 5, 2020). This comment does not address any of the three issues raised in the Court Order, nor the IS/MND Amendment.

Letter 2

WATERSHED ALLIANCE OF MARIN

July 14, 2022

Marin Board of Supervisors
Marin County Planning
ttaylor@marincounty.org

RE: Comments on Amended Mitigated Negative Declaration Dipsea Ranch Land Division Project (Case No. 2003248)

> "The Court found that the 2020 IS/MND did not satisfy the informational requirements of State CEQA Guidelines Section 15063 with respect to three areas: (1) the description of the Project as it pertains to the location of surplus fill, to the extent left on-site; (2) the current condition of soil stability around the Fire Road; and (3) the location of drainages on the property in relation to stream or wetland conservation areas, any mechanisms to be employed to divert water from these areas as discussed by the consultant at the Board of Supervisors hearing, and associated environmental impacts, if any, from the drainages and diversion of water from those areas." Amended MND 6/24/2022 Marin County CDA

Dear Marin Board of Supervisors and Marin County Planners:

We are commenting here on the Dipsea Ranch Amended Mitigated Negative Declaration (AMND) in answer to the Judge's order.

The Amended MND does nothing to address the community's concerns about the stability of the existing unengineered road ("Fire Road") under the pressures of vehicular use, carrying weights of up to 60,000 lbs. The County must either examine the weight capabilities of the existing fire road, including the engineering design of the March 24, 2014 inserted culvert through the fire road, the 200' road berm within the Wetland and Creek setback areas, its efficacy and rating, and post an allowable maximum weight, or it must thoroughly analyze the environmental impacts that would occur if the roadway is upgraded to support such usage, as described clearly in the developer's own Geotechnical report. If the County fails to do one of these three things, it will be responsible for the result of the road's assured failure, which will not only cause irreparable damage to the downstream ecosystem but which could easily result in the bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road."

The judge's questions have not been answered by the applicant and lead agency. We petitioners, neighbors and concerned citizens, have provided two new assessments, a Watershed and Fisheries Biologist expert letter (Preston Brown) and a Geomorphologist, Environmental Impact Assessment and Landslide Mapping expert report (Laurel Collins). We refute the unjustified corrections that were made without any substantive support, addressing the judgment by merely crossing out some words and adding a few new ones to amend the Mitigated Negative

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Declaration solely to satisfy the judge but without examining the implications. We disagree in principle with the general disrespect for CEQA review by the County and applicant by deferring to the applicant, including this environmentally superficial project review process in the IS/MND and this AMND. 5 cont.

In the Introduction, the assessor's office apparently has incorrect information that the 455 Panoramic Hwy home is a 2745 square foot home with a 480 square foot accessory building and 1400 square foot garage. Three major websites list the property on Zillow as 3400 square feet and realtor.com, Remax, Movoto all say the property has 4312 square feet. There is a finished office on top of the garage that is not counted at all. The property is listed with 4 bedrooms and 4 bathrooms in the ads, not the 3 bedrooms, 3 baths as in the assessor's report. Is this sloppy work on the part of the county or unpermitted work done by the applicant and never reported to the county? 6

We have provided expert testimony that hydromodification (alteration of creek/drainage flow) is likely already having adverse downstream consequences that were never analyzed or reviewed by the applicant's hired "experts" and which will impact critical habitat for salmonids, creek base flows, stream velocity, sediment deposition and erosion downstream. The rerouting of stormwater in the Conceptual Stormwater Management Plan into areas that are highly erosive will also exacerbate slides causing downstream damage. The stormwater flowing down a steep hillside is then required to make a hard turn in the middle which will result in significant impacts via causing erosion, which will impact water quality, and creating a scouring flow with any excess water routed behind the fire road and into the SCA and WCAs. The Ziegler study reveals that the drainage management area cisterns will have storage volumes exceeding their capacity, another form of impactful hydromodification (AR 2213). These issues were raised by the then Acting Superintendent of the Golden Gate National Recreation Area in his succinct letter of 5/6/2017 to then planner Jocelyn Drake (AR 03716, 03720). 7

To prove their disregard for the environment, the applicant has never addressed the erosion potential or wetland damage within the 400' reach that begins behind the fire road. The land has 13 landslides registered by their own geotech engineer Herzog. Our expert Geomorphologist Laurel Collins has found many more and larger historic slides. Through Fire Safe Marin, some hundred thousand dollars were spent to clear their land for fire mitigation. Today, there is an almost impenetrable jungle-like wall of highly pyrophytic black and silver acacia that hides the creek, stormwater runoff and potential erosion that used to be visible. 8

The new scientifically based information contained in these reports should be considered above the County's prima facie deference to the applicant, Dan Weissman. This applicant is the same person who dumped unsourced, potentially toxic, 1200 cubic yards of dirt on top of the watershed during the winter above what is revered and loved around the world as a nature destination - the Muir Woods National Monument. This applicant is the same person who intentionally misrepresented Fire Chief Scott Albers, who later wrote: "…I noticed in the project narrative that the Fire Marshall (sic) (that would be me) required the owner to add fill to provide access to a fire road. That is not true. The owner inserted fill without permits and got caught." – quote from Scott Albers, Fire Chief Marin County 2017 (AR: 04177; See Appendix A). 9

The applicant has shown disregard for the environment, for his neighbors, for maintaining proper vegetation clearance, water quality and a complete disdain for California Environmental Quality Act. It also appears that the County has apparently adopted the many misrepresentations by the applicant against the neighbors and constituents the county is supposed to represent equally and

fairly; despite the concerns from neighbors who have decades of experience and involvement with this area they call home, concerns that are clearly directed toward protecting the environment.

9 cont.

The applicant tried to imply that he had a grading exemption for fire roads (AR 3762 and 3763), after which he then tried to claim innocence by blaming the grading contractor for dumping 1200 cubic yards of untested fill on the top of a wetland in a stream and wetland conservation area. Jason Wong of DPW had rightly warned Weismann on December 9, 2013, a year or more before the "fire road" grading work, that he would need a grading permit for any future work, and he was cited for a violation for creating a public nuisance in the County Right of Way (AR 03741). But then the County Counsel considered issuing a retroactive grading permit in a De Novo hearing (AR01762).

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More staggering is that this applicant has cavalierly dismissed his impacts to this sensitive ecosystem while misrepresenting our Fire Chief's position (see Appendix A). How an applicant's word, without proof or any investigation by county staff, becomes the driver of a judicial decision disrespects the court, the County and the Planning Department, neighbors, and the fabric of our laws and community. In the absence of County Due Diligence, his four attorneys have attacked the all-volunteer groups that are the only defense left to protect and support the community and Mt. Tamalpais watershed. These all-volunteer non-profit organizations and community groups know the irreversible harm that will come from this private business project and have every legal right to speak out against it. (AR 04072).

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The Conceptual Stormwater Treatment that is touted as the answer to managing stormwater will be insufficient because the rain calculations are as little as one half accurate. Compounding the issues are Climate Change and 100-year storm events that now occur every 5 to 10 years. As a recent example, on February 9, 2014: 24 inches fell in 72 hours, and on October 23, 2021: 12 inches fell in 24 hours on the ridge in this area (AR 02156, 02207). With predicted increasing storm intensity, we will see more landslides, erosion, stream bed alterations and damage to downslope properties, including critical coho redds.

12

This grading for the project will move soil the equivalent of 1 acre x 1 foot deep on land situated on top of one of the most significant Central California Coast Coho runs. In June 2022, the nineteen remaining Coho smolt were removed to a hatchery to save this cohort from virtual extinction. Grading and moving so much soil at the top of this sensitive watershed–one that has had hundreds of millions of dollars spent on environmental restoration downstream–is significantly harmful to the health and stability of the downstream work. Again, this threat to the ecosystem was recognized by the National Park Service.

13

The County has not done its due diligence with regard to CEQA and shockingly has taken a piecemeal approach to addressing the issues at hand. Anything that happens to these threatened and endangered fish will be on your watch.

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At this juncture, the only way that the County can prevent catastrophic impacts downstream from this Project is to follow the comprehensive recommendations of the National Marine Fisheries Service 2012 Central Coast Coho Recovery Plan (NMFS CCCRP; AR 4158, AR 04176) and the 2004 California Department of Fish and Wildlife California Coho Recovery Strategy. Both plans were ignored completely in the Initial Study and Mitigated Negative Declaration. The plans both refer back exactly to the fact that there is an unstable, unengineered road with questionable safety, while its construction destroyed the protected stream and wetland areas and

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potentially altered the downstream habitat of ESA listed Coho Salmon and Steelhead. The County has failed to adhere to its own Bio 3 and 4 delineated in the 2012 Countywide Plan. 15 cont.

Experts such as Pacific Watershed Association, who conducted three erosion assessments throughout the Redwood Creek Watershed from 2002 through 2017 (AR:00597) and Preston Brown, whose expert letter was provided, address the impact of unstable soils on headwater streams and their impact on coho salmon survival. The recommendation from the NMFS CCCRP is specific that Redwood Creek roads should be "decommissioned whenever possible" (AR 4158). The construction of the project's grading will be equivalent to moving over an acre with a cut of 1709 cubic yards and 1565 cubic yards of fill, stormwater rerouting, increased impervious surfaces, all of which will all lead to significant hydromodification. Inadequate review of multiple existing and new septic systems on steep and unstable hillsides will also have impacts on land stability, water quality and quantity. This will affect important year-round base flows downstream for salmonids who rely on hyporheic (underground) low temperature flows from headwater streams (AR 04092). Hydromodification is addressed several times, pages 13-16 in the AMND, but without any proof that it is going to occur as a result of this project. Laurel Collins' report also addresses this.

The National Park Service has asked major questions in their May 6, 2017 letter to the County that were never adequately addressed and which are completely applicable to this judicial decision. These questions are highly relevant to the issue of road stability: 16

- Potential impacts to Redwood Creek Water quality during construction and following construction from additional residential homes in the community
- Potential impacts to Redwood Creek Steelhead trout and Coho salmon and habitat because of increased stormwater runoff and sedimentation
- Potential for less than adequate stormwater improvements proposed for the subdivision access roads and driveways
- Need for a septic/sewage disposal plan designed to avoid impacts to the Watershed
- Potential to negatively impact visitors to Muir Woods National Monument and current residents in the local community with increased automobile traffic

> The NPS looks forward to providing more detailed comments when the CEQA analysis for the proposed project is released for public scoping. As noted in the Planning Commission's Dipsea Public Statement, the Marin County Board of Supervisors will not approve the project until it determines whether the project would have the potential to cause significant environmental impacts to resources within and adjacent to the project location. The NPS requests the analysis to also include the potential for significant impacts to the Watershed and downstream resources protected by the NPS in the Monument and at the end of Redwood Creek at Muir Beach. (Letter from Acting Superintendent Craig Kenkel 5/6/17)

Since the instability of the road, as identified by Herzog Engineering, will be first impacted by rain totals and storm events, the failure of the County to recognize the intensity of headline-grabbing storm events (February 2014: 24" of rain in 72 hours and October 2021: 12" of rain in 24 hours) puts the fire road stability at the greatest risk. There has been no permitted access to assess the impacts of these storm events to the downstream creek areas, though it has been requested. In addition, Ziegler's modeling of a 2-year, 24-hour storm is 3.38 inches (AR 02249), 17

while a 100-year storm would be 8.73 inches in 24 hours. These determinate storm thresholds that were used to gauge and design the conceptual stormwater system are in fact far exceeded by nearly a factor of three at this property, further adding saturation and destabilizing factors to the area surrounding the fire road and historic wetland. This wetland also existed below the added fire road fill (AR 04025).

Further, the multiple hydrograph models supplied by Ziegler, that would directly impact saturated soils surrounding and on the fire road, are made worse by the direction of all stormwaters from the proposed developed ridge, to be funneled down a steep downhill, making a hard right, before turning water 45 degrees on a steep slope (AR 02216). It then flows straight into the area behind the fire road with the likely impacts to the hydrology which show severe spikes in runoff. This contradicts applicant's claims of a sufficiently designed conceptual stormwater management plan. Without attenuation of saturation caused by the planned increased imperviousness, cistern capture, bioswales and directed piping and channeling off site into the wetland and historic slide, this saturation could result in fire road failure through hydrostatic pressure (AR 2314, 2316, 2322, 2324). Herzog's boring #1 distinctly identifies this instability as well as the depth to groundwater at 8 feet. Failure of the road would send massive quantities of sediment downslope and downstream, in direct violation of MCSTOPPP and Regional Water Board regulations (See Appendix B).

17 cont.

The County goes to great lengths, nine times between pages 13 and 16 in the AMND, to state that hydromodification will not occur, stating:

> "In maintaining pre-project drainage patterns, stormwater volumes and stormwater flow rates following project implementation, water would not be diverted away from surface water features associated with the SCA and WCA and impacts related to hydromodification including those associated with both substantially increased and/or reduced stormwater run-off would be less than significant" (Pages 15 and 16).

Yet this project demonstrates the very definition of hydromodification's serious impacts on natural hydrology. Both of WAM's experts have refuted this erroneous conclusion in their reports. The County's Hydrologist hinges all the stormwater runoff management on faulty assumptions refuted by our experts.

In addition to the inadequate AMND, we have the following complaints about this process:

Failure of Proper Notice:

After June 24th, 2022, many community stakeholders and environmental advocates were not noticed regarding the new comment period although all had signed up to be notified a year or more ago. Those we contacted, who had previously subscribed to the main page, suddenly found they were not, had not received the notice, and now had to resubscribe. If there is a technical problem that the public must overcome to get correct information, the County is responsible to its citizenry to provide no less than 20 days for comments, but only if the information is properly distributed, which it was not. This truncated the already minimal public comment period. Also note that the public comment period was held over the 4th of July holiday, and when multiple staff members were on vacation and unavailable.

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To this day, the Dipsea Ranch website remains a placeholder for the day it can become the applicant's dream regardless of all the protests provided by experts, scientists, and multitudes of studies and comments from a concerned populace. Our change.org website received over 65,000 signatures to support the watershed health of the Redwood Creek Watershed and wildlife

biodiversity including many endangered species that the County is federally required to protect. Only 100 years ago, William and Elizabeth Kent donated the land that became Muir Woods National Monument to the American people for preservation and for the County to protect. Should this project go through, the county and its constituents will lose all reasonable oversight and regulatory authority over a mostly intact ecosystem that has lasted for hundreds of thousands of years.

18 cont.

What does the County gain from this rush to rubber stamp Mr. Weissman's development? What harm would be done to Mr. Weissman's business project by full compliance with state environmental law? What we are striving for is to leave something wonderful, beautiful, and sacred for future generations. Not monster houses but a legacy of life, biodiversity and wonder. We dispute the county's allegations and conclusions made without substance or evidence outlined in the AMND as a rubber stamp for development. The County's actions are shameful and unprofessional. We urge the county to correct its deficiencies, deny the AMND and do a proper and thorough EIR.

We implore you to not approve this ill-conceived unresolved, dangerous, unsafe, private business project without the required environmental review. Without such reasonable review, the rush to judgment serves only the applicant and potentially endangers others and challenges our responsibility to protect endangered species under the Endangered Species Act.

19

Signed,

Laura Chariton
Watershed Alliance of Marin

Hi Jocelyn,

We have no particular comments on the proposal, except to say that when each proposed house is permitted, we will require a VMP for each house. Of course, all will require fire sprinklers. Also, this project is located in the WUI, so our local WUI ordinance will prevail. Finally, I noticed in the project narrative that "the local Fire Marshall" (sic) (that would be me) required the owner to add fill to provide access to a fire road. This is not true. The owner inserted fill without permits and was caught. Berenice Davidson can provide more information about this incident.

20

If you have any questions, please let me know.

Regards,

Scott D. Alber, PE, EFO, CFO, FM, MIFireE
BATTALION CHIEF/FIRE MARSHAL

Marin County Fire Department
PO Box 518/33 Castle Rock Avenue
Woodacre, CA 94973
415.473.6566 T
415.473.4246 F
415.717.1520 M
CRS Dial 711
salber@marincounty.org

Appendix B:
Notes and CV from Geotechnical Engineer Joe Brunner, P.E. He was unable to complete his official report because he became quite ill and was hospitalized with Covid.

Joseph P. Brunner PE
Geotechnical Engineer/Geologist CV
American Society of Civil Engineers Licensed Geotechnical/Civil Engineer 1222440
muefive@gmail.com (650) 922-6444

EDUCATION

University of California, Berkeley
MS, BS, Civil / Geotechnical / Environmental / Engineering Geology Nov 1975 - Jun 1981

Activities and societies: Tau Beta Pi, UC Berkeley Geotechnical Society Life Member, Society of Woman Engineers, UC Berkeley Graduated with honors, and invited to admit by Dean of Engineering to geotechnical graduate program Princeton University graduate program offer under the same terms.

WORK EXPERIENCE –
Senior Resident Engineer BART · Apr 2021 - Present · Oakland, CA
The Digital Railway Project, at an estimated cost of $450 million over a span of at least 10 years, will bring Wi-Fi access to every station, yard, train (each car), and tunnels including the Trans Bay Tube. Senior Project Manager / Construction Manager Senior Project Manager / Construction Manager
Swinerton · Full- Jun 2019 - Dec 2020 · Concord, CA
CM Menlo Park Street Rehab Projects - Approximately $4.7 million Co - CM for $12.4 Million Orinda Measure J & L Pavement Rehabilitation

WSP | USA Resident Engineer / Senior Engineer Jul 2018 - Jun 2019 · 1 yr Antioch, CA
Balfour Road Widening Project, Contra Costa County, CA: resident engineer for Phase II on this 3-mile long $5.7 million road construction project utilizing cold in place recycling for initial pavement construction followed by Rubberized Hot Mix Asphalt final paving course. Responsible for overseeing construction inspection, coordinating all testing services, facilitating weekly construction meetings, managing storm water reports, coordinating construction activities and County Surveyors with Contractor and working closely with affected property owners, processing submittals and pay requests, creating and issuing Contract Designed 3 culvert crossings for the client to avoid delay claims by the Contractor - Granite Rock.

Resident Engineer / Senior Construction Inspector Resident Engineer / Senior Construction Inspector Bellecci & Associates, Inc., Inc. Feb 2017 - Jul 2018 · CA
Working primarily on construction sites throughout the San Francisco Bay Area as Resident Engineer/Senior Construction Inspector. City of Saratoga Hwy 9 Phase IV Pedestrian Safety Improvements (Caltrans) $975,000, City of Hercules annual street repair and slurry seal project $850,000. City of Millbrae Pedestrian Safety Upgrades, Street repairs and overlay ($1.25 million), City of Burlingame Sanitary Sewer upgrade, pipe reaming and open trench ($3.4 million), City of Benicia Phase I Water System Replacement and Upgrades and overlay ($1.2 million). On all these projects I reviewed submittals, attended weekly progress meetings, resolved all construction issues and authorized progress payments and change orders.

Managing Engineer - Project Manager - Lab Manager - Radiation Safety Officer
Krazan & Associates, Inc. Oct 2015 - Feb 2016 · 5 mos · Pleasanton, CA
Provide field engineering, inspections and materials laboratory testing for construction materials. Project oversight, training and field engineering for various heavy construction operations including hotels, apartment complexes and various commercial operations. As the radiation safety officer I was responsible for the four nuclear gauges operations, maintenance and safety. As the laboratory manager my responsibilities include equipment maintenance, calibration and operation.

21 cont.

Civil & Geotechnical Engineer Civil & Geotechnical Engineer
Blu Homes Aug 2014 - Oct 2015 · 1 yr 3 mos Aug 2014 - Oct 2015 · Mare Island, Vallejo
Self Employed - Civil – Geotechnical Self Employed - Civil - Geotechnical
Independent Consultant & Contractor / Sep 2012 - Aug 2014 · Concord, CA
Geotechnical and drainage study for the Ullman Estate in Mill Valley, CA
Geotechnical and Civil Field services for large high-rise condominium development in Mission Bay, San Francisco including pile driving observation and pile cap welding inspection

Assistant Engineer / Project Manager Assistant Engineer / Project Manager
Alameda County Flood Control May 2009 - Jul 2011
Project management, preparing plans, specifications and estimates and management of geotechnical consultants on a $1.7 million flood control project including flood walls, outfall structure modification and channel desilting. Additionally, managing mechanical & electrical consultants on 3 pump station repair and rehabilitation projects. Responsible for managing consultants and executing work on two stream restoration projects.

QA/QC Office Engineer QA/QC Office Engineer
SHANK / BALFOUR BEATTYSHANK Jan 2009 - Apr 2009
Duties include $120 million construction of SFPUC Polhemus Tunnel Bypass project quality assurance / quality control, SWPPP management, hiring consultants and submitting electronic submittals via proprietary SFPUC software. My primary responsibility was to setup the organization so tunneling can proceed.

Senior Project Engineer & Task Manager
URS Corporation Dec 2006 - Nov 2008
Responsibilities include the Central California levee system geotechnical investigation for the Department of Water Resources. Duties include geotechnical field coordination, preparation of the Phase 1 & 2 boring plan for the West Sacramento Levee system, permitting, preparation of geological cross sections, reviewing geotechnical reports, specifying laboratory testing of soil samples, preparation of technical memorandum and preparing and directing GIS in mapping field data. Task Manager for the East Sacramento Levee investigation and analysis.

Associate Civil Engineer: Project
City of Daly City Aug 1997 - Aug 2006
Project manager, project engineer, designer, geotechnical engineer, assistant construction manager and construction inspection including preparation of plans, specifications and estimates for approximately $24 M worth of Capital Projects including; roadway construction and resurfacing, slurry seal, water mains, landslide repairs, sewer mains & storm drains, retaining wall, seawall, canal repair, median construction, sidewalk and curb ramps, landscaping, $19 M master plan evaluation and consultant oversight. Solely responsible for $4.3 M in competitive

Federal and State Grant awards and administration of Caltrans Federal TEA-21 fund acquisition and for maintenance, stability and environmental oversight of a 26-acre Class III sanitary landfill in compliance with RWQCB monitoring requirements. Performed SWPPP monitoring and environmental soil sampling. Spent one week at the Caltrans Resident Engineer Academy in Jackson, California.

21 cont.

Environmental Engineer
AGS CONSULTANTS AGS CONSULTANTS Jan 1995 - Jul 1996
I was responsible for the characterization and tracking of all excavated soil airport wide and provided environmental engineering services including establishment of airport wide hazardous soil tracking system, environmental soil and water sampling, and field mapping for the environmental phase of the San Francisco International Airport 5 year, $2.4 billion master plan. Also received SWPPP training and performed SWPPP inspections airport wide - had checkered badge access (unlimited access to all airport facilities).

Field Geotechnical Engineer Field Geotechnical Engineer
Independent Contractor Dec 1992 - Dec 1994 · San Francisco Bay Area
Provided field services for large developments in fill placement, landslide repairs, utility inspection and quality control of earthwork. Projects include subdivisions up to 250 acres in size such as Avalon, Scott Creek Heights in the Fremont Area. Also, worked under contract to Earth Systems, Smith Emery and Kleinfelder for field construction work involving earthwork.

Civil EngineerCivil Engineer
Kennedy / Jenks ConsultantsKennedy 1991 - Nov 1992 · San Francisco Bay Area
Prepared grading plans for closure of sewage treatment facility - assisted in the conversion of permit by rule for fixed treatment operators - Underground Storage Tank program refund assistance, provided assistance to field investigations at Peterbilt facility and others and developed method to remediate hydrocarbon contaminated gravels by ultra-sonic methods.

Geotechnical & Environmental Engineer
BECHTEL CORPORATIONBECHTEL CORPORATION Feb 1990 - Jan 1991 · Feb 1990 - San Francisco Bay Area
As a Geotechnical Engineer with an office at 45 Fremont Street and an Environmental Engineer with an office at 50 Beale Street (connected to each other by a sky-way on the 14th floor) my office and field services include geotechnical and environmental engineering assignments include supervision of Hayward Baker ground modification at Palisades Nuclear Power Plant followed by liquefaction analysis, construction oversight of a reinforced earth retaining wall critical for the World's First Nuclear Power Plant Steam Generator Replacement project, seismic deformation analysis of a rock fill dam in Washington , compiling and analyzing geotechnical data for site characterization of a world record directional drilling crossing beneath two rivers, provided preliminary research for World Bank proposal for environmental clean-up of the Amazon River in Rio de Janeiro, Brazil, worked on numerous special projects including preliminary site investigation of a geothermal facility adjacent to a Volcano in Japan, evaluation of a petroleum pipeline stability after purging for Chevron and determined excavation depth for removal of arsenic contaminated soil, participated in environmental soil sampling compliance at Apache Powder Superfund site in Arizona and the FMC Superfund site in Modesto, CA, and analyzed effect of capillary rise in high salinity soils also performed settlement analysis of the Coarse Ore Structure at the Bingham Copper Mine in Utah.

Field Civil Engineer

Harding Lawson· Jan 1988 - Jan 1990
Supervision of two track mounted drill rigs and crew for the drilling of 2,000 pier holes. Construction observation and responsible for soil placed as compacted fill, excavations, landslide repairs and sub drain installation during grading operations for major hillside developments up to 200-acres in size including the conversion of an abandoned 9-hole golf course into Smith Ranch Homes in Novato, in addition to, foundation inspection, road reconstruction, and asphalt paving inspection.

Geotechnical Engineer / Geologist
Tuolumne · Contract· Jun 1979 - Dec 1983 · California
Performed computer modeling of massive landslide on Hayward fault with slip plane intercepting surgical wing of Vesper Memorial Hospital. Venture Capitalist bought the hospital for a dime on the dollar to prevent demolishment based on the probability that my modeling can save the hospital. After 3 months of modeling various slope parameters and installing many hydraugers, it was determined that removal of several homes at the top of the slope will permit laying back the slope to a more stable configuration - resulting in saving Vesper Memorial Hospital.

CLAVEY/WARD FERRY MULTIPLE EARTH DAM PROJECT
Ocean Beach (San Francisco) seawall stability analysis

Staff Geotechnical Engineer
Cooper Engineers Jun 1981 - Apr 1982 · 11 mos Redwood City

END: CURRICULUM VITAE

21 cont.

Joseph P. Brunner PE
Geotechnical Engineer/Geologist CV
muefive@gmail.com (650) 922-6444

Watershed Alliance of Marin & Friends of Muir Woods Park
446 Panoramic Hwy.
Mill Valley, CA 94941

March 28, 2022

RE: Dipsea Ranch Proposed Subdivision
Review of Geotechnical Report and Proposed Plans

Dear Sirs and Madams,

I have reviewed the information available on the Marin County website for the proposed Dipsea Ranch Subdivision. Included in the review are the applicant's Geotechnical Report (and Update) Hydrology and Drainage Plans. The County has been ordered by the Court to address the stability of the "fire" road at the bottom of the property. Disappointingly, Amendment to the 2020 Initial Study/Mitigated Negative Declaration, posted on the County's website, blatantly

22

fails to address any concerns about use of the road, a right forcefully retained by the property owner.

During numerous meetings with the public and County administrators, Mr. Weissman, property owner and applicant, stated several times his intention to use this road for access to the property by fire suppression and vegetation management vehicles. *The County's amendment is still devoid of any fact-based analysis of the stability of the road under the loading that would accompany the uses planned by the property owner.*

Failure to analyze the stability of the road under these conditions is a failure to address the concerns cited by Judge Sweet in his court order to thoroughly address the impacts of the planned subdivision. **In addition, failure of the County to analyze the viability of the road to support a fire vehicle endangers the lives of firefighters.**

22 cont.

Instead of using the geotechnical evidence provided by the owner's own consultant (Herzog Engineers) the County's draft Amendment only reiterates previously statements, some of which are unsubstantiated, specifically:
The geological stability of the Fire Road fill with regard to its location on an unstable geologic unit or a unit that could become unstable is examined in the 2020 IS/MND, Section IV.7, Geology and Soils, on page 80: . . . [t]he Fire Road grading stabilized a slope composed of landslide debris by creating a benched slope break with stable fill material and adequate drainage, and had a less-than-significant impact on current or potential future instability of a geologic unit. (p.7)
This statement is problematic in that it is a claim made by the consultant (Sicular) based on a visual observation of the road and does not take into the evidence given in the Herzog report and borings taken at the site. It completely fails to address the impacts of use of the fire road by a vehicle, especially the ultimate, extreme forces produced by the loads of a fire suppression vehicle.

23

I have divided my report into sections of concern.
Background
On October 7th, 2015, Herzog Geotechnical Consulting Engineers performed a geotechnical site characterization of the property and drilled a 19.4 foot boring directly through the "fire access road" approximately 134 feet from the entrance of Panoramic Highway. This boring revealed that the upper 8 feet of this "fire access road" is mostly classified as loose silty, clayey gravel with sand over a landslide deposit.

Approximately 1250 cubic yards of undocumented fill was illegally (without a grading permit) dumped and rolled during a 19-day period between March 9th, 2014, and March 28, 2014, well outside the approved grading permit date range of April 15th to October 15th in California. (Citation) This amounts to approximately 120 dump truckloads of fill placed during the rainy season, the worst conditions for fill placement. This fill was placed over a defunct "fire access road". This road is approximately 250 feet long with varying widths. There are no records of the source of this fill, any geotechnical classification, or whether it is environmentally certified as "clean fill".

Apparently, this was dumped and rolled on above 10 feet of soft wet clay from a depth of 8 to 18 feet located above a landslide deposit consisting of mostly loose clayey sand and still gravelly clay which are generally weak and compressible.

24

There is also evidence that the 1,250 cubic yards of undocumented fill was placed directly on a "wetlands" and ephemeral creek headwater area. The protections designated by the Marin 2007 Countywide Plan require 100-foot setbacks for construction which the road fill violates. Also, notably listed as the most critical habitat classification in California and blocked a natural drainage channel leading to flooding and significant erosion of sediment. As a condition of compliance, the County required the applicant install a culvert through the road to alleviate the build-up of hydrostatic water pressure (see photos).

24 cont.

Concerns Regarding Existing Road & Future Modifications

1) Dangerous Instability of the Existing "Fire Road"
This "Fire Access Road" is an "attractive nuisance to motorists" and can mislead motorists to a false sense of security to drive on which may lead to differential surface failure due to vehicle loading. This road should not be traversed by motorists, and especially not by fire vehicles. This access road may be used only by the homeowner as a foot trail for vegetation management purposes only. Signage should be posted to warn off any type of vehicles.

25

2) Stabilization Required and Potential Impacts:
From Herzog Geotechnical Consulting Update; May1, 2018, Page 2 (Requirements for road and slope stabilization)
Driveway Fill Banks Proposed fill banks steeper than 2:1 (horizontal:vertical) should be reinforced with geogrid to mitigate sloughing and instability. For planning purposes, reinforcing should be assumed to be required every 1 vertical foot and to consist of Tensar BX1200 biaxial geogrid, or an approved equivalent. The geogrid reinforcement should extend at least 4-1/2 feet back from the face of the bank. The first lift of primary geogrid reinforcement should be located 1 foot above the base of the fill. Fills should be placed on benches excavated into bedrock located below a 1: 1 plane projected up from the base of existing cut banks. Overexcavation and fill placement should be performed in accordance with the recommendations presented in our November 3, 2015 report, and geogrid installation should conform to the manufacturer's specifications. The actual geogrid layout and specifications should be verified during construction based on strength testing of the proposed fill material.

26

Per the "Preliminary Conclusions of Herzog's Original Geotechnical report (p.7):
In areas where roadways, building pads, or other improvements are planned, existing soils will have to be overexcavated and reconstructed as properly compacted and sub drained fill buttresses which are keyed and benched into bedrock. In areas where required fill slopes will be steeper than 2: 1 (horizontal:vertical), it will be necessary to utilize geogrid reinforcement, rip-rap buttresses or retaining walls.

According to the Herzog Report (p. 9) proper clearing required for any work on the site will require:
Areas to be developed should be cleared of structures, trees, tree roots, brush and deleterious material, and then stripped of the upper soils containing root growth and organic matter. The cleared materials and strippings should be removed from the site. Foundations, pipes and other buried objects should be removed, and the resultant voids cleaned and backfilled with approved fill which is placed and compacted as outlined below.

In order to "repair" this "fire access road" the following steps need to be taken beginning with the entire removal of all the fill to the original ground subgrade as follows.

1. Get a representative soil sample of the subgrade – about a bucket full to run an R Value for every 250 linear feet of roadway.
2. If results in several differing R values use the lowest R value for design.
3. R Value is for determination of the actual road section thicknesses composed of subbase, base and asphalt using Caltrans Flexible Pavement design methodology.
4. Scarify and moisture condition the upper 18 inches of original subgrade, then recompact to 90%.
5. Secure location of certified clean fill and run a compaction curve to get the moisture density relationship for optimum compaction.
6. Approved import material for fill should have a plasticity index of less than 15, a liquid limit of 40 or less and should be free of organic matter and rocks larger than 4 inches and certified clean of any contaminating material. Again, there is no proof of this.
7. Then place import certified clean fill in loose lifts ranging from 8 inches to 10 inches thick and compacting each lift with a sheep's foot roller.
8. Take periodic compaction tests with a nuclear gauge to at least 90% relative density.
9. In the upper 3 feet compaction test minimum increases to 95% relative density.
10. Then using the R Value and the Traffic Index compute then place, the calculated thickness of base and compact to 95% relative density per the Caltrans Flexible pavement method.
11. Then place the calculated thickens of asphalt concrete in layers not exceeding 2 inches and test the compaction with the backscatter feature of the nuclear gauge to at least 92 % relative compaction.

26 cont.

Construction of the road must be inspected by an independent construction inspector (not by the contractor.) Daily field inspection reports need to document the work in progress along with passing compaction tests and with photographs.

Potential for Environmental Degradation and Future Impact:

A) The Road Acts as a Dam:

The "fire road" blocks the natural surface passage of water into the upper tributary of Redwood creek. It also impedes groundwater infiltration and acts as a dam. As such, the natural migration of sediment has been altered potentially depositing downstream sediment in the Redwood Creek tributary where geomorphology begins above the installed "fire road." Without road stabilization in peak storm events, maximum ground saturation can lead to sediment deposits in the creek channel.

27

B) The Fill Was Placed on a Landslide:

For the Fire Road and defining the landslide: The HEAD is at the top and the TOE is at the bottom. If you add weight to the head of the slide it destabilizes it. If you add weight to the toe of the slide it stabilizes it. The head of the landslide is towards the driveway and that is where they added the weight (fire access road)...therefore it added to the destabilizing forces which are driving the landslide.

28

C) Future Sliding and Instability of Road:

It is reasonable to assume the previous road had degraded because of its location on top of a landslide. The replacement of this undocumented and non-engineered fill will most likely continue to destabilize and erode, causing additional sediment deposits into the downslope/downstream areas below.

The Herzog Report that indicates sloughing and instability proves that there will be excess sediment entering the stream channel. Peak storm events are exhibiting greater variability leading to heavier rains for shorter periods, changing the saturation potential. Should the untested fill be contaminated, since it was never tested, there has been the potential for damage to the environment and terrestrial, avian and aquatic species. The eroding soil could further impact survival of special status species in the State and National Park below. The collapse of the road berm without the application of the Herzog recommendations could lead to the unintended deposition 1200 CY of loose-fill into Redwood Creek, potentially wiping out numerous Coho salmon and Steelhead redds (nests) and killing eggs and young salmon.

28 cont.

D) Undefined Scope of Road Modifications:

In addition, the original Herzog report lists preparation for work that includes: Temporary Slopes and Shoring, Overexcavation, Keyway Excavation, Subdrainage, Suitable Material for Fill, Fill Compaction, Allowable Finished Slopes, Rip-Rap Buttress repairs, Temporary Shoring, and Pavements, but the County's analysis did not address which of these aspects would be implemented in order to create a road that is safe for use, especially if intended for use by firefighting vehicles.

E) "Over-excavation Required within Stream and Wetland Setbacks:

Road modification would likely impact the wetland and alter the downstream flows. The potential for a larger slide is also indicated by the Herzog Report Letter May 1, 2018 stating the instability of the road. The natural environment would be further altered and stormwater run-off flows would change from a once natural state and the depth and width and length of the wetland and its viability as a functional wetland would be degraded and lose function.

29

F) Potential for Contaminated Fill to Deposit Sediment downstream:

As pointed out earlier, the 1250 cubic yards of fill deposited on the "fire road" was never examined for contaminants. Potential contaminants include, but are not limited to lead and asbestos, which are commonly found in soils excavated during residential redevelopment, and have a difficult time finding a permanent home. Another very common contaminant is from petrochemicals, as old below-ground, leaking oil tanks are removed and replaced. Depositing the excavated soil in these situations is often very difficult. The County should require analysis of this fill and, if found to be harmful or toxic to downstream environments, should be removed. Any replacement of the fill material should be reexamined for environmental impacts. It is perhaps better for the wetland and streams for this road never to be replaced at all.

30

In summary, the County has still not provided any analysis of the use of the fire road by vehicles. Given the location of this road and its proximity to both the wetland and the headwaters of a creek providing sensitive habitat for a critically endangered species of coho salmon, it is inexcusable for the County to continue to ignore the demands of Marin County Court, to ensure the protection of these natural features, in spite of any other outcome of the subdivision approval. In addition, failure of the County to analyze the viability of the road to support a fire vehicle endangers the lives of firefighters, an inexcusable and dangerous position of responsibility to take for the County.

31

Letter 2. Laura Chariton, Watershed Alliance of Marin

2-1 This comment reviews the Court Order and is preamble to the following comments.

2-2 Please see Master Response 2.

2-3 The commenter is incorrect: the IS/MND Amendment thoroughly and completely addresses the three issues raised in the Court Order. Please see Master Responses 1, 2, and 3.

2-4 The letter from Mr. Brown, the purported Watershed and Fisheries Biologist, is attached to Comment Letter 18. The comment letter from Ms. Collins is attached to Comment Letter 4. Please see responses to the comments contained in those letters.

2-5 The commenter is incorrect: changes to the IS/MND and impact conclusions contained in the IS/MND Amendment are fully supported by substantial evidence, cited in the Amendment.

2-6 This comment does not address any of the three issues raised in the Court Order. Neither does it address, or purport to address, any other areas of the environmental analysis.

2-7 Please see Master Response 3 regarding the stormwater management system. We note that the referenced letter of 5/6/2017 predates the design of the proposed stormwater management system, and addressed a version of the project that has been superseded. It did not address the current version of the Project.

2-8 Please see Master Response 2.

2-9 This comment contains several unsubstantiated accusations, none of which is supported by substantial evidence. These accusations therefore do not constitute a fair argument of a significant environmental impact.

2-10 Issues around the unpermitted grading of the Fire Road in 2014, including importation and placement of fill, are thoroughly examined in the IS/MND, and in the Response to Comments on the IS/MND, Master Responses 3 and 4.

2-11 This comment does not address any of the three issues raised in the Court Order. Neither does it address, or purport to address, any other areas of the environmental analysis.

2-12 Please see Master Response 3 in the current document and the Response to Comments on the IS/MND, Master Response 11.

2-13 Potential impacts of the Project on the Redwood Creek salmonid fishery are examined in IS/MND, Section IV.4, Biological Resources, and in the Response to Comments on the IS/MND, Master Response 3. This comment does not provide substantial evidence to support a fair argument that the Project would have a significant impact on the salmonid fishery. See also Master Response 3 in the current document.

2-14 The County has worked diligently to comply with CEQA. There has been no piecemealing of the Project.

2-15 Please see response to comment 2-13.

2-16 Please see response to comment 2-13. The cited letter from the National Park Service addressed a version of the Project that has been superseded. No comments were received from the National Park Service on the IS/MND, nor on the IS/MND Amendment.

2-17 Please see Master Responses 2 and 3.

2-18 The County has complied with all noticing requirements for the environmental review and will provide the legally-required notice of Board of Supervisors consideration of adoption of the amended IS/MND and approval of the Project. The second paragraph of this comment does not address the IS/MND Amendment.

2-19 An EIR is not required for the Project, as determined by the Court. Please see also Response to Comments on the IS/MND, Master Response 10.

2-20 This communication from the Fire Marshal to County Planning staff in 2017 is referenced in comment 2-9. This letter does not address any of the three issues raised in the Court Order.

2-21 This comment contains the Curriculum Vitae for Joseph P. Brunner, P.E. The commenter states that the following comments contain “notes,” from Mr. Brunner, not a finished report.

2-22 This and the following comments contain the “notes,” ostensibly by Mr. Brunner, as described in the previous response. While this document is formatted as a letter, it is not on the alleged author’s letterhead, and it is unsigned. Its provenance is therefore uncertain. This uncertainty, combined with the stated status of the comments as “notes,” not a finished report by a licensed professional, render the views expressed something other than the opinions of a qualified expert. Regarding the issues raised in this comment, please see Master Response 2.

2-23 Please see Master Response 2.

2-24 Please see Master Response 2.

2-25 Please see Master Response 2. The commenter is apparently unaware that the Fire Road is not a public right-of-way and, because it is gated and kept padlocked, inaccessible to the public.

2-26 Please see Master Response 2. The commenter is apparently unaware that the 2018 Geotechnical Report does not address the Fire Road, but rather the proposed improvements to the existing residential driveway, and that the more general recommendations contained in the 2015 Geotechnical Report do not apply to the Fire Road, since it is not proposed for any future development.

2-27 Please see Master Response 2. The commenter is apparently unaware that there is a culvert installed beneath the Fire Road to which drainage from upslope is directed through a series of ditches and swales. The Fire Road therefore does not function as a dam.

2-28 Please see Master Response 2. This comment contains speculation about future impacts, not an informed conclusion based on analysis and empirical fact.

2-29 Please see Master Response 2 and the response to comment 2-26.

2-30 Please see Response to Comments on the IS/MND, Master Response 4.

2-31 Please see Master Response 2.

Letter 3

SIERRA CLUB
MARIN COUNTY GROUP
Protecting the Marin environment since 1968
scmaringroup@gmail.com

July 14, 2022

Tammy Taylor
Marin County Planning Dept.

RE: Comment letter on Updated Amended MND on Dipsea Ranch Development project

Dear County Planning:

The Sierra Club fully supports the issues raised by the Watershed Alliance of Marin in their letter pointing out the failures of county planning to adequately follow CEQA and protect the environment of Redwood Creek, home to the unique species of coho salmon that spawn in and feed Muir Woods, our National Park Treasure. 1

We refer you to the new and clarifying information on the three subjects identified by the court in the two expert reports submitted: one from Watershed and Fisheries Biologist Preston Brown of SPAWN, and the second from noted GeoHydrologist Laurel Collins. These reports enumerate the deficiencies of the county's work in analyzing and mitigating the past construction work done without a permit on this property – the compacted fill for the so-called "Fire Road"– placed in a documented, landslide-prone area that also damaged a known, mapped, wetland area and sent sediment downstream during the rains to Redwood Creek. The AMND also failed to adequately address the impacts from any future work, such as the new septic tanks, shown as being located within the stream setback area, and the proposed new construction grading and drainage system that may send additional sediment flowing downhill, impacting Redwood Creek and its federally listed endangered population of coho salmon. 2 3 4

Regardless of the judge's ruling, there is a higher court, called CEQA, that the county is obliged to pay attention to and legally follow. There are also county's own rules and regulations that have been and are being disregarded in favor of this project, such as stream setbacks for riparian protection, stipulated in the Countywide Plan. The letter of concern dated March 6, 2017 from the National Park Service regarding potential impacts to the endangered coho and steelhead have still not been adequately addressed. The impacts of climate change, with the predicted intensification of rainstorms as well as drought, and the well-known documented negative impacts from the additional urbanization of a previously untouched habitat, must give us a pause. This is not an infill project, on an already altered landscape; this is increased urbanization on a steep slope, altering the hydrology and drainage without concern for the potential impact on the downslope creek, the hillside, or the Dipsea Trail immediately below. 5 6 7

SIERRA CLUB
MARIN COUNTY GROUP
Protecting the Marin environment since 1968
scmaringroup@gmail.com

From the Laurel Collins' Report Summary, pages 46 and 47:

Therefore, as a result of the previous enumerated issues, it is my opinion that the existing IS/NMD is inadequate to claim that impacts from the project would be less than significant. The HGR relied upon by the IS/NMD did not provide adequate context and characterization of the Project area. Context mapping and discussion of basic watershed features should have included

- **the relevant stream network,**
- **fully mapped extent of on-site and adjacent off-site landslides,**
- **assessment of landslide activity status, and**
- **discussion and full documentation of the effects of urban runoff,**
- **evaluation of the addition of nonengineered fill on an active earthflow,**
- **evaluation of instability of East Slide and Headward Creeks from urban runoff,**
- **mapping of the full extent and influences of all the older fire trails on-site,**
- **the impacts of directing the water from the proposed bioswale into the East Slide and East Slide Creek,**
- **and their potential for mitigation of all these under-evaluated issues, and**
- **synthesis of all these issues to determine their combined cumulative effects on- and off-site, especially to the threatened and endangered fish and their habitat in Redwood Creek.**

In my opinion, the additional extent of landsliding in and near the Project area shown in this report should cause concern about existing stability and potential risks from unstable hillsides at Project Lots 1- 3. The small Headward Creek subwatershed is already showing signs of very real and increasing significant impacts as urban development intensifies. Accelerated rates of water and sediment supply to Redwood Creek should be cause for concern, especially as climate change is expected to potentially increase rainfall intensity and amount over a shorter time span, as well as create longer and hotter summer droughts. These over-riding climate changes will launch unprecedented landscape and channel adjustments in steep urbanized coastal watersheds on Mount Tamalpais.

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A full EIR is clearly necessary for a project of this size, on this steep slope, with so many potential pitfalls, such as the already well-documented landslides, that could further threaten the future for this seriously endangered, unique subspecies of coho salmon protected by the Federal Endangered Species Act. The County owes it to its many environmentally concerned residents to do the most thorough work analyzing this project to ensure the safety of Redwood Creek and all the life it supports.

9

It is also important to realize that the County must approve the new IS/ND, and not just amend the old one, which was voided by the court.

We call on the County to follow CEQA to the fullest, deny the amended ND as inadequate, and call for a full EIR to thoroughly analyze this project and its potential impacts.

10

Sincerely,

Jinesse Reynolds
Vice Chair, Marin Group Sierra Club

CC: Board of Supervisors

Letter 3. Jinesse Reynolds, Sierra Club Marin County Group

3-1 The Watershed Alliance of Marin comment letters are included above as Letters 1 and 2. The County has worked diligently to comply with CEQA and to take necessary measures to protect sensitive biological resources.

3-2 Comments of Mr. Brown, referenced in this comment, are included in Letter 18. Comments of Ms. Collins are included in Letter 4.

3-3 As responses to comments contained in Letters 4 and 18 demonstrate, these "expert" reports fail to provide substantial evidence that the 2014 unpermitted grading of the Fire Road caused, or is causing, significant harm to the environment. Please see also Master Responses 2 and 3.

3-4 With regard to proposed storm drain and septic system features, and their location in relation to Stream Conservation Areas and Wetland Conservation Areas, please see Master Response 3**.**

3-5 As demonstrated by the Court Order, the County has met its obligations under CEQA, with the exception of the three areas of informational deficiency identified in the Court Order. Those areas are thoroughly addressed in the IS/MND Amendment.

3-6 The referenced letter of 5/6/2017 addressed a version of the Project that has been superseded. It did not address the current version of the Project. The IS/MND thoroughly examines potential impacts of the Project on sensitive biological resources downstream and finds, based on substantial evidence, that the Project would have a less than significant impact. Please see Master Response 3 in the current document, and Response to Comments on the IS/MND, Master Responses 2, 3, and 4.

3-7 Please see Master Response 3.

3-8 Please see responses to comments 4-25, 4-26, and 4-29.

3-9 An EIR is not required for the Project, as determined by the Court. Please see also Response to Comments on the IS/MND, Master Response 10.

3-10 The County Board of Supervisors is scheduled to take up consideration of adoption of the amended IS/MND, and, if it is adopted, to consider Project approval, on August 23, 2022.

Letter 4

Law Office of Edward E. Yates
2060 Sutter St., #403
San Francisco, CA 94115
Ph: 415-990-4805
eyates@marinlandlaw.com

Marin County Community Development Agency
Attn.: Sarah Jones
3501 Civic Center Dr., Suite 308
San Rafael, CA 94903
envplanning@marincounty.org
TLai@marincounty.org
TTaylor@marincounty.org

RE: Weissman (Dipsea Ranch) Land Division (P1589)

Dear Community Development Agency Staff;

This letter addresses: 1) Marin County's decision making process and notice requirements regarding the Dipsea Ranch application; and 2) the County's Dipsea Ranch Initial Study/Mitigated Negative Declaration (IS/MND) and Subdivision Map Act Approval. 1

This letter includes brief comments on these subjects and attaches a letter commenting on the IS/MND from Laurel Collins, an expert geomorphologist. In brief, the County has violated fair hearing, due process and California Environmental Quality Act (CEQA) requirements and must revise and recirculate the IS/MND. 2 3

This letter does not include my full comments because of time constraints due to County's mad rush to circulate the CEQA document and approve the project. I will submit lengthier comments later. 4

Process and Notice.

Assistant Community Development Director Sarah Jones' July 5, 2022 letter to my clients attempts to justify the County's rush to review and approve the Dipsea Ranch IS/MND. Ms. Jones' letter is full of basic errors and baffling conclusions about CEQA (Public Resources Code § 21000 et seq,), Subdivision Map Act Gov't Code § 66410 et seq)., notice requirements, the County Municipal Code and the Marin County Superior Court's ruling. Those errors undermine the County's entire review process. Ms. Jones claims that; "No formal public comment period was mandated for the Amendment. However, at its discretion, and as a courtesy, the County decided to provide a 20-day public review period." This claim is self-serving and simply wrong and demonstrates such incompetence and/or bias that the entire process is now tainted. 5

California citizens have rights to a fair hearing and due process before an impartial decision maker. California Constitution, Article I § 7; Code of Civil Procedure § 1094.5. *Clark v. City of*

Hermosa Beach, 48 Cal.App. 4th 1152 (1996), delineated the elements of a fair hearing which can be derived from applicable case law: "[A]n individual has the right to a tribunal 'which meets . . . standards of impartiality.' . . . Biased decision makers are . . . impermissible and even the probability of unfairness is to be avoided." Ibid at 1170.

The Superior Court's Writ of Mandate in *Friends of Muir Woods v. County of Marin* (CIV 2003248) states that; "In accordance with the Judgment and Order After Hearing, County is ordered to set aside the Board of Supervisors' Resolutions adopting the mitigated negative declaration (Resolution No 2020-25110) and approving the project (2020-111)." There is nothing vague or confusing about this order. The Dipsea Ranch approvals are ***void.*** As such, there is no approved IS/MND or subdivision map and so Ms. Jones' contention that the County only must prepare and approve an "amendment" to the IS/MND is contrary to the Court's order and Judgment and is wrong.

5 cont.

There is an application in existence, although that application may well have lapsed under the Marin County Municipal Code (Muni Code). However, there is no currently approved Map or IS/MND to "amend." Instead, the County must comply with all CEQA, SMA and County Muni Code procedural requirements for approval of maps and CEQA documents. See e.g. Pub. Res. Code §§ 21091(b); 21092; 14 CCR §§15072; 15073, including noticing relevant Federal and state agencies due to the regional impacts. Given the regional nature of potential Project impacts, the IS/MND must be submitted to the State Clearinghouse and circulated for a minimum of 30 days. Ibid.

The County further misrepresents the Court's Writ of Mandate by giving the impression that the Court is in some kind of rush or that the Court set a deadline for Return to Writ. Not only did the court not set a deadline, but the Court did also not even order a Return to Writ. As such, the County's contention that there is some kind of judicially created rush is false. The Writ does not mention a return to writ much less a date or any compressed schedule to complete the CEQA work as falsely suggested by County Staff.

Instead, it appears that the County staff is responding to the Developer and/or Supervisor Rodoni's directives to rush through and truncate this phase of the County's CEQA review.[1] The County's bias is also evidenced by Ms. Jones admission that the County has ***intentionally*** circulated the "Amendment" when it knew my clients would be out of town.

Given the clear misunderstanding and/or misrepresentations by County Staff and Supervisor Rodoni regarding the Writ of Mandate and CEQA requirements, the County must withdraw and recirculate the entire IS/MND and project approval documents requested by my clients.

[1] Supervisor Rodoni misled a constituent, Louette Colombano's concern about the rush to reapprove the Project by saying that the judge only required minor "clean up." Mr. Rodoni has also engaged in extensive undisclosed ex parte discussions about the project with Developer Weissman. Mr. Rodoni's failure to recuse himself also potentially violates due process. *Breakzone Billiards v. City of Torrance* 81 Cal.App.4th 1205, 1235-6 (2000).

The Current Process Violates the Marin County Muni Code; Any IS/MND Must be Heard by the Planning Commission.

The County previously notified the public on the County website that it was going to submit the IS/MND to the County Planning Commission for review. This is the normal and logical process given the Board appointed the Planning Commission members for their ostensible expertise and advice in land use planning. The County, however, with essentially no notice, has changed the process so that the new proposal and IS/MND will be submitted directly to the Board of Supervisors for approval of the SMA map and the IS. This proposal violates the County's own Muni Code procedural requirements.

The Muni Code requires that CEQA documents be approved by the Community Development Director. (Muni Code §§ 22.40.020 - Review Authority for County Land Use and Zoning Decisions. Table 4-1; 22.40.060, 22.110.030.)

Then, if there is an appeal by either the applicant or member of the public, that appeal shall be considered by the Planning Commission unless the Director makes certain findings. Muni Code §§ 22.110.030, 22.114.020. The finding in 22.114.020(a)(3) is that the appeal "Would not raise substantial policy issues or result in community-wide impacts, including community character and traffic congestion."

First, the County appears to *have already made this decision* that the findings can be made. Yet there is no completed or approved IS/MND to base such a finding. Since there is approved IS/MND yet and no Director decision or appeal, the County does not have the required information as to whether it can comply with Muni Code findings to avoid Planning Commission consideration of the Project. Thus, the County has improperly and baselessly predetermined the outcome of its duty to make regulatory findings without the required underlying evidence and therefore, has additionally demonstrated its bias.

Second, it appears clear at this point that the Director cannot refer a possible appeal to the Board because this scenario does not and could not meet the Muni Code requirements for projects with wide community interest and impacts. None of the sub-findings in 22.114.020(a)(3) can be made because the Project's potential impacts affect State Park and Muir Woods National Monument and 150 community members have demonstrated their concern regarding community character and the Tam Valley Design Review Board has opined that the community character and traffic are affected.

6

The IS/MND "Amendment" is Terrible.

The IS/MND Amendment may be the worst CEQA Document I have seen in my 35 years of drafting and analyzing environmental review documents. It is simply a gathering of unsupported conclusions, with no scientific expertise, technical basis, or logical rationale.

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For instance, there is no peer review or reassessment of the 4 to 8 year old technical documents to determine if there is a need to update for current physical conditions, and no attempt has been made to address Petitioners concerns about fill placement, fire road instability or clear evidence

8

that drainages will change and affect wetlands and downstream salmonids. Instead, the IS/MND simply repeats the losing arguments made by Mr. Weissman's attorneys in its court briefs. 8 cont.

The IS/MND Amendment was prepared by a contract planner, Mr. Sicular. Mr. Sicular's work consists solely of assumptions and conclusions clearly intended to respond to the Writ of Mandate, not a rigorous analysis that would comply with CEQA. Mr. Sicular has no qualifications to analyze or interpret scientific data and did not even pretend to do so. 9

In contrast, I have attached a letter by an expert geomorphologist which includes her own technical and scientific analysis and findings of the technical studies and the IS/MNSD. Ms. Collins concludes that the IS/MND (including the original voided IS/MND and the "Amendment") do not provide the scientific basis or required mitigation measures to conclude impacts to water quality and biological resources will be less than significant. The IS/MND does not even respond to court's ruling that IS/MND Project Description and Existing Conditions sections are legally inadequate. Instead, the IS/MND simply makes baseless arguments that existing studies support the Developers' previous position, before he lost the lawsuit, that no more analysis is necessary. 10 11

If the County does not revise and recirculate an IS/MND that is compliant with both CEQA and the Court's Writ of Mandate, Petitioners will *challenge any Return to Writ or will file a new lawsuit.* 12

Sincerely,

Edward Yates

Attachment: Letter from Laurel Collins to Edward Yates re: Dipsea Ranch Project

Date: July 14, 2022

To: Ed Yates
Law Office of Edward E. Yates
2060 Sutter Street, #403
San Francisco, CA 94115
Email: eyates@marinlandlaw.com

From: Laurel Collins, Watershed Sciences
P.O. Box 301
Bend, OR 97709
Email: laurelgene@comcast.net

Subject: Review of existing slope stability and sediment production issues concerning Fire Trail, Landslides, Drainages, and potential impacts of the Proposed Dipsea Ranch Land Division Project (Case NO. 2003248) on these concerns

Dear Mr. Yates,

Per your request, I am providing a limited technical report of two of three issues discussed in the 1/10/2022 Final Ruling in Case NO. 2003248 for Dipsea Ranch Land Division Project (the Project). The Final Ruling concerned issues disputed in the 2020 Initial Study/Mitigated Negative Declaration (IS/MND), which was prepared by Sicular Environmental Consulting (Sicular). (Amendment P 1). The Project would permit a Land Division to subdivide an existing 8.29-acre lot, located at 455 Panoramic Highway in unincorporated Mill Valley to 3 single-family residential lots. Two salient issues evaluated in this report are summarized here from the AMD2020 and are referred to as items #2 and #3 as enumerated in the Final Ruling:

#2) the current condition of soil stability around the Fire Road; and
#3) the location of drainages on the property in relation to stream or wetland conservation areas, any mechanisms to be employed to divert water from these areas and associated environmental impacts, if any, from the drainages and diversion of water from those areas.

I believe these two issues are interrelated – the presence and/or changes in one can affect the other, as will be discussed in this report. Therefore, I do not initially create separate discussions for each, which would be unnecessarily interactive. However, the summary conclusion allows separation and categorization of these issues if necessary.

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I conducted this review by first performing a field reconnaissance on 5/6/22 from Panoramic Highway near the project and nearby public trails and roads, as well as from other private properties providing access to view as much of the Project area as possible. Access has not been allowed by the Project landowner, which severely limits the ability of anyone, other than project proponents, to evaluate the 2 (of 3) concerns to be addressed by the Superior Court's Final Ruling. Where existing drainage, sediment and instability impacts could be seen along the periphery of the Project or on-site from afar, I took photographs. Because I could not access any of the mapped landslides or conditions at the Fire Trail, and particularly the large slide east of Lot 3 (here referred to as East Slide) that underlies the Fire Trail fill, and the drainage conditions upstream and downstream of the fill directly affecting the Fire Trail and landslide stability, I needed to resort to analyzing these features remotely. I therefore sought historical aerial photographic imagery to analyze geomorphic conditions. These aerial images can also be viewed by others. The historical aerial photos were digitally overlaid onto modern Google Earth imagery to provide a 2-dimensional view of the watershed and Project area and to assess the landslide mapping provided by project consultants (Herzog Geotechnical Consulting Engineers), as well as to map the extent and number of landslides over time that influence

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slope stability, sediment production and supply, and drainage to downstream endangered Coho and threatened Steelhead habitat of the North Central California Coast in Redwood Creek of the Muir Woods National Monument. I reviewed existing legal reports, documents, and photographs submitted by others for this case, listed below:

14 cont.

- Relevant portions of the Final Administrative Record Complete - 8-2-21 (AR 00001-04524) that include:
    - Community Development Agency Planning 12/04/2019 Marin County Division Initial Study Dipsea Ranch Land Division (AR 00051)
    - Rachel Reed, Environmental Planning Manager, 12/04/2019 Mitigated Negative Declaration (AR 00051)
    - Lotic Environmental Services Letter from Jason Pearson to Laura Chariton, Marin Watershed Alliance, September 25, 2020 (AR 04097)
    - Herzog Geotechnical Consulting Engineers 11/03/2015 Geotechnical Report (AR 01820)
    - Herzog Geotechnical Consulting Engineers 11/03/2015 Geotechnical Report (AR 02192)
    - Ziegler Civil Engineering 12/19/2018 Conceptual Stormwater Control Plan (AR 02207)
    - Ziegler Civil Engineering 12/19/2018 Hydrology and Land Use Report (AR 03540)

- Ed Yates Opening brief -File: 09-17-2021 Pet. Opening Brief FINAL with TOC & TOA 12PM
- Honorable Andrew E. Sweet, 1/10/2022, Final Ruling Superior Court of California, Case NO. 2003248
- Dipsea Ranch Land Division Amendment to the 2022 Initial Study/Mitigated Negative Declaration (SCH# 2019129035)

- Aerial Photos UC Santa Barbara online Digital Geospatial Collection:
    - Jun 1965 UCSB cas-65-130_40-36
    - Nov 1952 UCSB drh-1952_1k-146
    - Sept 1946 UCSB gs-cp_5-2

- Google Earth Imagery:
    - 6/1987-2/2021

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This report uses the following names and abbreviations:

- HGR = Herzog Geotechnical report
- HLM = “Herzog Landslide Map” Plate 1 in Herzog Geotech Reports that is called the Exploration Plan/Geologic Map
- IS/MND = Initial Study/Mitigated Negative Declaration
- Amd2020 = Dipsea Ranch 2022 Land Division Amendment
- Older Fire Trail = The section of the Fire Trail that was constructed sometime in or prior to 1987 but has not had fill applied in 2014.
- Fire Trail = the segment of Older Fire Trail where new fill was placed on the Older Fire trail in 2014.
- The Project = Lots 1, 2, and 3 of the Dipsea Ranch Land Division Project of Case NO. 2003248
- Headwater Creek = East flowing creek adjacent to south side of Lot 3.
- East Side Creek = South flowing creek within east side of Lot 3 that is confluent to Headwater Creek (the confluence is less than 4250 feet upstream of mainstem Redwood Creek in Muir Woods).
- East Slide = South sliding large landslide beneath East Slide Creek and Fire Trail fill

I. PROFESSIONAL EXPERIENCE

I have been a geomorphologist since 1981 specializing in riverine (fluvial), tidal wetland and hillslope geomorphic processes, hydrology, landslide analysis, sediment budgeting, geomorphic effects of wildfire, and anthropogenic influences on geomorphic landscape change, and assessing effects of climate change for developing landscape adaptation projects.

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I am the owner and principal scientist of Watershed Sciences, a consulting business started in Berkeley California in 2001 and recently operating from Bend, Oregon. My opinion on environmental issues raised in the Final Ruling is based on my experience and scientific analyses of projects concerning geomorphic processes and land use impacts throughout Marin County, other counties throughout the Bay Area and California, and various western states in the US. During my 40 plus years I have worked on various stream and geomorphology related projects for Marin County Flood Control and Water Conservation District, Marin County Parks, Alameda County Flood Control and Water Conservation, East Bay Regional Park District, Contra Costa Clean Water Program, US Geological Survey, US Forest Service, California Department of Forestry, US National Park Service at Point Reyes National Seashore, Pacific Northwest Forest and USDA Range Experiment Station, San Francisco Bay Regional Water Quality Control Board, University of California at Berkeley, Lawrence Berkeley Laboratory, San Francisco Estuary Institute, and the US Department of Justice.

A specific and recent example of my experience in the Bay Area involves serving as a science and technical advisor to Marin County Open Space on their Bothin Marsh Sea Level Rise Adaptation Project as well as their North End Bolinas Lagoon Restorations Project. I was the initial consultant on site conditions, hydrology, and geomorphology for both these projects. I also was the principal consultant a Geomorphic Assessment of the Martin Griffin Preserve for the Audubon Canyon Ranch located on the west side of Mount Tamalpais. These projects among many others make me very familiar with and knowledgeable about the impacts of land use on hydrologic and geomorphic processes around Mount Tamalpais.

Attached to this review is a copy of my current CV with a list of publications, reports, and brief descriptions of projects that I have worked on.

16 cont.

II. ANALYSIS OF FIRE TRAIL SLOPE STABILITY, DRAINAGE, AND EROSION ISSUES

II.A. Sub-Watershed Drainage Boundary Changes that Influence Stability at Project Area

It is important to show the watershed boundary because it helps define the area that influences or could be influenced by the Project. The 2018 Ziegler Hydrology and Land Use Report shows the existing boundary and the previous natural boundary before the influence of urbanization and road runoff that effect the entire watershed but especially the East Slide Creek and the East Slide of Lot 3. Their report and states:

> "The project area is located within a watershed sub-area that is 36.99 acres in size. Prior to the construction of the Panoramic Highway the project watershed subarea was 31.59 acres in size. The increase came as a result of the effects that construction of the Panoramic Highway had on the runoff routing of the area. The additional 5.4 acres of tributary area added to the subarea are mostly routed through a single drainage ditch network connected to the Panoramic Highway which runs through the 455 Panoramic Highway Parcel." (AR 03554)

Figure 1 Shows a copy of the current and post – Panoramic Highway sub-watershed of Redwood Creek basin as mapped in the 2018 Hydrology Report (page 6/72). (Note this figure is missing in the Final Administrative Record of 8/2/21). Figure 1 has been highlighted here to show the previous smaller nonurbanized watershed boundary (green) and the existing larger boundary created by urban land practices (red), artificially increasing the sub-watershed drainage boundary by 14.6 percent. Lot 3, also known as 455 Panoramic Highway Parcel, is here highlighted as a blue polygon. It is slightly over 5 acres, representing about 13.8 percent of the subwatershed.

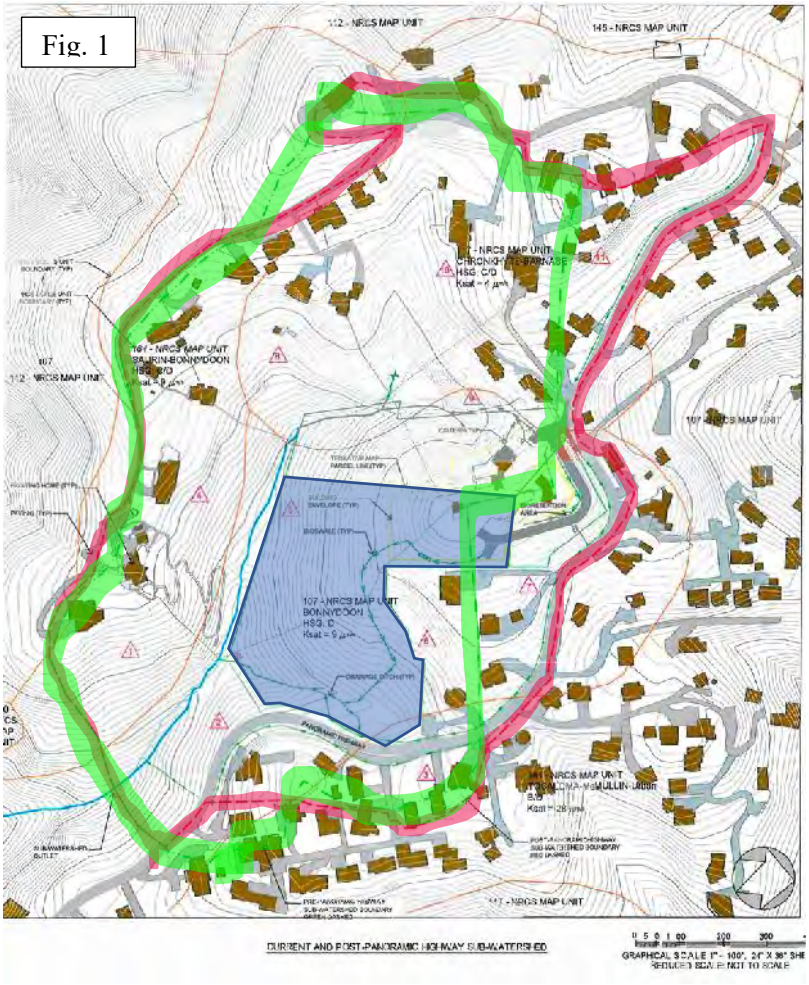
17

II.B. Interpretation of Landslides, Drainages, and Fire Trail from Aerial Imagery

II.B-1. Google Earth Projection and Review of Herzog Landslide Map

Historical aerial photographs from 9/1946, 11/1952, and 6/1965 were obtained from UC Santa Barbara's online Digital Geospatial Collection. These digital photos were overlaid onto Google Earth so that the topography could be viewed three-dimensionally to look for evidence of landslides and instability. Features on the 1946 photos were

17 cont.



mapped and assigned a roughly estimated age range that was based solely upon interpretation of the apparent freshness of bare soil, scarps, or of fallen or displaced vegetation. The purpose of estimating activity status was to evaluate the potential for continued instability. Earthflow/slump type landslides, characteristic of the East Slide, that have been active within the last 100 years often continue to exhibit higher creep rates that exceed typical soil creep on steep slopes, new or continued movement or surges often associated with high rainfall amounts or increased saturation from urban runoff or artificial changes in watershed drainage boundaries, increases in driving forces such as added weight that can be from water and/or fill, changes in mass balance that can be from added fill or landslide movement within a larger/deeper earthflow mass, and removal of lateral support by road cuts or stream incision at the toe of the slide. For the 1952 and 1965 aerial photos, only new landslides were mapped that could not be viewed on the 1946 photos. The review of Google Earth Imagery that ranges in date for the Project area from 6/1987 to 2/2021 for landslide mapping also involved looking for evidence of new landslides.

Changes in land use practices were also apparent in all photos regarding the cessation of grazing, construction of roads and trails, suburban development, as well as changing conditions at the Project area. This was also discussed in the 2018 Ziegler Hydrology and Land Use Report, but not in the Herzog Geotechnical reports because there is no

apparent analysis of landslide change through time. In addition to showing new landslides apparent in the aerial photo imagery, some observations were also made about periods of Fire Trail grading, tree fall and tree clearing on the East Slide, and placement of fill.

As previously mentioned, using Google Earth Imagery and single photo aerial images is not ideal for mapping landslides, but it is a tool available for first-cut mapping when stereo aerial photo analysis is not possible (limitations in time for this review), and when field verification is not possible because of trespassing constraints imposed by the landowner. At best, the photographs and imagery depicted here of landslide instability (that can be viewed by others) will substantiate concerns that slope instability/Fire trail issues have not been adequately addressed to claim that the proposed project will not have negative impacts. Indeed, it has already been discussed in previous technical reports and will be further demonstrated here that existing conditions at the Project site are already creating negative on-site and off-site downstream impacts of channel erosion and sediment supply from East Side Creek and downstream Headwater Creek from urban runoff.

17 cont.

The following map graphics show a first cut interpretation of drainage and slope instability from the digital imagery. Figure 2 shows 6/2019 Google Earth imagery that was used to approximately draw the relevant stream network of the channels in the watershed where the Project is located. Headwater Creek, East Slide Creek and Headwater Fork are key creeks discussed in this declaration.

Figure 3 Shows the 2018 Herzog Exploration Plan/Geologic Map herein referred to as the Herzog Landslide Map (HLM) (note that even though the map legend on the image below says 2015 the map is also in the 2018 updated report with no apparent changes). It is not clear how the initial interpretation of landslides was conducted other than HGR referencing in their report that they performed a geologic reconnaissance of the site and reviewed selected geologic references. The HLM overlay looks wavy in Figure 3 because it is a 2-dimensional map fitted to topographic projection of Google Earth. The stream mapping by L. Collins has been left on to show the relationship of the key stream channels to the HLM, which are not delineated by Herzog. As can be seen, a multitude of information is provided on HLM but essential information concerning the on-site and off-site and stream network is entirely missing. The added blue line (from L. Collins mapping) is left on other Google Earth images in this report to show approximate channel locations and context. To address the #2) current condition of slope stability around the Fire Trail; and #3) the location of drainages on the property in relation to stream and conservation areas, any methods employed to divert water from these areas, and associated impacts from the drainages and diversion of water from those areas, this analysis copies and highlights key features of the HLM that are necessary for this review, including landslides (Qls), road fill (Qaf), existing and proposed sewage disposal areas, culverts, and lots.

17 cont.

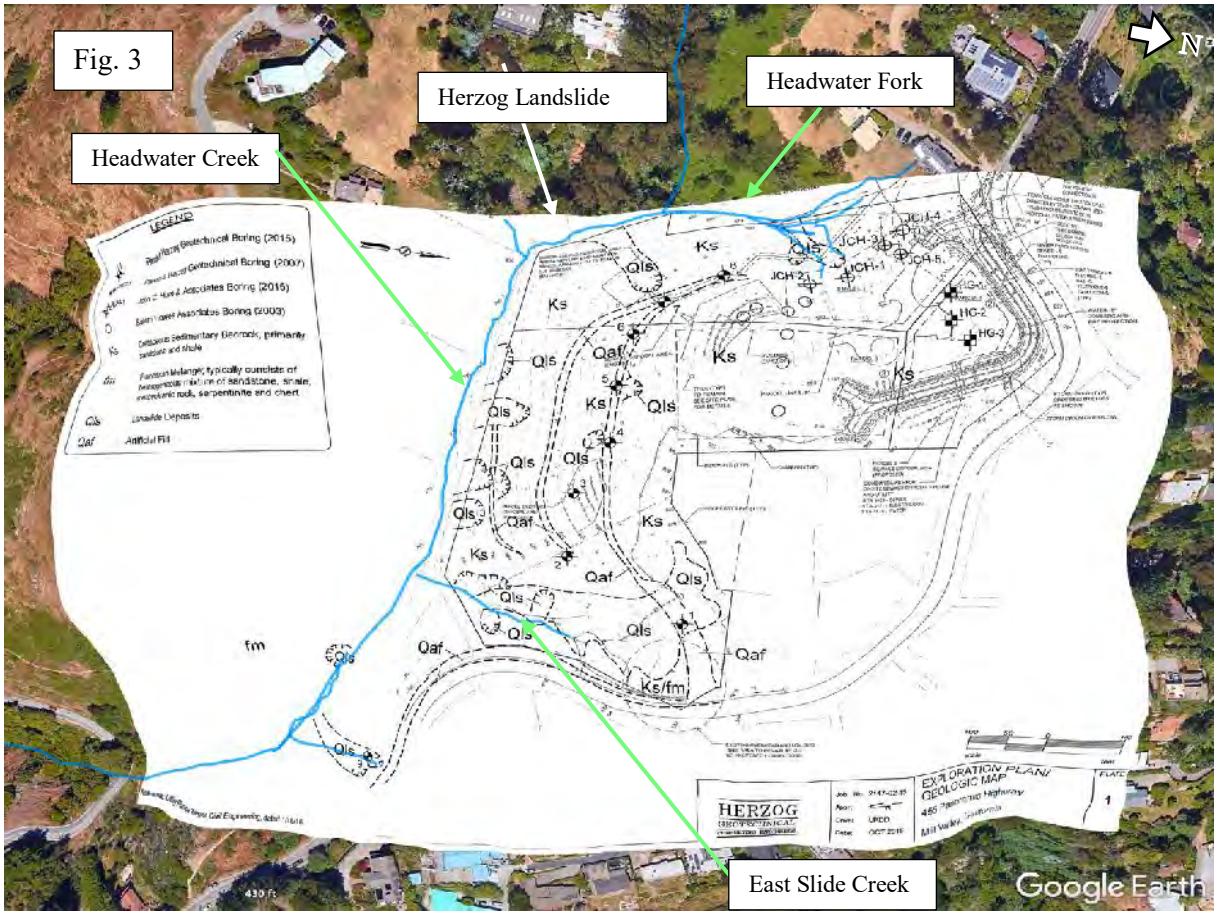


Figure 4 shows the key features of the HLM highlighted in different colors. The landslides (Qls) are shown as orange polygons with black outlines. One landslide, the largest delineated in the Project area by the HLM, is referred here as East Slide. It is located within the east side of Lot 3 and shown with a bright yellow arrow.

The lot boundaries are traced as pink lines with the appropriate lot numbers also shown in pink. Older road fills (Qaf) are shown as light orange (within black dashed lines of map) and newer road fills are shown in light green (within dashed lines). The newer, yet nonengineered 2014 fill is referred to as Fire Trail Road fill. It crosses the East Slide and is shown with a thick black arrow. It ends at the intersection of the Fire Trail driveway with Panoramic Highway. Even though the HLM shows fill extending along the Highway, it is not discussed further in

this report and falls outside of Lot 3 of the Project.

Road runoff and bioswales are shown as blue arrows that are not readily distinguishable on the HLM. Here, the major proposed bioswale, as described in the Conceptual Storm Water Control Plan for a Regulated Project Dipsea Ranch Tentative Map, June 2018, Ziegler Civil Engineering (AR 2156), is pointed to in Figure 4 with dark blue arrows.

Existing sewage disposal areas are shown as purple polygons (there are two) and proposed ones are shown as brown polygons (also two). A key drainage feature proposed for the project that is relevant to the stability of the Fire Trail fill, slope stability, drainage, and water diversion (as stipulated in the Final Ruling), is described as a rock weir/check dam bioswale and cistern system, as discussed in the AR01269. Additional proposed stepped bioswales exist in the Headwater Fork however they are not evaluated in this report because they do not directly pertain to slope stability and sediment supply at the Fire Trail and East Slide.

17 cont.

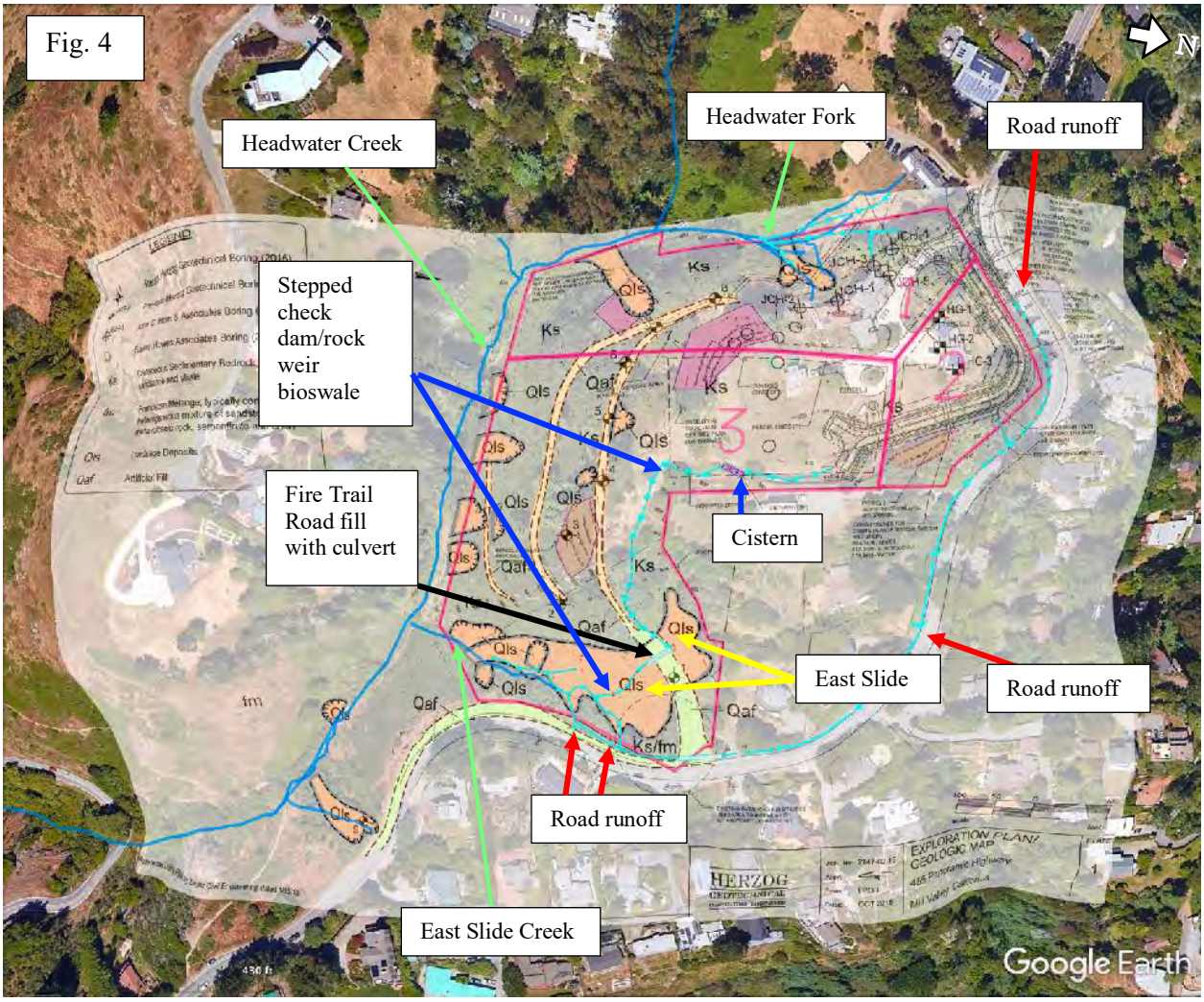


Figure 5 Shows the HLM overlay removed but the relevant features of concern were left on the 6/2019 Google Earth Imagery discussed in Figure 3. The proposed check dam bioswale that leads to the East Slide is highlighted here to distinguish it from the other proposed bioswales at East Fork and the existing road runoff along Panoramic Drive that drains into East Slide and East Slide Creek. The yellow line roughly approximates the boundaries shown in the Ziegler Conceptual Storm Water Control Plan (AR 2156.) that will be subject to grading, erosion control fencing, and filter berms (AR 2165.).

Although the Older Fire Trail fills (light orange linear polygons identified as the Qaf geologic unit) are delineated in the HLM, Herzog consultants did not map the extent of unstable road cuts in the Project area even though they discussed them in the HGR. The thick green arrow in Figure 5 points to the area of the road cut of the Older Fire Trail that is discussed as unstable in both the original and updated Herzog Geotechnical reports, but it is not delineated in the HLM.

Neither of the unstable Older Fire Trail cuts or fills are discussed in the IS/MND or Amendment. The failure to address the mapped and discussed geologic features of the Older Fire Trail fills and the discussed features of Older Fire Trail cuts implies that Sicular lacks understanding of the importance of geotechnical discussions about stability. This leads to mistakes in conclusions about significance of Project impacts because these features were omitted from any analysis. In additions, potential impacts of unstable Older Fire Trails on destabilizing mapped landslides (both uphill and downhill of the trails) should have been evaluated in the IS/NMD or Amendment because their instability can transport sediment directly into the on- and off-site Headwater and East Slide Creeks. Sicular's lack of expertise in geotechnical issues and resulting failure to evaluate identified unstable features indicates to me that the IS/MND and Amendment conclusions about impacts being less than significant are unfounded and inconclusive because of incomplete analysis of identified unstable features (landslides and Older Fire Trails). 17 cont.

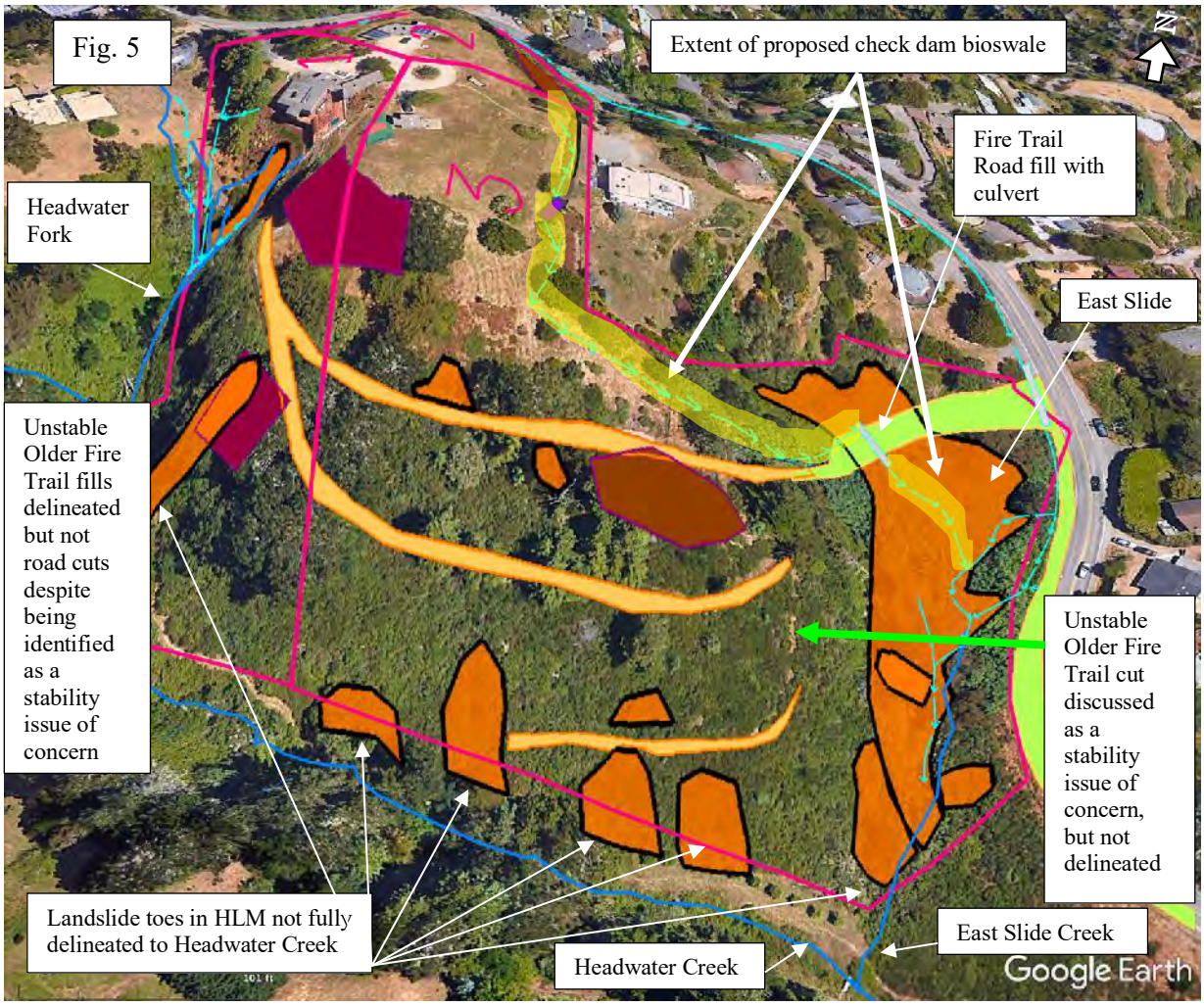


Figure 5 also shows that the HLM does not map the full extent of the landslides toes that are adjacent to Headwater Creek and beneath East Slide Creek at its confluence to Headwater Creek. Showing and evaluating these connections is essential because the linkage of sediment supply from unstable landslides to the stream network is demonstrated. This should ultimately signal and justify the need for evaluation of potential increased sediment supply to downstream threatened and endangered fish habitat in Redwood Creek. Not only is the activity status and

full extent of the landslide toes emanating from the Project not delineated in the GTR, they are not evaluated in the IS/NMD. Therefore, baseless assumptions have been made about Project impacts from the unstable Older Fire Trail and landslide features and their influence on sediment supply. This causes conclusions in the IS/MND to be wrong.

17 cont.

This avoidance of a complete mapping effort related to geotechnical issues is also demonstrated in Figure 6 that shows a 3/2014 photograph of the culvert being placed in the fill (unknown photographer, provided by Watershed Alliance of Marin). By not delineating the full stream network, especially East Slide Creek in Lot 3 (blue line added by L. Collins as exemplified in Figure 2 and 3). Of curiosity, is why a culvert was put through the Fire Trail fill in 2014, if there is not an existing creek draining to the culvert. If there is a creek, why was it not mapped? If it is draining the protected wetland, it is not permitted. Only the proposed bioswale is indicated on the HLM and it was not proposed at the time of the placement of the Fire Trail fill. Because access to the site was not permitted in my reconnaissance effort and because wetland vegetation and the Fire Trail obscure photographic interpretation, I have not mapped an extension of a drainage channel upstream of the fill. The photograph clearly shows that water is draining through the culvert from some unmapped source.

The contents of the fill and it potential effect on water quality has not been discussed in any of the reviewed documents including the IS/MSND. This makes the impact conclusions of the IS/MND incompletes and unreliable.

Fig. 6

18

Figure 7 shows the location of the protected wetland identified in the Fire Road Grading Map of the Initial Study that is not to be disturbed (AR 00065). It is located at the uphill toe of the nonengineered fill of the Fire Trail. No drainage of the wetland is indicated by the HLM, this implies that its high groundwater table and ponded water saturates soil next to the fill and underneath it. This is because the fill was placed over the former wetland which was larger than what remains following the application of the 2014 Fire Trail fill. Although the HLM does not show the wetland on the East Slide, it likely contributes to groundwater saturation to the East Slide as delineated by the HLM.

Figure 8 from 2020 Lotic Environmental shows a photograph that diagrammed the potential prior extent of the protected wetland prior to the placement of the 2014 Fire Trail fill. The fill was added for the presumed improvement of the 2014 Fire Trail even though it has never been approved or accepted for that use because it was never engineered to any standard. The Fire Chief also stated that the road was not engineered for fire trucks, further providing doubt to the Developer's claims. AR 65. After notice of illegal filling in a Stream Conservation Area

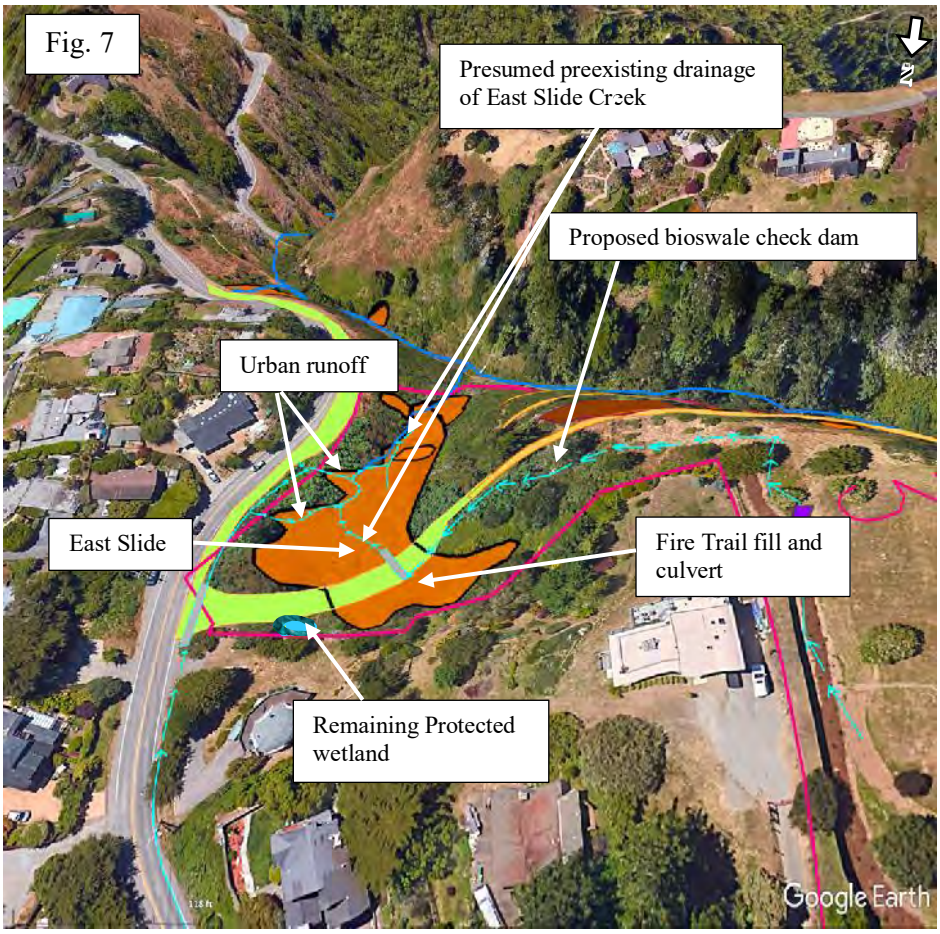


Figure 8. View looking upslope towards the upper extent of the easternmost tributary drainage taken January 14, 2014. Wetland vegetation (*Juncus* sp.) appears visible along the drainage. According to Watershed Alliance of Marin a wetland existed in the vicinity of the current access road footprint (source: Laurel Collins – Watershed Sciences/Watershed Alliance of Marin).

18 cont.

(AR4106), the fill only had erosion control applied to it to stop surface runoff on the fill from supplying sediment directly to East Slide Creek and the greater stream network beyond.

In Figure 8 a former wetland tributary is shown to be flowing (yellow arrows) from the wetland into the area that is now buried with 1200 cubic yards of fill for a road that technically cannot be used for fire protection due to its lack of engineering standards. Here a blue arrow has been inserted to indicate a possible preexisting channel that required drainage at the fill that does not lead to the wetland. On the other hand, it could also lead into what appears to be the lateral scarp of the East Slide delineated on the HLM and here sketched as a white line. This landslide is presently the base of support for the Fire Trail fill. No known efforts were undertaken to stabilize the East Slide by dewatering it or redirect water draining into that contributes to its saturation and instability.

18 cont.

II.B-2. Google Earth Projection and Interpretation of Photo Imagery

Figure 9 shows the 1946 historical aerial photo projected onto Google Earth to visualize topography 2-dimensionally. The landscape at this time can be seen was mostly grassland. It was still being heavily grazed, also discussed in the Ziegler Civil Engineering 12/19/2018 Hydrology and Land Use Report (AR 03540). A deep headward-cutting gully along portions of East Slide can be seen, as well as numerous areas of active and older landsliding, as will be depicted in the following Figures. The banks of Headward Creek and its adjacent hillsides all exhibit a relatively recent history of instability exacerbated by land use practices that converted a landscape of deep-rooted native bunch grasses to annual grasslands. This decreased the ability of the soil to resist erosion as runoff was conveyed across heavily grazed annual grasslands that did not maintain viable roots to bind the soil during the rainy season.

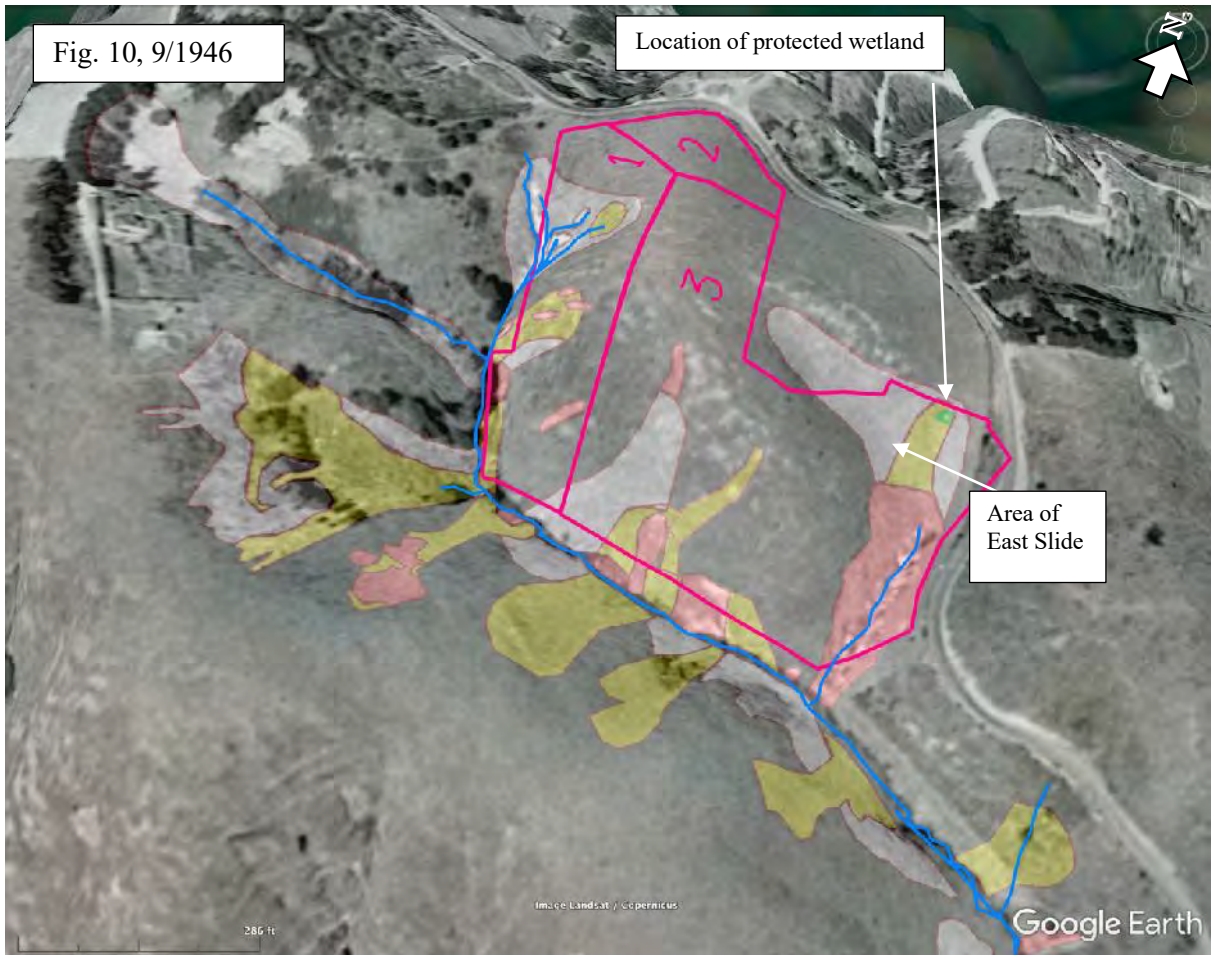
19

Figure 10 shows the same 9/6/1946 Aerial Photo GS-CP 5-2 overlaid onto Google Earth Imagery, but it also shows the same channel mapping of the stream network by L. Collins depicted in Figures 2 and 3, and the Project Lot lines (pink lines). It also delineates interpretated landslides from the 1946 imagery. Landslides mapped as red polygons were likely active < 50 years prior to 1946, perhaps by the turn of the 1900s (76 years before present), while landslides mapped as yellow polygons were likely active sometime during the 1800s (between 76 and 222 years before present). Landslides mapped as white polygons likely predate European settlement and could include very old landslides that predate impacts of European settlement to ancient slides that were last active during or shortly after the end of the Pleistocene Epoch (>222 years before present and less than 11,700). On Mount Tamalpais, these latter slides can commonly be colluvium filled hollows that can look like topographic swales of lack little topographic expression at the topographic depressions (zero-order basins) above heads of channels. The colluvium-filled hollows can fail catastrophically as debris slides during very intense and/or prolonged rainfall events (S. L., W. E. Dietrich, C. J. Wilson, and J. D. Rogers, Colluvial deposits and associated landslides in the northern San Francisco Bay area, California, USA, Proceedings of the 4th International Symposium on Landslides, pp. 425-430, 1984).

Some of the landslides mapped in Figure 9 appear to be colluvium filled hollows, while others appear to range from shallow debris slides, simple rotational slumps, to complex deep-seated earthflows that can have multiple failure planes (slip surfaces within the body of the slide). The nature of sliding at the East Slide area looks like it has had a history of shallow debris sliding and slumping near the head scarp of the white polygon and deeper-seated earthflow movement within the body of the white polygon. The yellow polygon, within the white-colored, older slide area, appears to have been active sometime between the 1800s and 1946. It is conservatively depicted as older than the recently active portion of the East Slide, as represented by the red polygon below the yellow one. As can be seen in Figure 9, gullying by East Creek is deeply incising the lower active portion of East Slide within the red polygon.

19 cont.

In my interpretation, East Slide is a large complex earthflow, exhibiting multiple modes of failure that have occurred over a broad time span. East Slide is active in some areas and as discussed in the HGR, it displays hummocky and lobate topography indicative of previous earthflow landsliding (AR 01822). The body of the East Slide mapped



here, that includes the combination of the white, yellow, and red polygons, is much larger in extent than the East Slide shown on the HLM. I expect that over its entire extent, its deposit has greatly weakened strength to resist

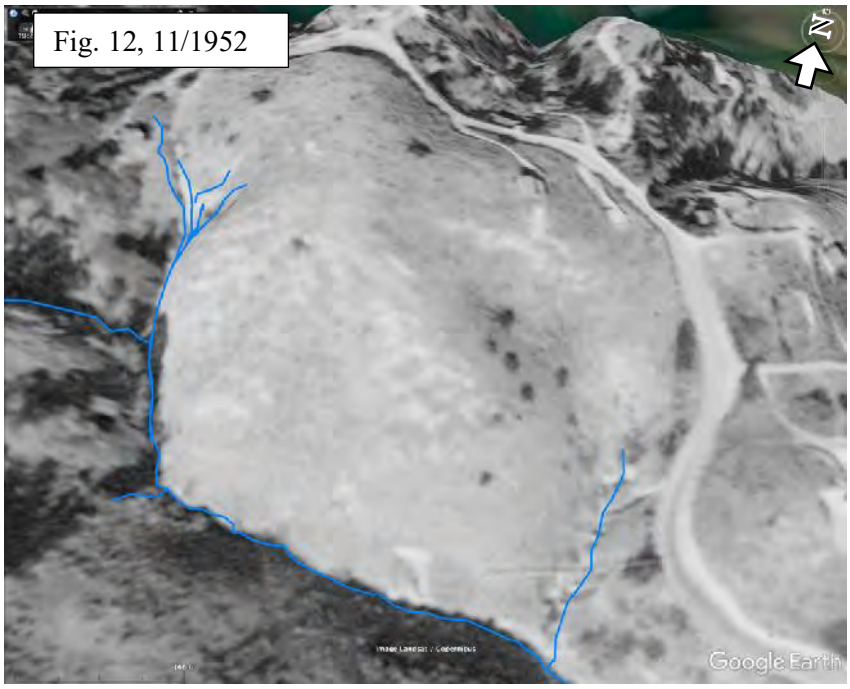
further sliding. It is weaker than the "nonsliding" surrounding hillslopes because its deposit has been sheared, fractured, and mechanically weakened. Sheared soil and bedrock at the failure surfaces can create perched water tables. This is often expressed as ponds or wetlands, especially near the head scarps or internal subsidiary scarps within complex earthflows that often have multiple slides within slides and a rotational component to their movement. This can trap water and likely explains the presence of the protected wetland, which I believe is within the less active portion of the East Slide at this 1946 time of mapping. The wetland location is depicted in Figure 10.

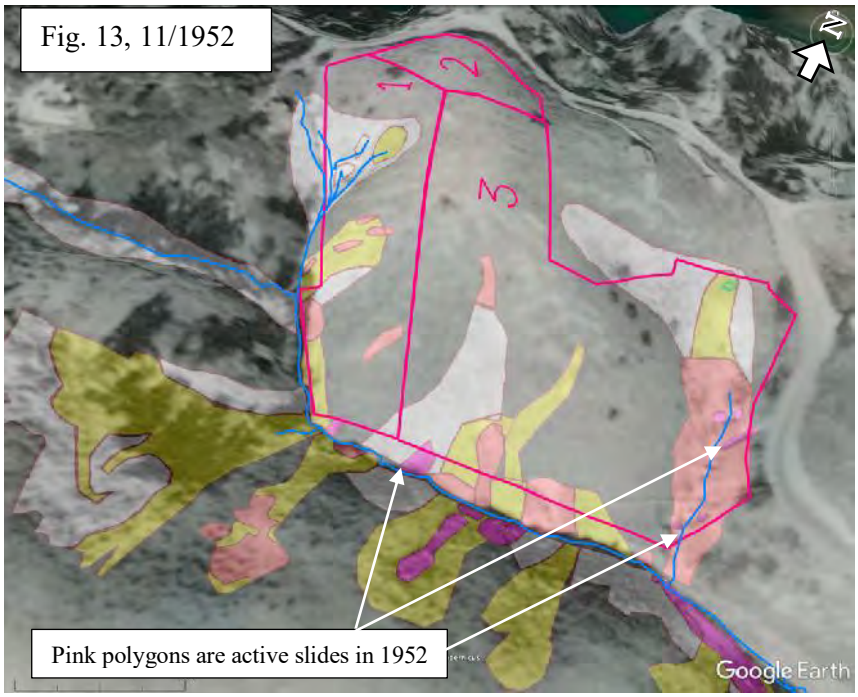
For comparative purposes, Figure 11 shows the extent of HLM landslides projected onto the 1946 aerial photo. Only 15 slides are shown on-site, as compared to about 40 or so mapped on-site and off-site within the zone of cumulative impacts in the subwatershed. As discussed, the full extent of landsliding is not provided in the HGR or the IS/MND. Nor is the on-site landslide activity status discussed in these documents, or their relationship to landslides on adjacent properties is not depicted. In my opinion, this kind of minimalist geotechnical portrayal of landslide hazards and their linkages to the channel network as sediment suppliers, provide little opportunity for others who rely on this technical information to get it right when evaluating existing, potential, and cumulative impacts or develop effective mitigation.

19 cont.

Figures 12 and 13 show the few changes in landslide activity by 11/1952. Bright Pink polygons shown in Figure 13 show the new active landslides interpreted from the 1952 aerial photograph. It is not clear if grazing had ceased by this time. Five small new slumps and debris slides appeared within the boundaries of the active red polygon portion

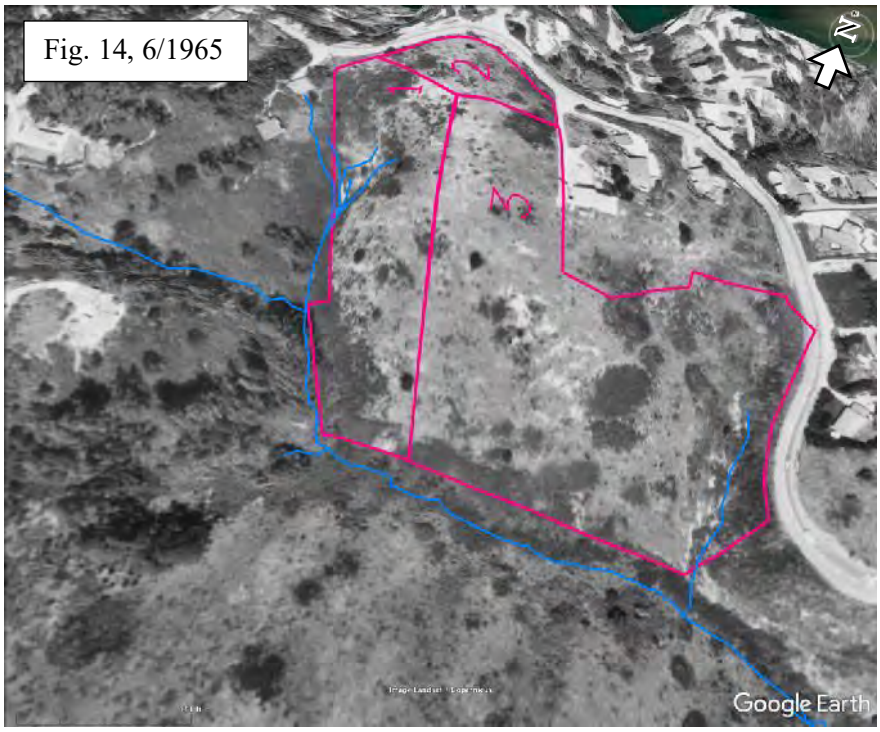
of East Slide. Two additional new slides intersect the Project boundaries of lots 1 and 3 on the east side of Headwater Creek. Five new slides occurred on the west side of Headwater Creek and two of those are directly across from active slides (red polygons) mapped in 1946, including the toe of East Slide. This raises the question about cause and effect of slides along Headwater Creek and whether they could influence slope stability on the opposite hillside, as well as on the stream channel between. This points to the importance of why complete on-site and off-site landslide conditions within the zone of influence of the Project and subwatershed must be part of the impact analysis process.

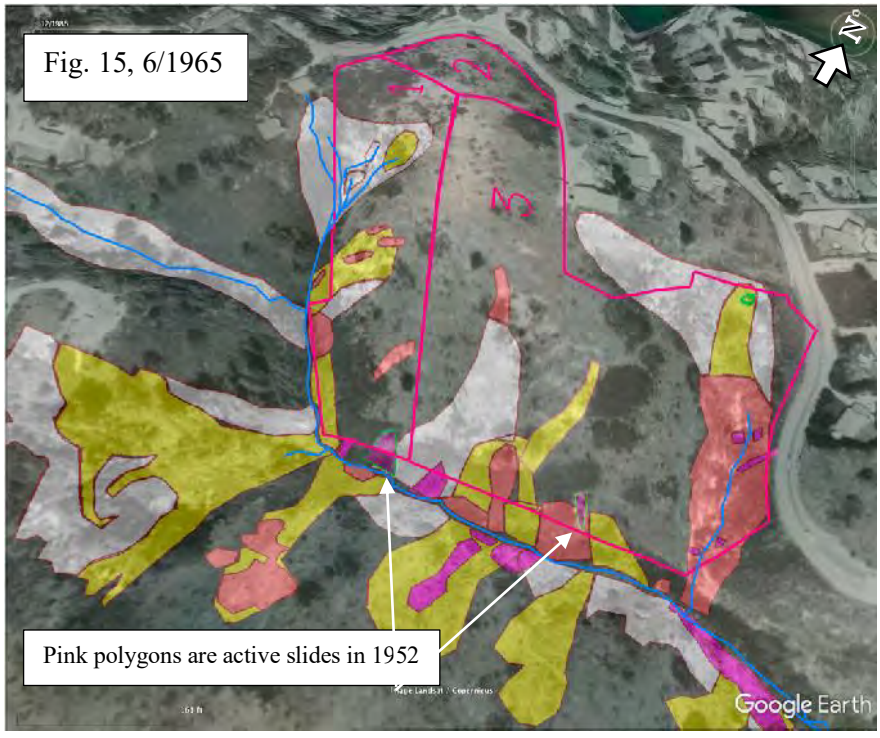




19 cont.

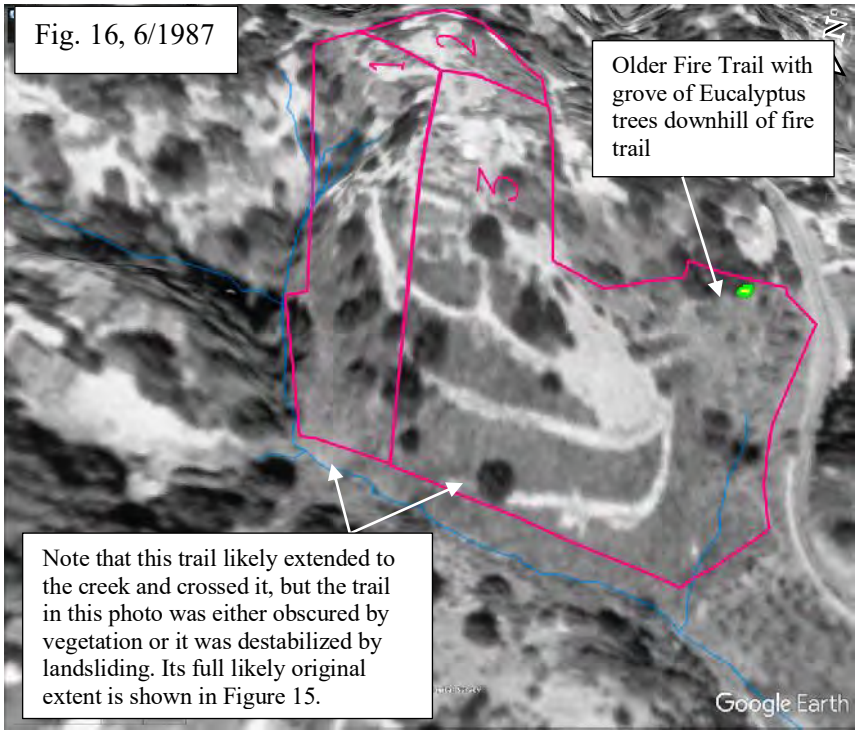
Figures 14 and 15 show the changing conditions by 6/1965. As can be seen the removal of cattle allowed the growth of more trees and brushy type vegetation. Only two new landslides (purple polygons with green outlines) were observed in the 1965 aerial photos. They were within the Project boundaries of Lots 1 and 3. One straddles the lateral scarp of the older slide (white polygon) that crosses from Lot 3 into lot 1. It is also situated across from an active 1946 slide on the other side of Headward Creek. The other new slide in Lot 3 is above and crosses the crown scarp of a larger active 1946 landslide that extendes to Headwater Creek.

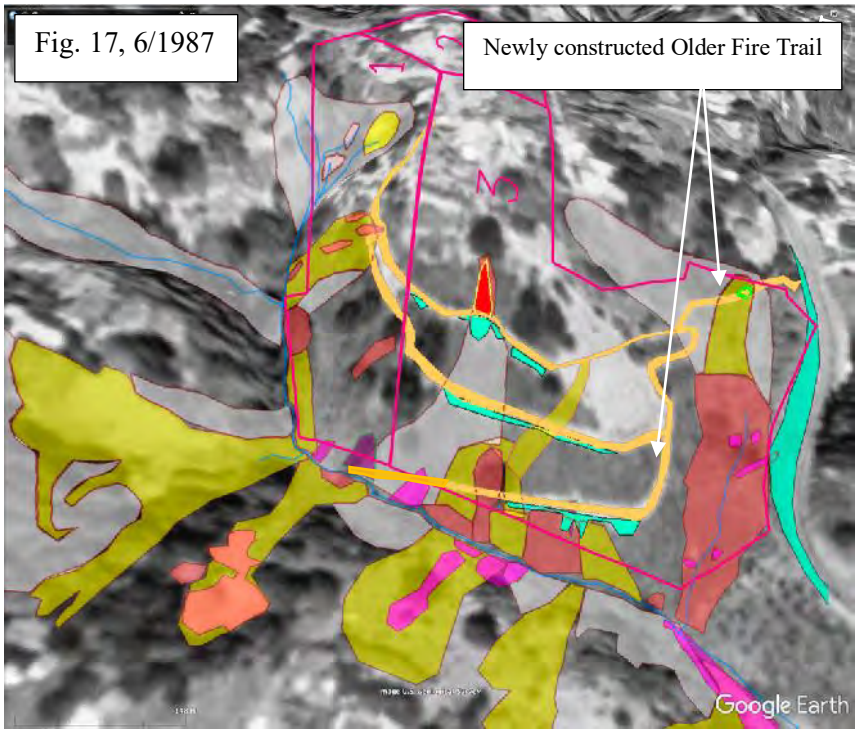




19 cont.

Figures 16 and 17 show that much of the steep south-facing hillside in Lots 1 and 3 were covered by brush except for areas carved by cut and fill slopes for construction of the Older Fire Trail (linear buff yellow polygons). Green polygons in Fig 17 show areas of obvious fill placement along the Fire Trail and along Panoramic Highway. It is not possible from the photo analysis to establish the direct causes of new slides occurring since 1946. Influences from pre-exiting landslide instability, channel incision from increased runoff in the streams from land use impacts, variations in rainfall patterns and intensity, and impacts of circa 1987 Older Fire Trail construction and the runoff it generated were all surely interactive in sediment production and supply within and beyond the subwatershed. One new slide (bright red polygon/yellow outline) was mapped along the Fire Trail cut slope.



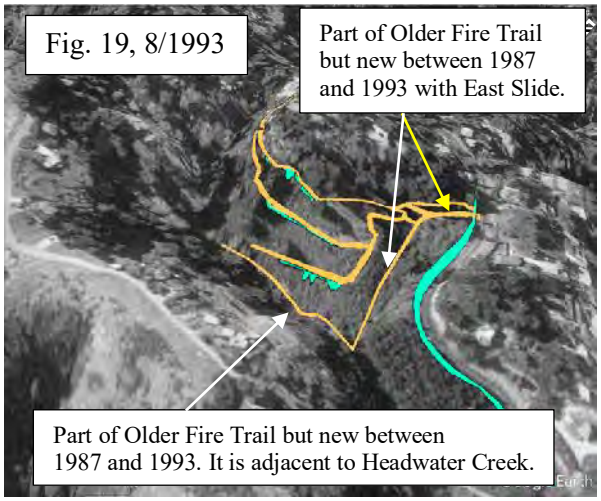


19 cont.

No further landslide mapping effort was performed in this review. However, to learn more about the Easts Slide and Fire Trail area and potential impacts to slope stability and drainages in and next to the Project, significant landscape changes were documented through use of standard Google Earth Imagery. Figures 18 and 19 show the addition of new segments of the Older Fire Trail. The upper yellow arrow points to the segment where the 2014 Fire Trail fill was placed. The Older Fire trail above it and the one below that parallels the East Slide appear not to have been improved since their initial construction. Subsequent imagery seems to indicate that these Older Fire Trail segments may have been abandoned due to movement of the East Slide. It is not known how they might have influenced runoff to the Slide or contributed to its instability, but the remnants of these trails still exist event thought they have not been geotechnically evaluated or properly decommissioned to minimize future problems. The section of the newer Fire Trail in Figure 19 that parallels Headwater Creek seems to still be used and maintained.

Figures 20 and 21 show yet another new segment of the Older Fire Trail that was constructed sometime between 1993 and 2002 on what is now Lot 3. Since these additional "newer" trail segments add to a much larger Older Fire Trail system than shown on the HLM or discussed in the HGR, it is assumed that their impacts and potential mitigation have not been evaluated in the Project area.

19 cont.



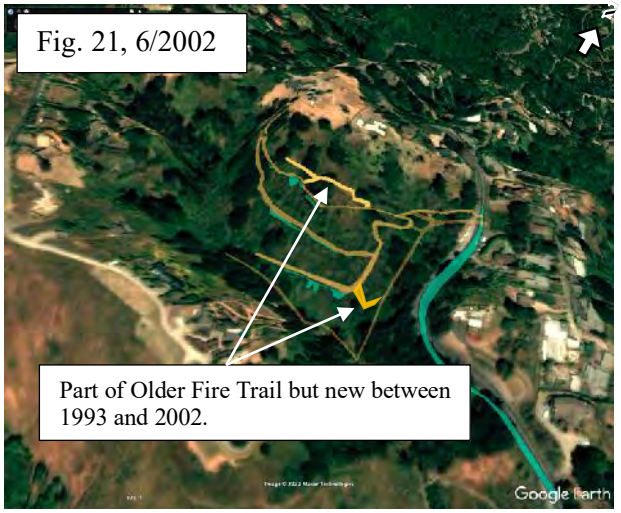
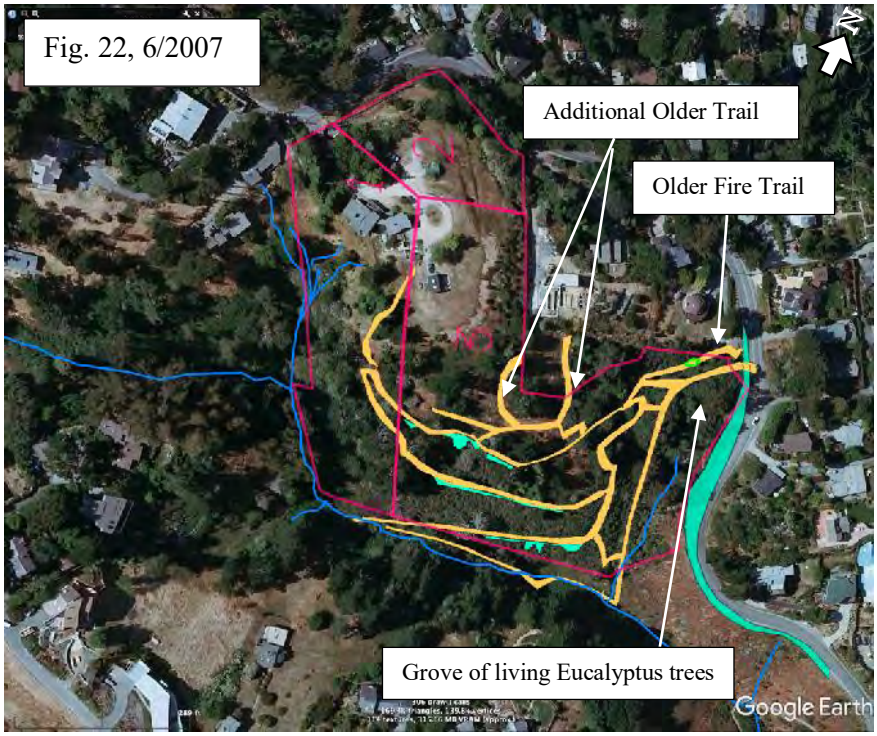
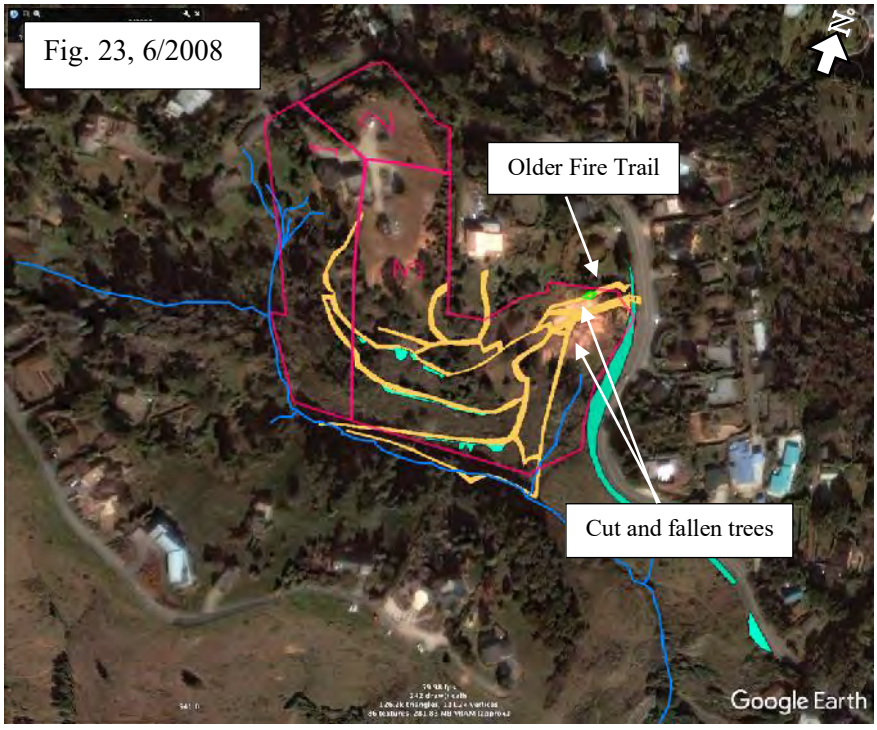


Figure 22 shows that a significant grove Eucalyptus trees once existed just downhill of the Older Fire Trail. It is possible that the trees might have been initially planted at the East Slide to help pull water from the slide. This was not an uncommon practice in the 1900s to help stabilize land that was otherwise undevelopable and find a way to profit by growing trees that were presumed at the time to have value as a source of future firewood. Based on the aerial photography, the trees may have been planted sometime after 1952 but before 1965.





19 cont.

There are examples of this in the East Bay Area, such as Alvarado Park of the East Bay Regional Park District (Collins, L., J. Collins, R. Grossinger, and A. Riley, 2001. Wildcat Creek Watershed, A Scientific Study of Physical Processes and Land Use Effects. A report by the San Francisco Estuary Institute, 2001, prepared for the *Contra Costa Clean Water Program, California*.). The area had a massive complex earthflow extending from ridge top to valley floor. Over two thirds of the slide was planted with a grove of Eucalyptus trees sometime near the turn of the century. The portion of the body of the slide that was planted with trees has been inactive, except for a small slump

along Wildcat Creek where a combination of stream incision and urban runoff from a large playfield lacked a drainage outlet on the landslide. More importantly, the upper third of the earthflow, where trees were never planted, became highly active just uphill of the tree grove following a winter rainfall that was nearly 100 percent higher than the annual normal. The crown scarp of the earthflow received additional urban runoff from houses that were partially built on fill that overlapped the crown of an old (possibly ancient) ancient earthflow. These houses had to be demolished after the earthflow had a small (relative to its overall size) surge in movement. The importance of these tree groves is that they effectively remove a lot of soil water through evapotranspiration processes. The eucalyptus on East Slide at the Older Fire Trail probably had the same effect while they were growing.

During very high rainfall years of the 1980s, this scenario of earthflow activation years along the 5-mile Berkeley Hills urban interface of Wildcat and Tilden Regional Parks was pervasive, particularly at crown scarps that received additional urban runoff. Every other house along the urban/wildland boundary of the upper third of the Berkeley Hills was adjacent to or within the boundaries of an earthflow-type landslide. Following several very wet winters, every 5th house was adjacent or within an active earthflow slide boundary (personal knowledge from mapping and legal cases while working as former Geologist for the East Bay Regional Park District, 1986-1991).

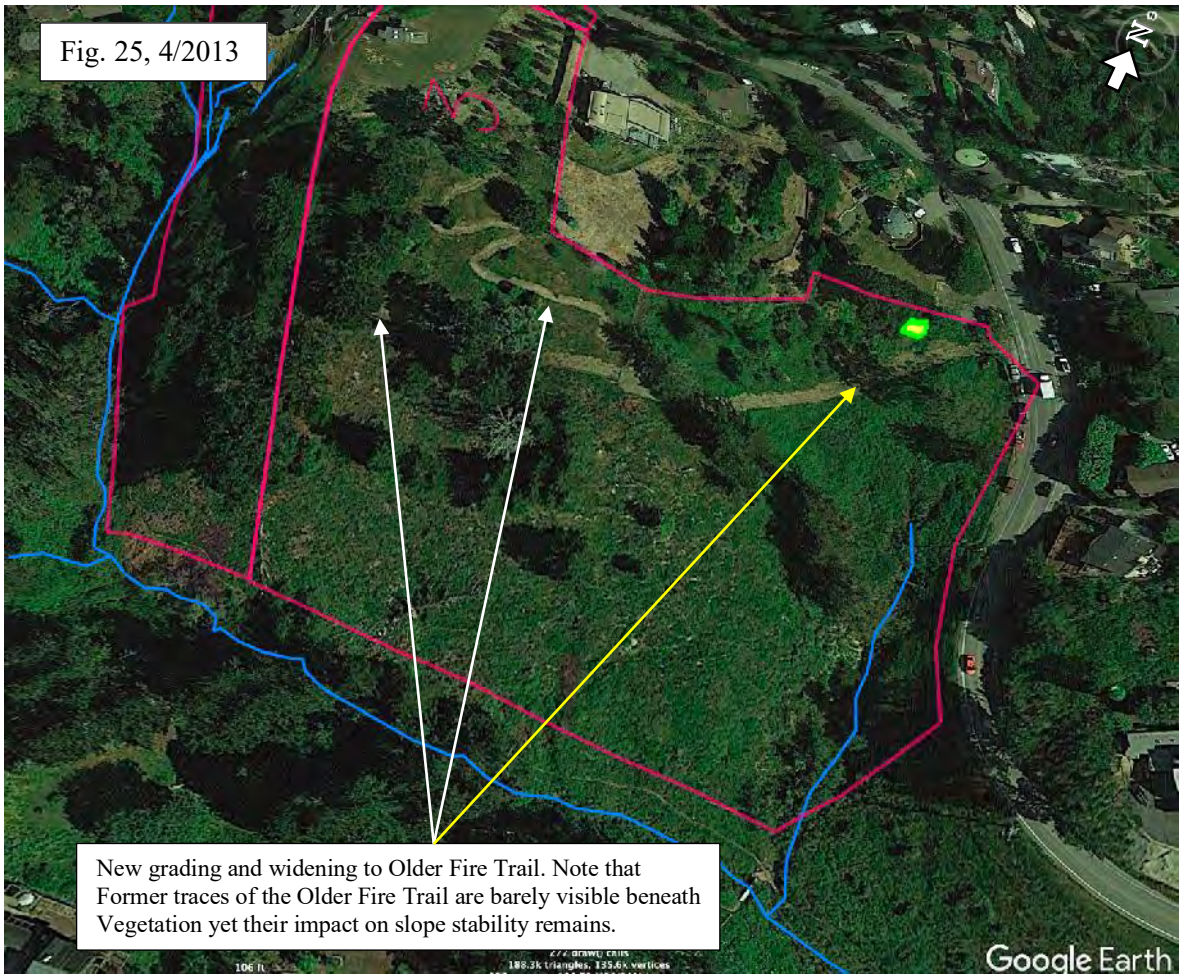
Recognizing and thoroughly mapping landslides landslide prone areas will become increasingly important to reduce hazards to life and loss of property as climate changes. Rainfall patterns in the Bay Area may become more extreme in both directions of drought and deluge. Urban impacts to sensitive downstream aquatic habitat could become amplified.

19 cont.

Figure 23 shows eucalyptus were cut sometime prior to 6/2008 along the Older Fire Trail. This was also in the vicinity of where the 2014 fill was placed for the Fire Tail. The added benefits to the earthflow stability that the trees evapotranspirative processes provided in reducing soil saturation were now gone. Additionally, after several years following cutting, when the tree roots rot in the saturated soils of the East Slide, the benefits of added soil cohesion was also lost. Tree roots, especially a grove's worth, help bind soil as well as help it resist downslope movement, especially under saturated conditions.

Figure 24 of 2/2008 indicates possible new grading or fill added to the Older Fire Trail in the vicinity of the 2014 Fire Trail fill. This road work might have been done to facilitate tree removal.

Figure 25 indicates that a portion of the Older Fire Trail, as indicated by the white arrows, was widened, and probably regraded sometime prior to 4/2013. The yellow arrow points to the area where the 2014 Fire Trail fill was placed.



Figures 26a and 26b show a detail of the Fire Trail during 6/2013. Although it might have been graded the prior year as seen in Figure 25, the imagery in Figure 26a indicates that there may have been some subsidence of the fill, from saturation or possible slumping of this area due to movement of the East Slide. The area of the Older Fire fill that appears to have slumped in Figure 26a is seen as dark lines crossing the road that looks wavy and disrupted compared to either side of the instability where tire tacks can be seen to be smooth and even. The scarp is defined as a white line in Figure 26b. By this time, 5 years have following Eucalyptus removal, the ground water table may have become higher than its previous 50-year average. Tree removal could be a potential reason for instability and/or it could also be exacerbated by the earlier 2013 grading and widening which might have changed local drainage patterns.

Figure 26b also points to a white line at the uphill side of the fill. This feature might be where a possible revetment or support structure has been placed along the uphill side of the Older Fire Trail fill.

19 cont.


Fig. 26a, 6/2013
Google Earth


Fig. 26b, 2/2013
Possible fill revetment
Possible subsidence or slump scarp that crosses the fill
Google Earth

19 cont.

Figure 27 shows the extent of new fill placed on top of the Older Fire Trail fill that is at least 35 years old and has demonstrated recent instability just prior to 2014. As demonstrated in previous Figures the fill overlies the East Slide that likely has a much larger extent than shown on the HLM. The GTR has been the primary source of information for planning, impact assessment and mitigation development of the Project yet it fails to adequately portray and disclose landscape conditions influencing existing and future stability of the site. As a result, the IS/MND is inadequate to prevent on-site and off-site impacts or declare that all impacts as the Project is presently proposed will be less than significant.

Fig. 27, 2014 photo image from online MarinMap

20

Figures 28, 29, and 30 show the sequential loss of large conifers that likely fell as movement of the East Slide continued downslope of where the slide receives urban runoff. The dates of observed tree fall in the Google Earth imagery are 3/2015, 6/2017, and 6/2019. In 2015 the first tree started to die and is indicated as a green circle. By 2017, it and another conifer had fallen and are shown by green lines in Figure 29. By 2019, as shown in Figure 30,

21

another conifer closer to the fill fell. Prior to 2015 these trees remained stable for perhaps as many as 50 years. They started dying and falling a year after fill was placed on the

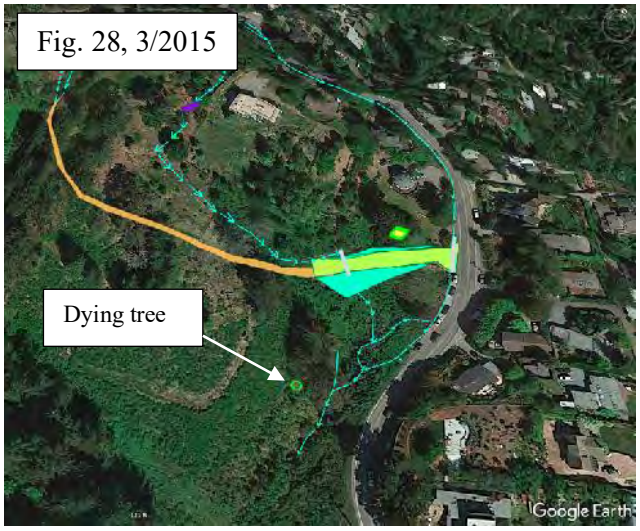


Fig. 28, 3/2015

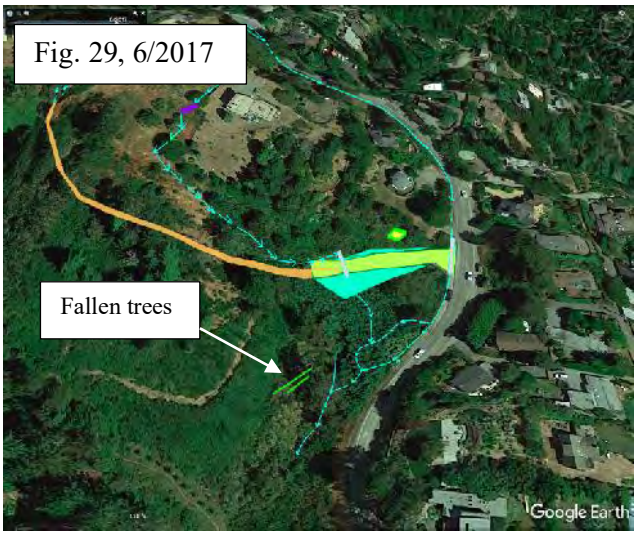


Fig. 29, 6/2017

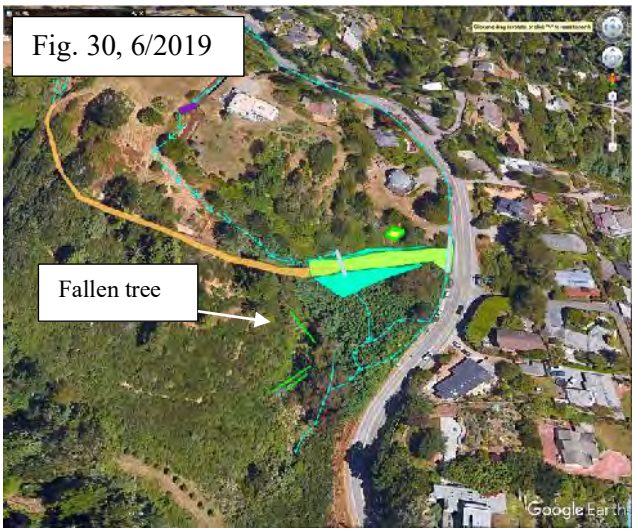


Fig. 30, 6/2019

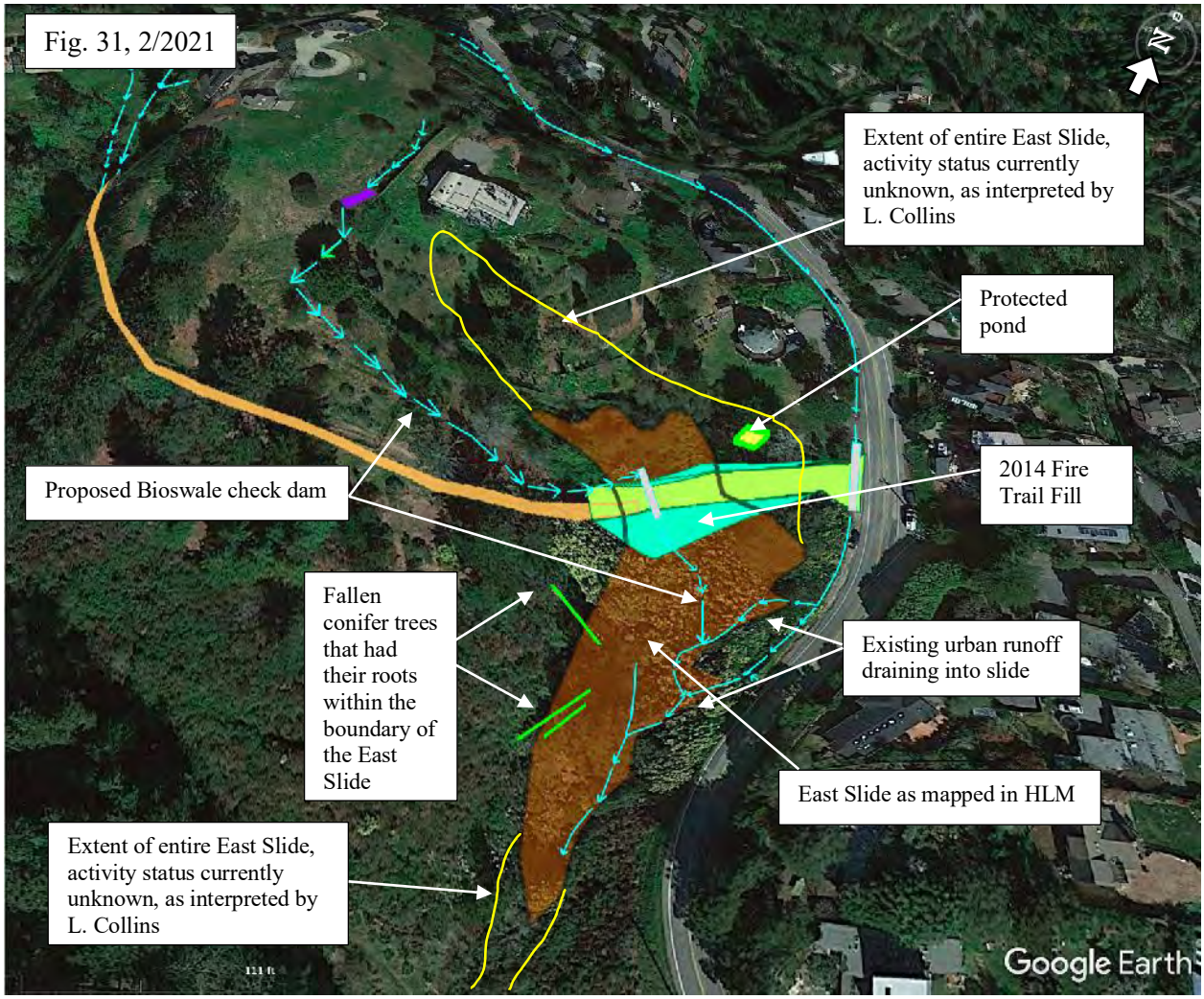
21 cont.

East Slide and 7 years after the Eucalyptus grove was cut. Figures 28-29 also show the proposed check dam bioswale that would drain additional urban runoff into the East Slide.

Figure 31 shows the same tree fall as Figure 30. The trees were rooted within the body of the East Slide mapped in the HLM. The figure also shows the larger extent of the East Slide as mapped for this report (Figures 10, 13, and 15). The yellow lines above the east slide show the greater extent of the crown scarp, while the yellow lines at the bottom of the figure show the extent of the toe of the slide. It is likely that other smaller trees show evidence of ongoing instability within the slide, but it is difficult to identify them unless they are very large. Field access, mapping and verification could resolve this.

In my opinion, the lines of evidence provided thus far in this report should raise sufficient concern about the extent of activity of the East Slide, potential instability of the fill and conversely, its effect on the stability of the East Slide, the influence of urban runoff on East Slide stability, the potential destabilizing effect of the proposed bioswale on the East Slide (including its potential future maintenance requirements), the influence of the increase runoff (proposed and existing) that can all potentially increase sediment production and supply to Redwood Creek.

21 cont.



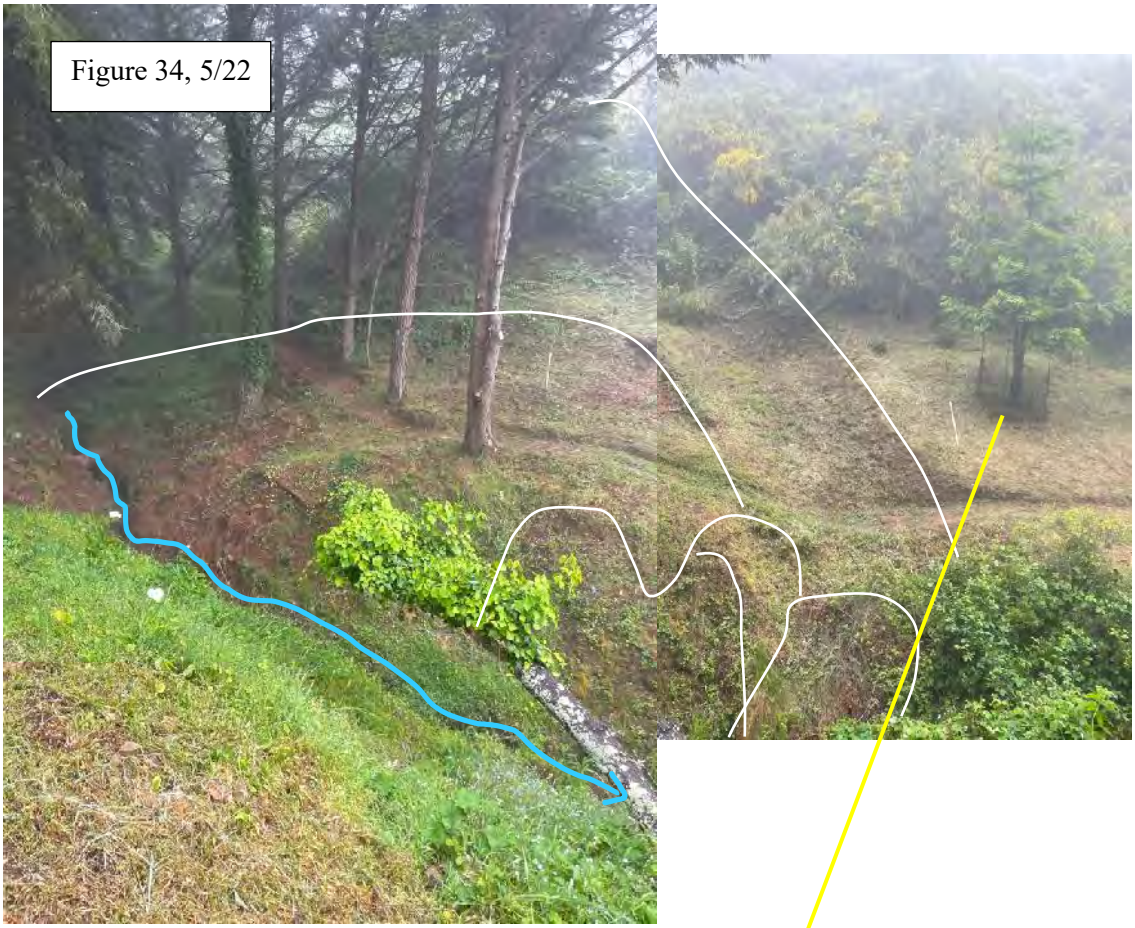
II.C. **Field Reconnaissance Photographic Documentation of Existing Conditions**

Further instability issues affecting the East Slide/Fire Trail fill that pertain to urban runoff, stream stability, and sediment production are shown in the next series of photos that were taken during field reconnaissance conducted 5/6/22, unless otherwise noted.

Figure 32 shows the influence of development (impervious surfaces, road, and roof gutters for example) that transport urban runoff (blue arrow) down roads via culverts and other drainage features into the head of Headwater Creek. The yellow arrow points to the photo location shown from IPhoto images in Figure 33. The urban runoff has accelerated natural incision rates of the Creek. Not addressed in the IS/MND or GTR is whether channel incision in Headwater Creek is influencing the stability of the landslide toes along Lots 1 and 3. Nor has the stability and runoff from the Older Fire Trail that leads into Headwater Creek (see Figure 16) been addressed because it was not mapped in the HLM.

22

Figure 34 is looking along Headwater Cr at evidence of landslide scars on and below Lot 3. White lines show scarps of individual landslide events. Landslides within landslides can be seen and Figure 35 shows the location.



22 cont.

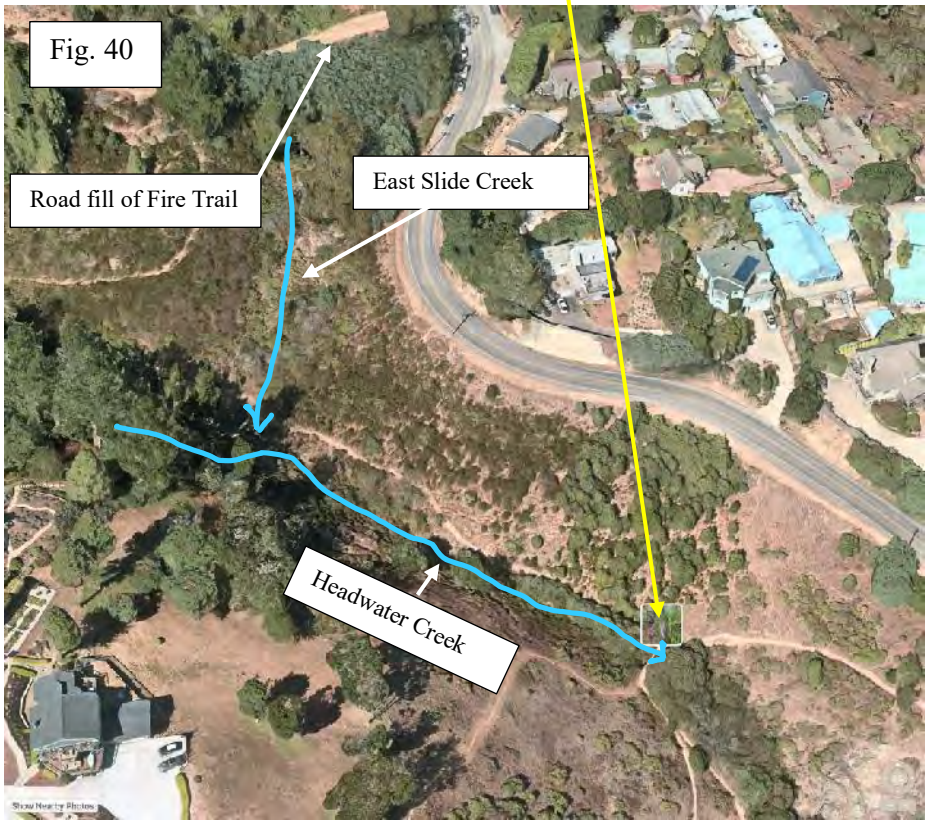
Figure 36 looks upstream along Headwater Creek at evidence of stream incision associated with road and roof runoff. General location the same as per Figure 34 but about where the white arrow points in Figure 35.

22
cont.

Figure 37 is looking at silt to gravel-sized sediment deposition behind fallen wood in Headwater Creek at the footbridge crossing shown in Figure 38. Much of the angular gravel is graywacke used as road gravel that has been transported in the creek from road runoff. Most fine suspended sediment washes much farther downstream into the main Redwood Creek. The location of where the photo was taken is shown by the yellow arrow as per additional following photographs.

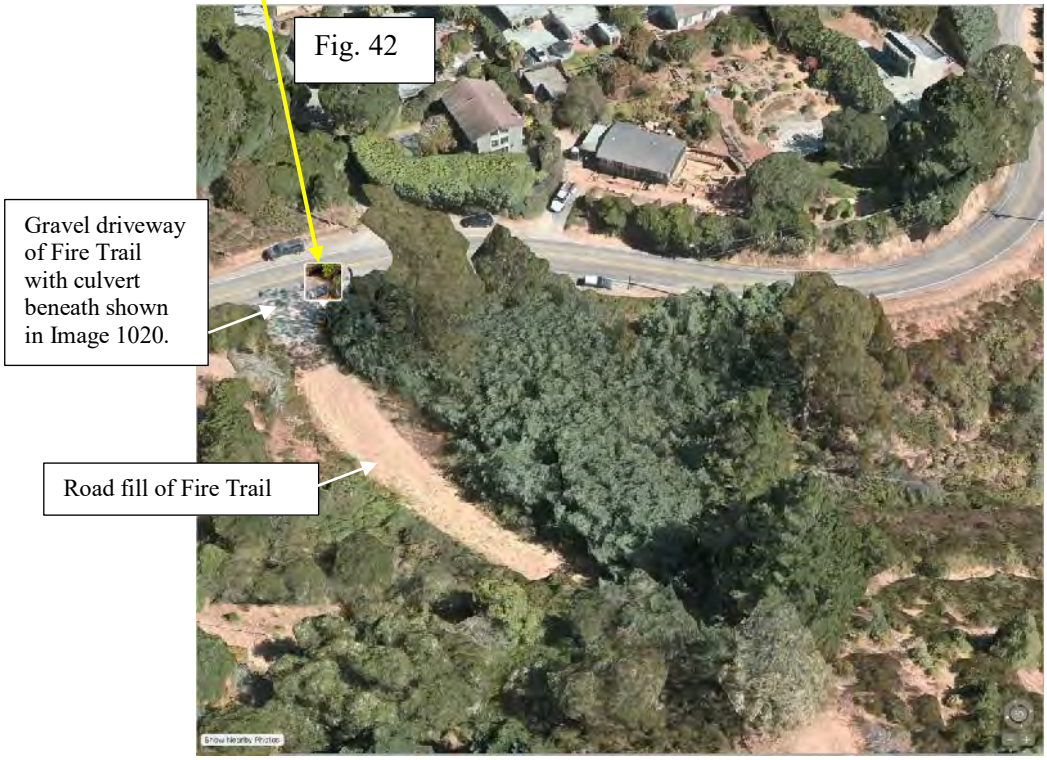
22 cont.

Figure 39 looks at sedimentation in Headwater Creek and at the significant high flow wash line from the winter's peak flow. This image is at same location as Figure 37. The white arrows show tree leaning and starting to fall into the creek from bank erosion as the channel geometry (width and depth) adjusts to higher flows from urban runoff.



22 cont.

Figure 42 is looking uphill at the intersection of the Fire Trail driveway and Panoramic Highway where surface runoff captures silt and road gravel that enters the road ditch and flows into East Slide Creek (Figures 49 and 52). Note that Panoramic Road ditch culvert is beneath the driveway and is undersized in capacity to transport the supplied sediment load and runoff upstream of the driveway (Figures 43 and 50).



22 cont.

Figures 43, 44, and 45 look at the outlet of the culvert beneath the Fire Trail driveway. The culvert is filling with silt and gravel-sized sediment, and it is blocked at its outlet by cobble. It conveys urban runoff and sediment to East Slide Creek and East Slide. The location of the outfall is near Figure 41 but just downhill at the edge of the driveway. Figure 45 looks down at the culvert opening shown in Figure 43. Figure 44 looks at the rock-lined ditch filled with silt to medium-sized gravel at the point where it flows over road fill into a gully toward the East Creek.


Fig. 43, 5/22


Fig. 44, 5/22

Fig. 45, 5/22

22 cont.

Figures 46, 37, and 48 were taken by an unknown photographer. The images were provided by the Marin Watershed Alliance. The date of Figure 6 is unknown yet likely predates the other two taken on 3/14. The photos document conditions of the road ditch about 8 years ago and serve as a good comparison to current conditions. Now, the rock-lined swale has deposited sediment and is bypassed by an adjacent channel, shown in Figure 49.


Fig. 46

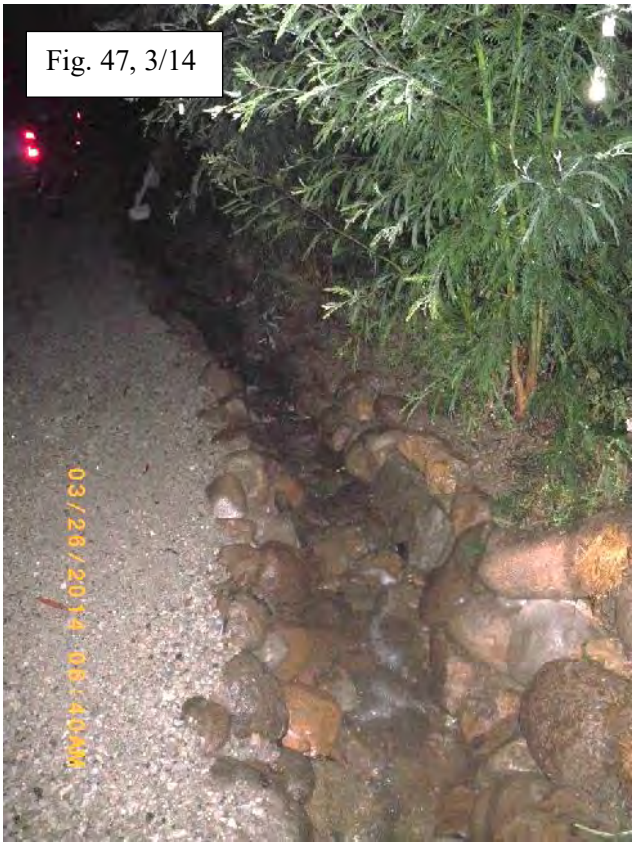
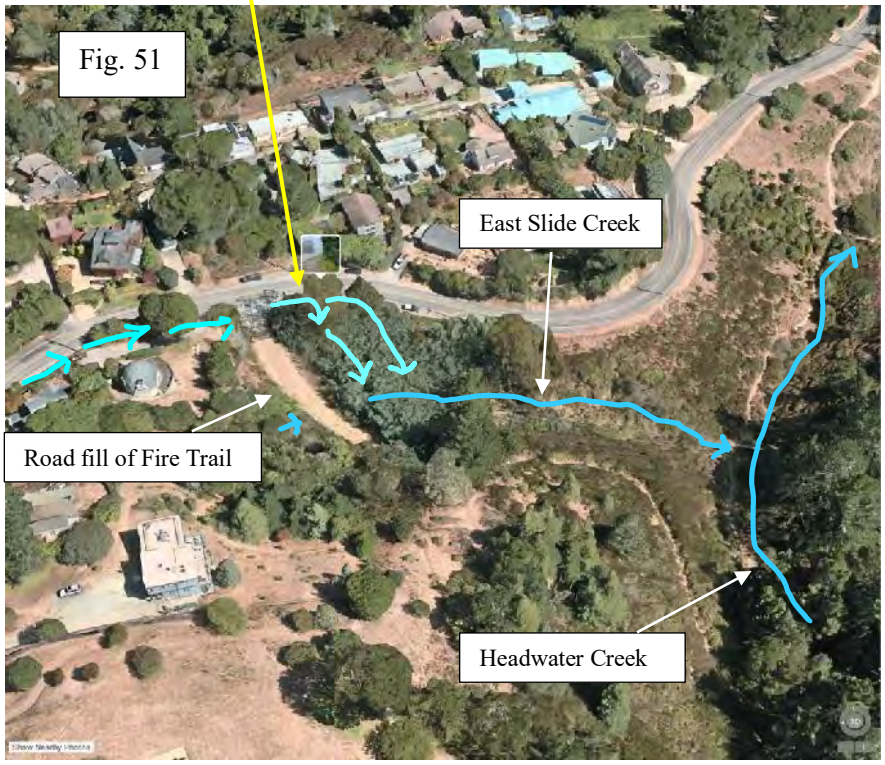


Fig. 47, 3/14

Fig. 48, 3/14

22 cont.

Figure 49 shows current conditions of the same location of Figure 50. The location site is shown by the yellow arrows in Figure 51. Figure 50 photo provided by Marin Watershed Alliance, was taken 5/2014. It looks downhill from the Fire Trail driveway at urban runoff flowing into ta gully leading to East Slide Creek. Figure 49 shows the same cyclone fence (covered with ivy) in Figure 48. Figure 50 exemplifies the amount of water that can be produced by impervious surfaces. Flow from every impervious surface creates cumulative impacts of sediment supply from streambed and bank erosion of tributaries and to Redwood Creek's fish habitat and increased flood frequency.



22 cont.

Figure 52 shows another pathway of road runoff (highlighted blue arrow) that has road gravels and fine sediment being transported in the road ditch farther down Panoramic Highway than Figure 49. The runoff cuts a second gully into road fill of Panoramic Highway and transports more sediment and water to East Slide and East Slide Creek.

22
cont.

Figure 54 shows just a small portion of the Fire Trail that leads to the non-permitted road fill that has problematic engineering. The location is the same as Figure 42. Patterns of surface wash (highlighted in blue) observed on the graveled road surface that turn into rills leading toward the Panoramic Highway ditch seen in Figure 41. The Fire Trail appears to be graded to shed surface runoff toward its own inboard ditch shown in Figure 55.

22 cont.

Figure 55 shows the limited view of a segment of the Fire Trail while looking through cyclone fence. The flow direction of an inboard ditch on the Fire Trail is shown with a blue arrow. It either eventually drains into the protected wetland or into the illegal Fire Trail fill. In either case, it is not known how this additional runoff saturates the nonengineered fill or affects the protected wetland. No information or drainage depiction of this artificial flow path is provided in the HGR or the IS/MND. The presence of this feature highlights the need for adequate assessment of the entirety of the Older Fire on Lot 3 to document and evaluate its existing and potential future impacts from the Project on stability and drainage to the stream network. The inboard ditch appears to travel to a hump shown by a white arrow, that is estimated 100 feet from the fence line. It cannot be determined here if this is another trail intersection or if the farther side of the hump has downdropped from subsidence or sliding.

The source of the dead tree piled in the trailer at the left side of the Fire Tail is not known. The yellow arrow in Figure 56 shows the location of Figure 55 and it shows the location of the hump that might represent a scarp or subsidence of the road fill. The inboard drainage ditch is shown as blue arrows, but it is not known where the ditch leads, if it has its own drainage outlet, or saturates into the fill.

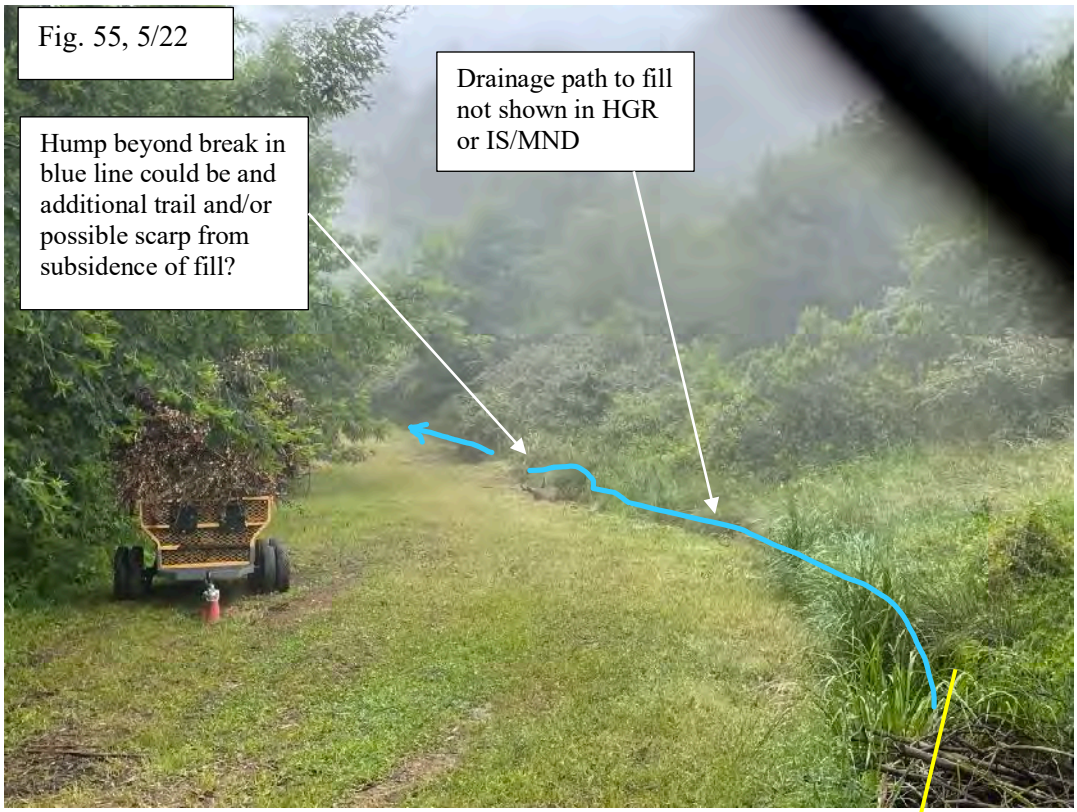
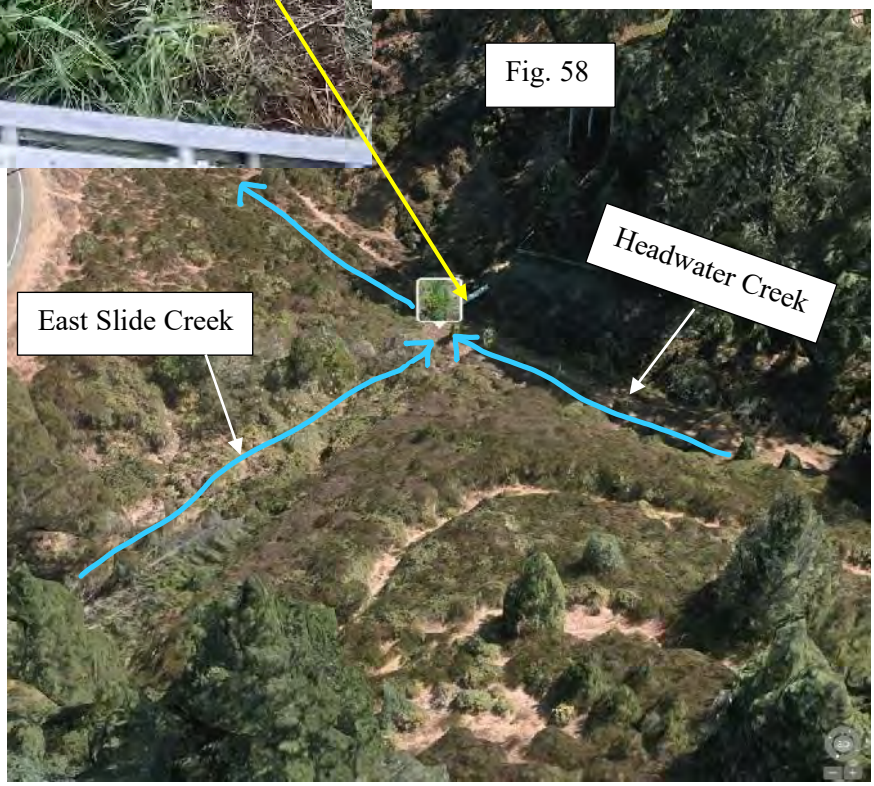


Fig. 55, 5/22
Drainage path to fill not shown in HGR or IS/MND
Hump beyond break in blue line could be and additional trail and/or possible scarp from subsidence of fill?


Fig. 56
Hump or Scarp?
?
Fire Trail fill

22 cont.

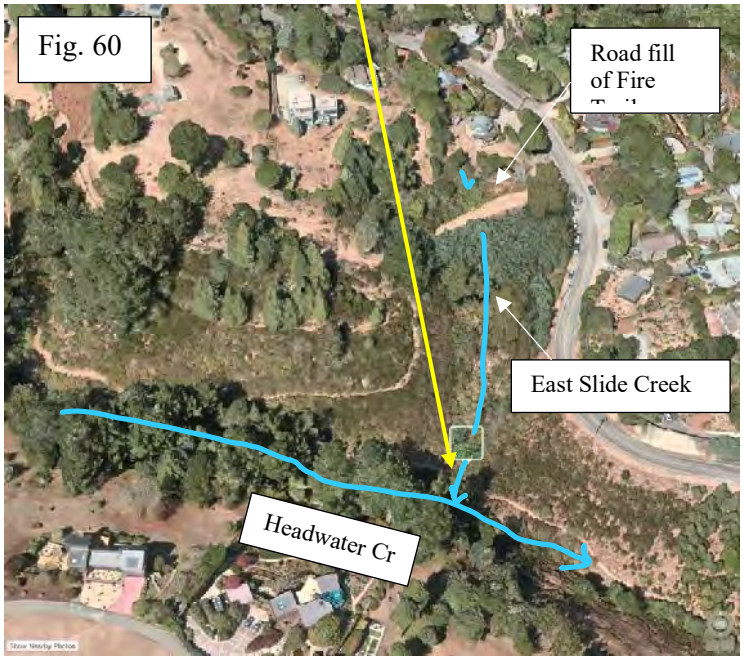
Figure 57 looks downstream from footbridge shown in Figure 58. Bank erosion and channel downcutting were observed along Headward Creek near its confluence to East Slide Creek, which provides an unusually high amount of urban runoff, due to the increased subwatershed size that was increased, as shown in Figure 1, and from the large amount of roads and impervious roofs within the enlarged subbasin. Due to these changes, East Slide and East Slide Creek are already responding to these significant existing cumulative impacts. There seems no justifiable reason to



22 cont.

add more drainage from the Project's proposed check dam bioswale or proclaim that the Projects impacts are less than significant and therefore not cumulative. The thick yellow line in Figure 57 traces an active slump scarp along the banks of the downcutting channel that clearly is adjusting its width and depth to increased flow. Such adjustments in width and depth are pervasive in this channel as it leads to Redwood Creek.

Figure 59 shows silt and clay filling the gravel interstices of the streambed near the confluence to Headwater and East Slide Creeks. The location and key features are shown in Figure 60.



22 cont.

Figure 61 is looking from Panoramic Road at fallen tree near the lateral scarp of East Slide. The white arrow points to the tree.

Figure 62 is looking uphill from the trail bridge shown in Figure 60 at a young conifer tree that is tipping due to likely movement of East Slide. The white arrow points to the tree.

22 cont.

II.D. Discussion of Information in Existing Reports and Documents

II.D-1. Existing Drainage Changes from urbanization

The Ziegler Hydrology and Land Use Report provides the following relevant discussions describing existing conditions affecting drainage and stability issues. Figure 1 (from the Ziegler Report) shows some of the drainage feature changes discussed below:

> The project area is located within a watershed sub-area that is 36.99 acres in size. Prior to the construction of the Panoramic Highway the project watershed subarea was 31.59 acres in size. The increase occurred as a result of the effects that construction of the Panoramic Highway had on the runoff routing of the area. The additional 5.4 acres of tributary area added to the subarea are mostly routed through a single drainage ditch network connected to the Panoramic Highway which runs through the 455 Panoramic Highway Parcel. (AR 03554)

> The primary intermittent channel as well as the lateral ephemeral channel and the various head-cut ditches draining the sub watershed shows signs of the land use effects and related flows and can be observed at various locations. These include channel incising and erosion, sloughing banks, excessive lateral migration, lack of defined channel, non-native plants, aggrading from deposition, structures, diversions, and pipe discharges onto unstable slopes. (AR 03554)

> If the proposed development is not designed to a high standard, it could further impact the system both onsite and downstream. By creating engineered stormwater systems within the development that will treat and store the runoff generated by the proposed impervious surfaces, and resultant loss of storage, as well as implementing restoration measures that will create habitat and restore past land use effects, the potential impacts of the overall project can be mitigated and the long-term hydrologic condition of the project area improved. (AR 03559)

> Excessive erosion, head cutting, braiding, and incising of the channels is readily apparent at many locations. (AR 03591)

> "Prior to development these upland areas, had no concentrated flow at a location that now has multiple incised channels several feet deep. The result of this change is witnessed in the field with the braided incised ditches and eroding open channels connecting the Panoramic Highway and upland development with the top of the historic ephemeral stream much farther downstream. (AR 03591)

> The subject portions of 455 Panoramic Highway in the pre-development condition, would have been characterized by overland flow. On 455 Panoramic Highway concentrated flow would not have occurred until much further downstream, probably lower than the location it was mapped for this project. When the Highway was constructed, the sub-watershed drainage patterns were modified and a significant input of concentrated runoff was directed to these locations resulting in a significant increase in the drainage density of both sub-areas. The geomorphology of the two parcels have been influenced by this concentrated runoff for nearly 100 years. Both areas are mapped within the "landslide deposits, Qls - areas" identified on the Geotechnical Exploration Map. (AR 03596)

> While grazing effects can clearly have an effect on drainages, in the absence of concentrated runoff, there is no mechanism to transport eroded soils. Continued head cutting of the channel is the result of the Panoramic Highway. This is further confirmed by the fact that the channels have continued to erode, yet the grazing stopped nearly 70 years ago, while unmitigated development increased. (AR 03596-03797)

23

The IS/MND and its conclusions do not address mediation of this stated ongoing impact of channel instability at the Project site and therefore it contains baseless assumptions and wrong conclusions.

II.D-2. Incomplete analysis of extent (on-site and off-site), activity status and types of landslides

The Herzog Geotechnical Report (HGR) (AR 01820) states that:

> Herzog Geotechnical should perform a design-level geotechnical investigation with additional subsurface explorations to evaluate subsurface conditions and to develop appropriate recommendations for design and construction. (AR 01838)

Based on their Boring Log (AR 01843) the depth and activity status of the East Slide is not specified. It might be about 18 feet deep where they report "moderately hard, weak to moderately strong, highly weathered, yellow-gray sandstone was encountered." Without sufficient investigation or better description of subsurface conditions, it is conceivable that the "bedrock" encountered could be part of a displaced block of bedrock within a deep complex earthflow deposit as described in this report. If the depth of the landslide failure plane (slip plane) relative to the depth of bedrock is not succinctly identified in the boring log, or at least attempted to be identified, the note of encountering bedrock has little value to assessing impacts or developing mitigation. The one boring on the acknowledged East Slide never claimed to identify the boundary of the landslides' failure surface or key deposits that were called landslide. Without further identification of where the failure surface was encountered, it is presently impossible to have confidence that sufficient information exists to assess conditions of the slide, effects of increased drainage to it, the real impacts of the Fire Trail fill, or what the current risks are from future instability with or without the Project. No discussion of activity history of East Slide is provided in the HGR. Without further characterization of the East Slide, it is not possible to assess how the existing unstable conditions might be further impacted by the proposed drainage alterations that will add more water to the slide and its eroding channel, or how the added weight of the Fire trail fill might be contributing to the signs of recent instability described in this report. Further instability of the East Slide might lead to future Fire Tail instability if it is not already occurring. The latter has been nearly impossible to assess because photos provide to date lack key views of the fill and Fire Trail.

23 cont.

Note that key information in the HGR was not provided that pertains to activity status of any of the mapped or drilled (exploratory borings) landslides, the depth of slip plane where borings were conducted within mapped slides, the type of landslide and its mode of sliding, and potential causative factors. These omissions lead to unreliable and inadequate analyses of impacts and mitigation design.

II.D-3. Nonengineered Fire Trail fill placed on active East Slide

In 2014, Weissman brought approximately 1200 Cubic yards of soil onto the property to elevate the fire road without authorization from regulatory authorities. A notice of violation was posted on the site and Weissman was notified to stop all grading work. (AR 54, 731).

In the 2/2022 Dipsea Ranch Land Division Amendment to the 2020 IS/MND (SCH# 2019129035) the following is stated:

> The geological stability of the Fire Road fill with regard to potential landslides is examined in the 2020 IS/MND Section IV.7, Geology and Soils, on page 79:
>
> > The area where the unpermitted grading for the Fire Road occurred overlies an old landslide [East Slide] identified by previous regional mapping [could not find a reference to the regional mapping that showed the slides in Project area] and confirmed by Herzog's geotechnical investigation (Herzog, 2015). While the fill for the Fire Road was placed on the debris of a former landslide, the grading of the Fire Road appears not to have increased the potential for future landsliding. Conversely, it is likely that grading the roadbed for the Fire Road created a stable terrace on the slope that, in addition to channelizing and routing of storm flows through the culvert under the road, stabilizing the fill soils, and revegetating the slope, reduced the potential for further landsliding in this area. Therefore, impacts to slope stability on the Project site from the unpermitted grading of the Fire Road are less than significant.
>
> The geological stability of the Fire Road fill with regard to its location on an unstable geologic unit or a unit that could become unstable is examined in the 2020 IS/MND, Section IV.7, Geology and Soils, on page 80:

> . . . [t]he Fire Road grading stabilized a slope composed of landslide debris by creating a benched slope break with stable fill material and adequate drainage, and had a less-than-significant impact on current or potential future instability of a geologic unit. (AR 00133) (Amendment P 7)

On page 8 of the Amendment, it is stated that "There is no new or clarifying information applicable to the issue of the geologic stability of the Fire Road." (Amendment P 8)

These statements in the Amendment still ignore adequate characterization of the site, conditions of channels on the landslide that receive urban runoff, and existing slope stability conditions that indicate active movement of East Slide within the last and current century as described by the interpretations, mapping, and photos in this report. I have not detected a definition of "old" landslide as described above in any technical document that characterizes the activity status, age, or classification of landslide type. Old does not imply that the slide is not active. There is no clarification of how "not to have increased potential" for sliding was evaluated, but it appears not to include obvious instability triggers of landsliding that include increased loading from the fill mass, increased saturation from urban runoff, and trapping of water at the protected wetland that adds to saturation of the fill toe, effect of previous tree removal, and the obvious influence of added urban runoff and increased size of drainage area that till empties into the body of East Slide.

The reference that "grading of the roadbed . . . created a stable terrace" literally has no influence on stabilization of the underlying landslide. This statement highlights the lack of understanding of geotechnical issues demonstrated by Sicular and his lack of qualifications to assess these technical issues, and his wrong assertion that any work to reduce surface erosion on the fill has anything to do with stabilization of the underlying landslide. As discussed in this report, the added weight of the fill at the head of a slide can increase the driving forces that initiate movement. Similarly, the statement that "channelizing and routing of storm flows through the culvert under the road . . . reduced the potential for further landsliding in this area" is nonsensical because the urban runoff still drains into and contributes to increased saturation of the underlying East Slide at the outlet of the culvert placed into the Fire Trail fill.

In my opinion, the 2020 Amendment statement that "impacts are less than significant" can certainly not be validated or trusted at this point.

In the statement quoted from the IS/NMD that refers to a "slope composed of landslide debris" it is unclear whether Sicular is referring to the slope of the existing fill of the Fire Trail before erosion control was applied (due to a violation order), or the previous slope of the recent Fire Trail fill that predated the repairs for the violation, or the previous Older Fire Trail fill that predated any of the 2014 work, or the overall slope of the East Slide. From the wording of the reference, it seems that they might be referring to a fill slope and that the "grading" has a "less-than-significant impact on current or potential future instability of the geologic unit", which must be the Qls (quaternary landslide) designation of the East Slide. This sentence was constructed to be artfully misleading about the actual impact of the fill on the landslide but instead focuses on the grading impact on the Fire Trail fill.

The Sicular statement that "channelizing and routing of storm flows through the culvert under the road, stabilizing the fill soils, and revegetating the slope, reduced the potential for further landsliding in this area" is just wrong. This demonstrates why it is my opinion that the IS/MND contains baseless assumptions and therefore its conclusions are wrong. No efforts whatsoever have been made to stabilize the East Slide by the landowner or discussed in the Geotechnical report. The Amendment proports the same information and conclusions, adds no new information about the indications of landslide activity discussed here. Consequently, it's conclusions that there will be no significant impacts to slope stability, water quality or water quality related impacts to fish species are scientifically baseless and or just wrong.

23 cont.

II.D-4. Influence of protected wetland on Fire Trail fill stability not addressed

The uphill toe of the edge of the nonengineered Fire Trail fill has potential for increased saturation due to its proximity of the protected wetland that apparently does not have drainage. None of the reviewed reports in the AR document where the protected wetland drains during periods of high rainfall and water table. It might be to the culvert in the Fire Trail fill or simply it now never drains and only contributes to ground water saturation.

24

In Figure 8 from Lotic Environmental (AR4106) the potential prior extent of the protected wetland prior to the

placement of the 2014 Fire Trail fill is shown. The picture shows a line of *juncus sp.* downhill of the wetland that represents downstream drainage along a tributary emanating from the wetland before fill was placed over its lower expanse.

The IS (AR 00053) states the following about the wetland:

> It is assumed that impacts associated with site grading and fill placement may have resulted in disturbance to the wetland, such as hydrologic alteration, removal of wetland vegetation, or filling directly into assessment of the wetland area was completed prior to the unpermitted grading of the Fire Road in 2014. The extent and composition of the original feature is not known. Based on present conditions, however, the wetland appears to be functionally intact. The grading of the Fire Road therefore appears not to have had lasting impacts on the wetland, and consideration of the effects of the Fire Road grading does not alter the conclusion that the Project would not have a significant impact on wetlands. (AR 00357)

In the previous statement of the IS, no consideration is given of 1) the effect that the added drainage of the proposed check dam bioswale, 2) the effect of alterations of the East Slide for the bioswale construction, or 3) the long-term maintenance requirements and related disturbance impacts of the bioswale on the nearby wetland. Nor does the IS describe or evaluate the effect of the wetland on the stability of the Fire Trail fill, or movement of the slide and fill on the stability of the wetland. The IS conclusion that the Project would not have a significant impact is based upon either an overly simplistic approach to understanding geomorphic and hydrologic processes or is designed to mislead by just focusing on "grading" of the Fire Trail rather than its actual unpermitted *existence* on the unstable East Slide, or the fill's impact on groundwater and its own stability because of it being next to and partially on top of the wetland.

This lack of understanding of drainage and stability issues and how the Fire Trail affects and is affected by the East Slide is reflected in the IS/NMD and again in the Amendment because no discussion or evaluation is provided of the interrelationship of these features on site conditions and project impacts. As a result, the conclusions that there will be no significant negative Project impacts are just wrong.

24 cont.

II.D-5. Existing road runoff and sediment directed into East Slide

The HGR (AR 01820) discusses geologic and seismic hazards in their report. (AR 0-1824) They report and map the presence of the East Slide (referred to as the old slide in their). They also mapped that the East Slide receives road runoff from Panoramic Highway.

Among other things water content, weight distribution, and external forces such as earthquakes can affect landslide stability. It is odd that only the latter trigger for landslide stability was addressed in the Herzog Geotechnical Report. They judged "that the site will likely be subject to strong earthquake shaking during the life of the improvements." (AR 01825) Yet there no discussion of the addition of water and changes in weight distribution from the Fire Trail fill (presumed 1200 cubic yards) or from changes in mass balance as a slide continues to move are also triggers. Surely, they also recognized that increased saturation of the toe of the Fire trail fill created by the undrained protected wetland could jeopardize the stability of the nonengineered fill, regardless of whether there is landslide movement beneath the fill.

25

A basic and first action for most landslide stabilization efforts is to move water away from it to reduce soil saturation, a trigger for continued instability. Road runoff was identified on the HLM to currently drain into the East Slide, yet no actions were recommended to 1) reduce existing runoff into the East Slide or East Slide Creek; 2) prevent future runoff from entering the slide from the Project, in fact water from the proposed bioswale is diverted into it; 3) stabilize the known and potentially yet-to-be-discovered onsite sources of sediment leading to the East Slide and East Slide Creek, such as the gullies on the Panoramic road fill and potential unstable area of the Older Fire Trail paralleling western lateral scarp of East Slide.

It is difficult to determine why the HGR did not address these essential issues that affect stability, drainage, and sediment supply near the Fire Trail. These are critical areas of concern because they can have existing stability issues and could have significant impacts from the Project on downstream water quality.

As such the IS/MND and Amendment are not useful in making determinations regarding Project impacts on existing or future conditions that pertain to drainage at the Fire Trail and its influence on stability of the Fire Trail and the

East Slide and is thereby useless to make any impact determinations to slope stability and water quality. 25 cont.

II.D-6. Proposed Check Dam Bioswale Issues

Road runoff and bioswales are shown as blue arrows that are not readily distinguishable on the HLM. Here, the major proposed bioswale, as described in the Conceptual Storm Water Control Plan for a Regulated Project Dipsea Ranch Tentative Map, June 2018, Ziegler Civil Engineering (AR 2156), is pointed to with dark blue arrows and is described as an 890-foot-long bioswale with check dams on their Stormwater and Treatment Summary. (AR 02169) It also referred to be a stepped bioswale with "bioretention" in the Legend General Notes. within the defined grading limit boundaries, the latter would have erosion control fencing and filter berms (AR 2156). The bioswale feature is also described as a stepped rock weir revetment as grade control. (AR 02169) It is also stipulated on the same page that grades [hillside gradients] shall be less than 5% (AR 02169). The conditions represented on their topographic map along the proposed bioswale (AR 2156) show there would be a 206-foot-long section of the 8900-foot-long bioswale that would drop 70 feet in elevation, producing a grade of 34%. Surely this gradient would not be suitable for the described stepped rock weir revetment. In fact, it is very unclear what the proposed stepped bioswale would be over its entire length of 890 feet that has a total elevation drop of 90 feet from the cistern to the upstream edge of the Fire Road fill. The lower portion of the bioswale and its construction is actually and surprisingly proposed on the unstable East Slide where water retention should *not* be encouraged. The descriptions and plans are too inconsistent and conflicting to establish how urban runoff from the project will be conveyed along this very long unnatural feature that would not naturally have a channel at all on the hillside above the East Fire Trail fill. 26

The design that has the bioswale directing more urban runoff into the unstable East Slide upstream of the nonengineered Fire Trail Fill. Presently, most of the urban runoff is directed downstream of the Fire Trail fill. This could further increase the potential for destabilizing the fill. The bioswale essentially creates an entirely new artificial channel on a steep slope that will require maintenance in perpetuity to minimize its failure and subsequent sediment production to the existing downstream channel network. Check dams on steep slopes can often fail and cause more erosion when they fill with sediment and are not constantly repaired and maintained (Collins, L.M. and C.E. Johnston, 1995. The Effectiveness of Straw Bale Dams for Erosion Control in the Oakland Hills Following the Fire of 1991, in *Brushfires in California Wildlands: Ecology and Resource Management. Jon E. Keeley and Tom Scott (eds.)*, published by International Association of Wildland Fire. 14 pp).

The Ziegler Hydrology and Land Use Report states that "All Bio-Swale or Open Channels will be constructed as natural channels using vegetation, with a mixture of armoring and grade control using rock, tree boles and large dimension branches, and planted with appropriate native vegetation. . . . Sediment and depositional organic material may need to be periodically removed if flow velocities do not scour depositional materials to the grade control elements and self clean the channels. Vegetation may need to be periodically trimmed as well if it begins to choke the channels and significantly reduce the cross sectional area. The channels will be engineered with a cross section and design that will prolong maintenance requirements under normal conditions." (AR03590)

If bioswale channels as proposed above are to be self-cleaning, then sediment will ultimately be delivered downstream rather than stored on slope. This seems to defeat the purpose and intent of the bioswale especially if it is shown to connect to an incising stream, East Slide Creek, that will have plenty of capacity to transport the delivered sediment load because of the abundant runoff that it already receives from Panoramic Highway and the enlarged urbanized drainage area.

II.D-6. Incomplete mapping of the Fire Trail Road Cuts and therefore incomplete impact evaluation

Road cuts along the Older Fire Trail are identified as stability issues of concern in the (2015 and 2018) Herzog Geotechnical Reports but not addressed in HLM, IS/MND or Amendment. 27

In the IS/MND, Sicular did not address this and thus made mistakes interpreting the data and information provided in the Geotechnical reports. The Amendment simply iterates the same conclusions of the IS/MND. It provides no additional technical analysis or cited data to support its conclusions about soil stability, sedimentation, runoff or change in drainage patterns. Therefore, that the IS/MND and Amendments conclusions that there will be no significant impacts to slope stability or water related impacts to fish species are incorrect and scientifically baseless.

The Herzog Geotechnical reports have Site Grading/Site stability recommendations as follow:

> ". . . in areas where roadways, building pads or other improvements are planned, existing soils will have to be overexcavated and reconstructed as properly compacted and subdrained fill buttresses which are keyed and benched into bedrock."
>
> The existing cuts of the three are roads are stated "to be steeper than permitted by current engineering standards, and typically expose weak colluvial soils and deeply weathered and highly fractured bedrock which have experienced varying degrees of sloughing and sliding."
>
> "In areas where these roads extend across proposed lots or where the risk of instability will not be acceptable, it will be necessary to support roadway cuts with engineered retaining walls, and to remove or overexcavate and reconstruct fills as properly compacted and subdrained fill buttresses which are keyed and benched into bedrock. Fill buttresses may be utilized to buttress existing cuts in lieu of retaining walls." (AR 01826)

27 cont.

It is unclear here if the fill on the East Slide is or should be considered an "other" improvement as part of IS/MND. If it is, it will have to be over excavated and reconstructed yet there are no planning discussions about this. It is also unclear whether this applies to the three dirt roads that also have fill traversing the Headwater Creek as previously discussed and mapped by Herzog.

This last suggestion sounds like a recommendation to consider decommissioning the existing three dirt roads or put to bed (where fill is often put back and compacted against the cut slopes of the roads). I do not recall seeing any of this discussed in the IS/MND? If not, why not?

> It is important that surface and subsurface water be controlled to reduce future moisture variations in the weak on-site soils. It will be necessary to install lined drainage swales at the top of cut and fill banks to reduce the risk of bank erosion and/or instability. . . It will be necessary to extend drains to approved erosion resistant outlets near the base of the hillsides. (AR 01827)

The previous recommendation is apparently for another part of the Project Area, not the East Side. Clearly, in the recommendation above it is deemed necessary to "extend drains to approved erosion resistant outlets near the base of the hillsides", yet in the case of the proposed bioswale leading to the East Slide the GTR ignores their own suggestion and release water directly into East Slide Creek that is already eroding on an unstable landslide.

Regarding finished slopes the Herzog Geotechnical Report states "Erosion or sliding that occurs must be repaired promptly before it can enlarge." (AR 01830)

In my opinion, this should apply to existing slides, especially the East Slide that appears to be increasing its activity as interpreted in the analysis of this report.

II.D-7. Implementation of BMPs does not necessarily assure success in reducing erosion or sediment supply

The IS states (AR 00053) that:

> The SCAs [Stream Conservation Areas] would allow for the protection of aquatic species by providing a 100-foot buffer from the creek and any development and would ensure no sedimentation and contamination from the Project site through 54 implementation of standard construction Best Management Practices (BMPs). The Project would not result in impacts on aquatic species or sedimentation of the Project site drainages or any downstream waterway or otherwise adversely affect water quality; see conclusions in Section 10, Hydrology. (AR 00989)

28

It is assumed that BMP standards were applied to the erosion control requirements of the Fire Trail fill that was in violation of a permit. The road ditch downstream of the graveled driveway of the Fire Trail had a cobble lined ditch created to funnel runoff from Panoramic Highway and the driveway culvert to East Slide Creek. This report clearly shows that BMPs don't work unless the channels are checked, maintained, and repaired. The figures showing sediment and erosion along this repair work are shown in Figures 43 through 52.

II.D-8. Inconsistency in amount of fill applied to fire road and grading impacts

The IS (AR 00053) states that:

> The work involved the replacement of an existing culvert located under the Fire Road intended to drain the area upslope and placement of fill to raise and broaden the roadway. Based on a comparison of topographic surveys performed in 2009 before the work was undertaken, and 2014 after the work was completed, earthwork involved about 1,200 cubic yards of fill, as shown in Figure 7, Fire Road Grading. Following imposition of a Notice of Violation from the Marin County Department of Public Works (DPW) for undertaking the work without a grading permit, erosion control features, including straw mulch and netting, were installed by the property owner (Figure 8, Photos of Fire Road Grading). Since then, the Applicant has maintained the road for vegetation management and firefighting access, should the Fire Department wish to use it during an emergency. (AR 00064)

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The IS statement above is inconsistent with their statement below:

> The 2014 unpermitted grading of the Fire Road likely resulted in short-term changes to the visual environment in the form of grading and earth disturbance associated with the approximately 900 cubic yards of fill material that was imported to the site and grading over an approximately ½ acre area. (AR 00078)

This inconsistency about the amount of fill at the Fire Trail indicates that there is still not a clear understanding of conditions at the site and/or there may have been two periods of when fill was applied.

This analysis shows a history of alterations at the site that predated the 2014 fill. These alterations started with the initial 1993 construction of the Older Fire Trail (that is in the same position of the 2014 fill) as shown in Figure 19. Fill might have been added or altered at the site during the possible 2008 removal of Eucalyptus trees shown in Figures 23 and 24. In 4/2013 the site appeared to be re-graded as shown in Figure 25. It is not known why this occurred or if new fill and drainage alterations were applied. In 6/2013 the fill across the East Slide appeared to be subsiding or unstable as discussed in Figures 26a and 26b.

Documents do not provide adequate photos of current conditions and landowner does not allow access to property both of which are vital to assessment of potential existing and future impacts.

III. SUMMARY FINDINGS AND CONCLUSION

In summary it is my opinion that:

1. HLM does not show all landslides on-site.
2. HLM does not show full extent of landslides on-site.
3. HGR does not assess activity status, depth, or mode of failure of all on-site landslides.
4. HLM does not show adjacent streams to which the Project drains and/or could have negative impacts.
5. HLM delineates fill placed on top of the East Slide, yet HGR fails to address the existing destabilizing impacts of loading the head of the East Slide with the added assumed weight of 1200 cubic yards of Fire Trail fill.
6. HLM delineates urban runoff draining into the East Slide, yet HGR fails to address its destabilizing influence on the slide, its eroding effects on East Slide Creek and downstream channels, and the resulting sediment production and supply from the slide and its channel flowing to Redwood Creek.
7. HLM delineates a proposed 960-foot-long check dam bioswale that drains into the East Slide, yet HGR fails to address the potential destabilizing effects of adding more urban runoff from the proposed Project.
8. HLM does not delineate the protected wetland adjacent to the Fire Trail fill that creates saturated soils, nor does HGR address the increased potential for the fill to be destabilized by lack of drainage of the wetland.
9. HGR does not address the potential of Fire Trail failure or instability caused by movement of the East Slide nor the potential negative impacts or risks to people and/or property.
10. HLM does not delineate the “discussed” unstable cut banks of the Older Fire Trail and the IS/MND

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does not provide mitigating actions or recommendations to minimize instability of the Older Fire Trail. 31

11. The Conceptual Stormwater Plan and IS/MND/Amendment do not address maintenance requirements of the proposed bioswale (which will be required in perpetuity), nor does it address the long-term impacts of the maintenance requirements and access for procedures. 32
12. Sicular demonstrates limited qualification to assess data or make scientific opinions concerning project impacts on stability in the IS/MND.
13. IS/MND conclusions are flawed because Sicular lacks expertise in in geotechnical issues and failed to understand the significance of the discussions in the two GTRs about stability of the Older Fire Trail and its potential effects and interaction with the on-site landslides that can also effect on- and off-site stream stability and subsequent downstream effects on water quality. 33
14. The Amendment does not provide any new scientific studies or analyses for the two of three issues in the Final Ruling that are addressed in this report to justify flawed conclusions that there will be no significant negative impacts 34
15. Access to Project property is not allowed by the landowner yet it is vital for assessing conditions and verifying remote interpretations. Without access my ability to properly evaluate the concerns of the Final Ruling are hindered. 35
16. Because documents to date do not provide adequate photos documentation of current existing conditions in and around the Fire Trail fill, East Slide, and East Slide Creek it is not possible to assess the validity of claims that existing conditions are stable or would not suffer impacts from the Project. 36

As a result of the previous enumerated issues, it is my opinion that the existing IS/NMD and Amendment are inadequate to claim that impacts from the Project would be less than significant. 37

The HGR relied upon by the IS/NMD did not provide adequate context and characterization of the Project area. Context mapping and discussion of basic watershed features should have included

- the relevant stream network,
- fully mapped extent of on-site and adjacent off-site landslides,
- assessment of landslide activity status, and
- discussion and full documentation of the effects of urban runoff,
- evaluation of the addition of nonengineered fill on an active earthflow,
- evaluation of instability of East Slide and Headward Creeks from urban runoff,
- mapping of the full extent and influences of all the older fire trails on-site,
- the impacts of directing the water from the proposed bioswale into the East Slide and East Slide Creek,
- and their potential for mitigation of all these under-evaluated issues, and
- synthesis of all these issues to determine their combined cumulative effects on- and off-site, especially to the threatened and endangered fish and their habitat in Redwood Creek. 38

Sicular made mistakes in interpreting information in the geotechnical reports. This led to baseless conclusions in the IS/MND. The Amendment simply iterates the same conclusions and does not rely on any new or additional technical analysis or citing of data to ***support*** conclusions about soil stability, sedimentation, runoff or change in drainage patterns. Hence, the conclusions in the IS/MND and Amendment are not founded in a sound science and are wrong that there will be no significant impacts to slope stability, water quality or water quality related impacts to fish species. 39

The Hydrology and Geotechnical Reports do not address the current instability issues demonstrated in this analysis, they do not recommend stabilization efforts of the East Slide to ensure future stability of it and the Project area, nor do they address how future climate change will impact identified unstable creeks, landslides, or Older Fire Trail on the site. It is my opinion that these reports are out of date and incomplete, therefore determinations made in the IS/NMD, and Amendment have little scientific basis for their assumptions and conclusions about the significance of future impacts to water quality, threatened species, or geologic risks and hazards. 40

In my opinion, the additional extent of landsliding in and near the Project area shown in this report should cause concern about existing stability and potential risks from unstable hillsides at Project Lots 1- 3. The small Headward Creek subwatershed is already showing signs of very real and increasing significant impacts as urban development intensifies. Accelerated rates of water and sediment supply to Redwood Creek should be cause for concern, 41

especially as climate change may condense its total annual rainfall and increase its intensity onto a shorter time span of the rainy season, while also creating a longer and hotter time span of seasonal drought. These over-riding climate changes will launch unprecedented landscape and channel adjustments in the steep urbanized coastal watersheds on Mount Tamalpais.

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With very best regards,

Laurel Collins

Laurel M. Collins

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AREAS OF EXPERTISE

- Fluvial Geomorphology
- Tidal Wetland Geomorphology
- Sea Level Rise Impacts and Adaptation
- Sediment Budgeting
- Landslide Mapping
- Stream Mapping
- Landscape Aerial Photo Interpretation
- Geomorphic Effects of Wildfire and Land Use Impacts
- Historical Landscape Analysis
- Stream Restoration Design
- Environmental Impact Assessment

EDUCATION

University of California at Berkeley, B.A., Earth Sciences, Dept. Geology and Geophysics, 1981

PROFESSIONAL HISTORY

Board Member, East Cascades Audobon Society, 1/2022 - to date

Watershed Sciences, Owner, 2001- to date

REPRESENTATIVE EXPERIENCE

Ms. Collins has been a geomorphologist since 1981 specializing in fluvial and tidal wetland geomorphology, sediment budgeting, landslide analysis, stream monitoring and mapping, analysis of geomorphic impacts and change from natural and anthropogenic influences, analyses of the influence of wildfire and silvicultural activities on erosional processes, and interpretation of historical geography. Ms. Collins is the owner of Watershed Sciences located originally located in Berkeley, California, and recently relocated to Seattle, Washington. Ms. Collins has conducted stream, sediment, and landslide analyses in many local Bay Area watersheds as well as many regions throughout California and other western states. She has published results of her research and has served as an Expert Witness for various legal cases in California, Montana, Oregon, and Colorado.

PROJECTS OF WATERSHED SCIENCES

As Owner/Director of Watershed Sciences consulting firm established September 2001, the following projects Ms. Collins has been directly involved with the following projects:

Current projects

- Development of geomorphic and ecological understanding of past and present conditions and tidal/hydrological processes of Bothin Marsh, Mill Valley, California, to provide recommendations and conceptual strategies for future resource management relative to sea level rise affecting the San Francisco Bay during the next 100 years. Funded by Marin County Open Space District, California.
- Technical advisor to Marin County Open Space serving on the Bolinas Wye Technical Wetlands Advisory Committee.
- Technical advisor to Marin County Open Space serving on Science and Technical Advisory Committee for Bothin Marsh Sea Level Rise Adaptation/Evolving Shorelines Project.

Previous projects

- Preparation of expert technical review and comments on DEIR of the Sausalito Updated 2040 General Plan, with specific emphasis on issues related to CEQA compliance,

San Francisco Estuary Institute, Environmental Scientist, 1999-2001

Independent Consultant, Environmental Sciences, 1989-2001

University of California, Staff Researcher for Dr. Luna Leopold, Department of Geology and Geophysics 1984-2001

Lawrence Berkeley Laboratory, Senior Research Associate, 1992-1993

East Bay Regional Park District, Resource Analyst 1983-1986, Geologist, 1986-1991

Center for Natural Resource Studies, John Muir Institute, Environmental Scientist, 1980-1983

U.S. Geological Survey, Hydrologic Field Assistant, 1980-1982

California Department of Forestry, Field Assistant, 1979-1980

California Academy of Sciences, Paleontology Department Student Assistant, 1978.

FORMER AFFILIATIONS

American Geophysical Union, 1986-1991

Geological Society of America, 1983-2001

future risks, and sea level rise impacts to the Marinship area of Sausalito for Community Venture Partners, Mill Valley, California.

- Watershed assessment of impacts of sea level rise, recent flood events, legacy land use of logging and agricultural practices, and landscape risk assessment of the Martin Griffin Preserve, near Bolinas Lagoon Marin County, California, funded by Audubon Canyon Ranch.
- Technical Advisor development of Historical Ecology of the Sonoma and Petaluma Watersheds for projects with Sonoma Resource Conservation District, for San Francisco Estuary Institute.
- Public and video presentation entitled “Of Marsh and Men” about the historical conditions and legacy land use impacts on modern Bothin Marsh and historical Coyote Creek Marsh for the Mill Valley Library, California.
- Investigation of geomorphic and hydrologic conditions and development of alternatives to redesign State Route 1 at the north end of Bolinas Lagoon, California, to reduce flooding and sea level rise impacts, while enhancing stream and estuarine tidal resources. The North End Bolinas Lagoon Project was subcontracted with AECOM, Oakland, California and funded by Marin County Parks and Open Space.
- Investigation of sedimentation and hydraulic geometry design of historical and modern tidal channels in San Francisco Bay marshes to minimize the need for dredging by increasing the opportunities for self-maintenance of Las Galinas and Corte Madera Creek tidal sloughs in Marin County, for Marin County Public Works, Calif.
- Development of expert opinion for the Montana Dept. of Justice and Bloomquist Law Firm, P.C., Helena Montana, to develop historical conditions of the Clark Fork, Madison, and Missouri Rivers at the time of statehood.
- Development of historic and modern landslide and slope conditions along existing development in Terra Linda for Ragghianti / Freitas LLP, San Rafael, California.
- Consulting on field recognition of bankfull conditions and methods of hydraulic geometry analyses in Santa Clara Valley for the Santa Clara Valley Water District, Calif.
- Preparation of a sediment budget and sediment source analysis for Jewel Lake Dam in Tilden Regional Park, subcontracted to NewFields River Basin Services LLC and funded by the East Bay Regional Park District, California. Development of conceptual plans to provide a bypass channel at the existing dam to provide downstream sediment transport and upstream fish migration.
- Development of regional bankfull geometry design curves for Wildcat, San Francisquito, and Pescadero Creeks for

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California Forest Soils Council, 1980-1991

TEACHING

Watershed Analyses, Sierra Nevada Field Station, San Francisco State, 1998-2003

Hydrology Summer Field Course, Teton Science School, 1991 and 1996

CURRENT AND PREVIOUS ADVISORY ROLLS

Current: Science and Technical Advisor Bothin Marsh for Marin County Open Space.

Current: Bolinas Wye Technical Wetlands Advisory Committee for Marin County Open Space

Current: Technical Advisor development of Historical Ecology of the Sonoma and Petaluma Watersheds for projects with Sonoma Resource Conservation District, for San Francisco Estuary Institute.

Technical Advisor Committee for development of a Vineyard Waiver, for the San Francisco Bay Regional Water Quality Control Board

Technical Advisor Committee for Management of Lagunitas Creek, Marin Municipal Water District

South Bay Salt Pond Restoration Project, California's State Water Resource Control Board's Integrated Regional Watershed Management Program.

- Preparation of Expert Testimony on historical and modern flooding conditions of San Antonio Creek, Marin County, for Shapiro, Galvin, Shapiro, and Moran Law Offices.
- Analyses and PowerPoint presentation of historical conditions and tidal marsh changes in Novato Creek Watershed for the Marin Flood Control and Water Conservation District.
- Collaboration and research on fire regime, native landscape management, and climate change in the Quiroste Valley, California, with Dr. Kent Lightfoot, Department of Anthropology, University of California at Berkeley.
- Preparation of a video presentation on the historical conditions and legacy land use impacts on stream conditions in Corte Madera and San Anselmo Creeks for Marin Flood Control and Water Conservation District.
- Preparation of Expert Testimony on historical and modern conditions of a tidal marsh meander bend at Petaluma Marsh concerning Redwood Landfill Case for Hanson Bridgett, LLC.
- Development of expert opinion for the Law Offices of Michael Graff for various projects involving impacts of silvicultural practices in the Tahoe National Forest, the influence off off-highway vehicles in National Forest lands, and the environmental impacts of various proposed developments in the Bay Area.
- Evaluation of impacts and quantification of sediment supply from the 2005 flood in Sonoma Watershed for the San Francisco Bay Area Regional Water Quality Control Board and the Sonoma Ecology Center.
- Analyses of historic channel conditions of Whitehouse Creek in Quiroste Valley, San Mateo County, during the time of native habitation by developing a stratigraphic timeline based upon geomorphic conditions and carbon dating. Research was conducted for the Anthropology Department, University of California at Berkeley.
- Development of expert opinion and testimony for the law firm of Ragghianti Freitas, and the Town of San Anselmo on a case concerning flooding of San Anselmo/Corte Madera Creek, Marin County, California.
- Development of reference reach channel geometry of Arroyo de la Laguna, Pleaseanton, for restoration planning by the Urban Creeks Council, Berkeley, California.
- Analyses of sediment sources and landslide mapping for preparation of a TMDL in Sonoma Creek watershed for the Sonoma Ecology Center and the San Francisco Bay Area Regional Water Quality Control Board.

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Sediment Workshop Leader, Alameda County

Science Review Group Napa Watershed Project for the San Francisco Estuary Institute

Pescadero Creek Technical Advisory Committee, San Mateo Resource Conservation District

San Pablo/Wildcat Technical Design Advisory Council, City San Pablo

Hill Area Fuel Reduction Committee, for University of California at Berkeley

Mayors Task Force of Forestry and Vegetation, for City of Oakland

- Development of regional curves for assessing bankfull channel geometry in Marin and Sonoma Counties for US EPA.
- Collection of channel geometry and bankfull stage conditions on Arroyo de la Laguna, Alameda County, for the Natural Resource Conservation Service offices located in Livermore, CA.
- Lidar and GIS analysis of logging roads along the Eel River, Ca, for University of Minnesota and University of California at Berkeley.
- Development of expert opinion for San Francisco law firm of Murphy, Parson, Bradley, and Feeney on a case assessing causation of a landslide in Moraga.
- Development of action plan and methodologies for conducting a sediment budget analysis on Alameda Creek for Alameda County.
- Geomorphic analysis and landslide mapping of Crow, Norris and Bolinas Creeks to assess impacts of land use practices and natural processes for Alameda County Flood Control and Water Conservation District, California.
- Development of expert opinion and testimony for determining of natural versus artificial conditions of the Mitchell Slough of the Bitterroot River, Montana, for Doney, Crowley, Bloomquist, Payne, Uda PC, Missoula Montana.
- Evaluation of sediment sources and development of conceptual plans for reducing sedimentation in Eden Creek for Alameda County Flood Control and Water Conservation District, California.
- A sediment source analysis and sediment budget in Sonoma Watershed for the San Francisco Bay Area Regional Water Quality Control Board and the Sonoma Ecology Center, California.
- Assessment of flooding and geomorphic change in the lower Sonoma Creek Watershed for the Coastal Conservancy and Southern Sonoma Resource Conservation District, California.
- Geomorphic assessment of long-term processes associated with reservoir stability and the maintenance of red–legged frog breeding habitat of Point Reyes National Seashore, U.S.N.P.S.
- Geologic, geomorphic, and landslide mapping of Strawberry Canyon in Berkeley, California, for the Committee to Minimize Toxic Waste and Urban Creeks Council, California.
- Preliminary assessment of opportunities and constraints for restoration and fish barrier removal in lower Ignacio Creek (Arroyo San Jose), Marin County for Friends of Ignacio Creek and City of Novato.

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- Development of conceptual plans for restoration and geomorphic analysis of lower Wildcat Creek for City of San Pablo and Urban Creeks Council.
- Survey of longitudinal profile of lower Carriger Creek, Sonoma County, for the Southern Sonoma Resource Conservation District, California.
- Geomorphic analysis and landslide mapping of silvicultural impacts on sediment supply of Sulphur Creek, Plumas County, for the US Forest Service and Plumas Corporation, Quincey, California.
- Geomorphic analysis of lower Carriger Creek for the Klamath River Information System, William Kier Associates, California.
- Stratigraphic analysis, carbon dating, and history of geomorphic change at Last Chance Creek near Stone Dairy in the Feather River watershed, Plumas County, for the Plumas Corporation, Quincey, California.

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PROJECTS FROM PREVIOUS EMPLOYMENT

As Geomorphologist for the San Francisco Estuary Institute, Ms. Collins:

- Developed of a "Watershed Science Approach" for field methodologies to assess and analyze changes in the delivery of water and sediment as affected by Euro-American land use practices in California.
- Conducted a scientific study of physical processes and land use impacts in Wildcat Creek, Contra Costa County, for the San Francisco Estuary Institute. Developed a field-based methodology for quantifying natural versus man-related sediment supplies.
- Applied the Watershed Science Approach to San Antonio Creek, Marin County, for the Southern Sonoma Resource Conservation District.
- Applied the Watershed Science Approach to Carriger Creek, Sonoma County for the Southern Sonoma Resource Conservation District.

As an Independent Consulting Geomorphologist, Ms. Collins served as the following:

- Consulting Geomorphologist for the Napa Resource Conservation District to establish and help educate different stewardship groups and to develop protocols to collect data on stream geometry to monitor channel change.
- Consulting Fluvial Geomorphologist Geomorphology Consultant for AECOS and Institute for Sustainable Development to conduct a watershed analysis for Waimanalo Creek, Waimanalo, and Mokapu Channel,

Marine Corps Base, Oahu.

- Fluvial and Tidal Geomorphology Consultant for Marin County Flood Control District to conduct a watershed analysis of Novato Creek, Marin County, with special focus on sedimentation and sediment sources to the Novato Flood Control Project.
- Fluvial Geomorphology Researcher contracting with the Point Reyes National Seashore, to conduct research and monitoring of the second and third year hydrologic and geomorphic effects of the 1995 Vision Fire on Muddy hollow Creek, Marin County.
- Fluvial Geomorphology Researcher for the West Marin Environmental Action Committee to conduct research and monitoring of the first year effects of the 1995 Vision Fire in the Inverness Ridge, Marin County.
- Teacher with Dr. Luna B. Leopold and Dr. Scott McBain for the Teton Science School, Jackson, Wyoming at the Hydrology Workshop on fluvial hydrology, field methods and watershed analysis.
- Fluvial Geomorphology Consultant to U. S. Department of Justice for research and expert testiomony on Reserved Water Rights Case on the effects of water diversion on the Fraser River, Lostman Creek, and Indian Creek, Colorado.
- Fluvial Geomorphology Consultant to EA Engineering, to perform watershed analyses for a 100-Year Sustained Yield Program for the Noyo River, Mendocino County. Analyses included documentation of channel conditions, determining impacts of logging upon hydrology and fluvial geomorphology of coho salmon habitat, sediment production and landsliding; and advising policy makers on ways to reduce future impacts from timber harvesting.
- Fluvial Geomorphology Consultant to U.S.F.S., to determine the Holocene and recent geomorphic history of the South Fork Kern River in Monache Meadows, Southern Sierra Nevada, Inyo National Forest. Analysis was conducted of flood frequency; channel incision and sediment transport regimes and related to climate change and land use practices for the last 200 years.
- Geomorphology Consultant to law firm of Lossing and Elston, San Francisco, to prepare expert testimony on the effects of fire upon slope stability, landsliding, runoff and erosion.

As a Staff Researcher in the Department of Geology and Geophysics, University of California at Berkeley, Ms. Collins was involved with the following:

- Fluvial geomorphology research for the Pacific Southwest Forest and Range Experiment Station, U.S.F.S. to produce detailed stream maps, longitudinal profiles, and cross

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sections within and outside of cattle exclosures in the Golden Trout Wilderness, Inyo National Forest, California.

- Tidal marsh geomorphology and hydrology research in the Petaluma Marsh, Sonoma County.
- Fluvial hydrology research on braided channels in regions of Wyoming and Idaho.

As a Senior Research Associate for Lawrence Berkeley National Laboratory Ms. Collins conducted geologic field mapping investigations, analyzed reports and prepared a report on site characteristics for the LBNL Hazardous Waste Handling Storage Facility in Strawberry Canyon, Berkeley, California.

As a teacher for San Francisco State Sierra Nevada Field Station Ms. Collins prepared curricula and lectures for a course in stream restoration, watershed analysis, and stream monitoring techniques for San Francisco California State University.

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As District Geologist for East Bay Regional Park District, Oakland, California, Ms. Collins responsibilities included identification and analysis of geological and landslide hazards; direction of geologic and hydrologic research programs; publication of research findings; formulation of District policy for fuel break management, and resource management relative to hydrologic and geologic issues; preparation of expert testimony; preparation and review of Environmental Impact Reports; assessment and restoration of steelhead habitat in Wildcat Creek, Berkeley.

As Geologist/Hydrologist for the Center for Natural Resource Studies, John Muir Institute, Inc., Berkeley, Ms. Collins conducted field studies and analyses of flood effects and instream flow requirements of San Lorenzo River, Santa Cruz, California; assessed geologic hazards and evaluated fish habitat in Grider Creek, Klamath National Forest; assessed cumulative impacts of silvicultural practices in the Sierra National Forest; assessed the effects of silvicultural practices on site productivity in California forest lands; and published research findings.

As Hydrologic Field Assistant for Water Resources Division, US Geological Survey, Menlo Park, Ms. Collins conducted field studies and analyzed 1) earthflows in Redwood National Park, California; 2) river morphology as effected by volcanic activity, Mt. St. Helens,

Washington; 3) interactions among hillslope and stream processes in the San Lorenzo River, Santa Cruz, California. Findings were published.

As Student Assistant for the California Department of Forestry, Sacramento, Ms. Collins conducted field studies and analyzed the effects of logging activities and the effectiveness of the Forest Practice Regulations on rates of erosion in private forest lands throughout California.

As Student Assistant for Geology Department, California Academy of Sciences, San Francisco, Ms. Collins assisted with the curation of fossil genera of ammonites and echinoids for Dr. Peter Rhoda.

REFERENCES

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Dr. William Dietrich, Department of Planetary Sciences, University of California at Berkeley, bill@eps.berkeley.edu

Dr. David Rosgen, Wildland Hydrology, Fort Collins, Colorado, dave@wildlandhydrology.com

Roger Levanthal, Marin County Public Works, San Rafael, California, roger.leventhal@gmail.com

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Letter 4. Edward Yates, Law Office of Edward E. Yates

4-1 This comment is preamble; please see the responses to the following comments. The commenter, Mr. Yates, is Counsel for the plaintiffs in Friends of Muir Woods Park and Watershed Alliance of Marin vs. County of Marin.

4-2 The letter from Ms. Collins is attached to Mr. Yates' letter. See comments beginning with 4-13.

4-3 The County has fully complied with CEQA, the Court Order, and public hearing and due process requirements. Revision and recirculation are not required.

4-4 The IS/MND Amendment circulated for public comment for a period of 20 days.

4-5 The public noticing requirements that applied to the IS/MND (i.e., posting physical notices at the proposed project site, circulation in a local newspaper, distribution at community centers, and noticing relevant state and federal agencies) do not apply to the IS/MND Amendment. No formal public comment period was mandated by the Court Order for the Amendment. However, at its discretion, and as a courtesy, the County chose to provide a 20-day public review period. The County will provide all legally required notices for the upcoming Board of Supervisors hearing.

4-6 The commenter's interpretation of the Marin County Code is incorrect. The County Board of Supervisors may, at its discretion and in accordance with applicable law, consider project environmental review and project approval without first going to the Planning Commission. In the case of this Project, the County determined that, in accordance with applicable law including the Court Order, the amended IS/MND and the Project itself should return directly to the Board of Supervisors for consideration.

4-7 The commenter's low opinion of the IS/MND Amendment notwithstanding, the IS/MND Amendment fulfills the requirements of the Court Order, includes relevant new information and new analysis, and reexamines impact conclusions based on substantial evidence in the record.

4-8 The "4 to 8 year old technical documents" referenced in this comment are not identified. All technical reports relied upon for the environmental analysis were peer reviewed by the qualified technical members of the consultant team, as referenced in the Hydrology and Geology and Soils sections of the IS/MND (Sutro Science, LLC., 2019. Peer Review of Applicant's Geotechnical, Hydrology and Onsite Sewage Disposal Reports, Dipsea Ranch Land Division Initial Study, Marin County, California. Prepared for Sicular Environmental Consulting. April 1, 2019). The IS/MND Amendment updates site conditions based on recent observations by technical expert members of the consultant team (see resumes

in Appendix A). The issues of fill placement, fire road stability, and potential impacts to sensitive biological resources downstream are all examined in the IS/MND Amendment, per the requirements of the Court Order. Neither this commenter, nor any other, has provided substantial evidence to support a fair argument that the Project would have an adverse impact on wetlands and downstream salmonids.

4-9 Dr. Daniel T. Sicular is an independent environmental consultant and owner of his own consulting firm. Dr. Sicular holds a Ph.D. in Geography from the University of California, Berkeley, has conducted numerous scientific studies including wetland and watershed assessments, and has over 25 years of experience as a CEQA project manager, including assembling and leading large teams of expert technical analysts in completion of CEQA documents. Dr. Sicular's resume is included in Appendix A. Dr. Sicular led a highly qualified consultant team to prepare the IS/MND and subsequent documents, including the IS/MND Amendment; see also resumes for the consultant team's Hydrologist and Certified Engineering Geologist in Appendix A. All impact conclusions reached in the IS/MND, and confirmed in the IS/MND Amendment, are supported by substantial evidence in the record.

4-10. Please see responses commencing with response 4-13, below.

4-11 As discussed in response to comment 4-14, Ms. Collins' conclusions are not based on empirical evidence, but rather on speculation, conjecture, and suspicion.

4-12 Please see response to comment 4-3.

4-13 Since this letter is an attachment to Mr. Yates letter, it is treated as part of Letter 4. This comment is preamble. Please see the following responses.

4-14 As noted by the commenter, her lack of access to the Project site limits her ability to evaluate the issues raised in the Court Order. Instead, as detailed in this comment, she relies on observations of conditions nearby, but not within, the Project site, as well as interpretation of aerial photographs and maps. The commenter's use of historic aerial imagery imported to and overlaid onto Google Earth to produce a quasi-3-D effect (not 2-D as erroneously stated in the comment), may be a useful tool for gleaning general impressions of landscape features, but it cannot substitute for field observation. The validity of this method for interpretation of individual small landforms is highly questionable, due to the often-poor resolution of the images, inevitable errors and uncertainties inherent in the process of orthorectification of images captured with an optical lens, the interference of dense vegetation, the differences in map projections, and the technical limitations of Google Earth to produce high-resolution 3-D imagery. The commenter did not use paired aerial photographs viewed with a stereoscope, a readily available and much more powerful and accurate tool for remote sensing

and interpretation of landforms, due to its vertical exaggeration of topography and vegetation, and the availability in some instances of sets of overlapping, high-resolution historic aerial photographs, allowing for examination of features from different aerial angles. Nor did she use imagery derived from LiDAR data. LiDAR is a laser-based technology capable of penetrating vegetative cover and producing very high-resolution, "bare earth" topographic images and digital elevation models. It is wildly speculative to draw specific conclusions of existing conditions, and even more so to predict future impacts, based on interpretation of suspected geomorphic features appearing on single-frame aerial photos, viewed on a computer screen, and without ground-truthing.

The commenter herself recognizes the limitations of her method, as evidenced in the following statements (comment and page number of the comment letter provided after each):

> As previously mentioned, using Google Earth Imagery and single photo aerial images is not ideal for mapping landslides, but it is a tool available for first-cut mapping when stereo aerial photo analysis is not possible (limitations in time for this review), and when field verification is not possible because of trespassing constraints imposed by the landowner. (comment 4-17, p. 5)
>
> Because access to the site was not permitted in my reconnaissance effort and because wetland vegetation and the Fire Trail obscure photographic interpretation, I have not mapped an extension of a drainage channel upstream of the fill. The photograph clearly shows that water is draining through the culvert from some unmapped source. (comment 4-18, p. 9)
>
> It is likely that other smaller trees show evidence of ongoing instability within the slide, but it is difficult to identify them unless they are very large. Field access, mapping and verification could resolve this. (comment 4-21, p. 24)
>
> The latter has been nearly impossible to assess because photos provide [sic] to date lack key views of the fill and Fire Trail. (comment 4-23, p. 41)
>
> Documents do not provide adequate photos of current conditions and landowner does not allow access to property both of which are vital to assessment of potential existing and future impacts. (comment 4-29, p. 46)

The commenter's admission that she is unable or incapable of conducting an inquiry using actual field observations or accepted methods of remote sensing makes her conclusions unreliable. Consequently, and as detailed further in the following responses and in Master Responses 2 and 3, the commenter's opinions regarding Fire Road stability and the proposed drainage system are not supported by facts, but are the result of erroneous assumptions and speculation.

4-15 This comment summarizes the documentary sources reviewed by the commenter.

4-16 This comment summarizes the commenter's qualifications. The commenter's Curriculum Vitae is included as comment 4-43. We note that the commenter holds a Bachelor of Arts degree, not a Bachelor of Science degree, and that she lacks any certification as a professional geologist, as required to practice geology in the State of California under California Business and Professions Code Sections 7800-7887. Neither is she a Civil or Geotechnical Engineer: she is not qualified or licensed to conduct geological investigations in the State of California.

While the commenter claims to be a scientist, we also note in the following comments her reliance not on empirical evidence, but on conjecture, speculation, and assumptions based in factual error or misinterpretation as the basis for her opinions. This is evidenced by her frequent use of qualifying terms, or terms of uncertainty, in her comments. Her comments include the following instances of such terms (comment and page number where the term appears, or total number of occurrences, provided after each term):

Apparently (4-24, p. 42; 4-27. P. 25)
Appears to (4-22, p. 35)
Appears to be (4-18, p. 11; 4-22, p. 35; 4-27, p. 45;)
Appears to have (4-19, p. 12; 4-19, p. 20)
Could (22 occurrences)
Could also be (4-19, p. 20)
Could be (5 occurrences))
Could become (4-19, p. 19; 4-23, p. 41;)
I believe (4-13, p. 1; 4-19, p. 13)
In my opinion (5 occurrences)
Is not known (4 occurrences)
It is conceivable (4-23, p. 41)
It is likely (4.21, p 24)
It is not possible to assess (4-23, p. 41; 4-36, p. 47)
It is not possible… to establish (4-19, p. 16)
It is possible (4-19, p. 17)
It is unclear (4-23, p. 42; 4-27, p 45)
Likely (15 occurrences)
Looks like (4-19, p. 12)
May have become (4-19, p. 20)
May have been (4 occurrences)
Might be (6 occurrences, included 3 in one paragraph in 4-23, p. 41)
Might (4-23, p. 41)
Might have been (4 occurrences)
Perhaps as many as (4-21, p. 23)
Perhaps (4-19, p. 12)
Possible (21 occurrences)
Probably (3 occurrences)

The use of so many qualifying terms is indicative of the commenter's faulty methodology, lack of fact-based inquiry, and unsupported opinion. Not only is the commenter legally unqualified to conduct a geologic study in the State of California, but her sloppy work also indicates that she does not understand or appreciate the scientific method.

4-17 This comment presents several figures with accompanying observations and conclusions, which the responses below address individually.

The process of overlaying digital versions of historic aerial photographs onto Google Earth so that the images could be viewed "three-dimensionally," is, as discussed in the response to comment 4-14, highly suspect, and does not yield the best available information. This method is not standard practice and could lead to misinterpretation of the characteristics of certain landforms, especially relative ages of landslides and identification of small features.

In her description of Figure 3, the commenter states that,

> "[i]t is not clear how the initial interpretation of landslides was conducted other than HGR[23] referencing in their report that they performed a geologic reconnaissance of the site and reviewed selected geologic references. As can be seen, a multitude of information is provided on HLM[24] but essential information concerning the on-site and off-site and stream network is entirely missing.

As discussed in Master Response 2, it is important to note that the Exploration Plan/Geologic Map prepared by Herzog for their 2015 Preliminary Geotechnical Investigation was intended to show features that were relevant to the preliminary geotechnical assessment of the property. This does not reveal a flaw in Herzog's work. Herzog provided the pertinent information necessary to assess the property development feasibility from a geologic and geotechnical perspective. Herzog developed their assessment based on available published literature and field reconnaissance, which is considered standard of practice for this level of geotechnical investigation.

In Figure 5, the commenter states that slope instability associated with the "Older Fire Trail" cuts or fills is not discussed in the IS/MND or Amendment. That statement is not correct. The smaller landslides (slumps) present along the unimproved access roads are discussed on page 79 of the IS/MND:

> Herzog also identified several smaller landslides, referred to as slumps, along the banks of the ephemeral drainage that borders the southern

[23] HGR is the abbreviation the commenter uses for the 2015 and 2018 geotechnical reports by Herzog Geotechnical Consulting Geotechnical Engineers, op.cit.

[24] HLM is the abbreviation the commenter uses for the Exploration Plan/Geologic Map contained in Herzog's 2015 report.

> boundary of the Project site and along the cut banks for the earthen access roads traversing the Project site's south facing slopes. These slump failures are consistent with expected slope conditions within Slope Stability Zone 3.

And in the IS/MND Amendment on page 9:

> However, Herzog did identify small landslides and sloughing elsewhere on the property, particularly associated with the three narrow dirt roads further to the west that traverse the hillside above the east-trending drainage ravine to the south.

Regarding the consulting team's qualifications, the analysis of impacts associated with slope instability in the IS/MND and in the IS/MND Amendment was performed by a California Certified Engineering Geologist with over 30 years of experience (see resume for Peter Hudson in Appendix A). Conclusions were based on a thorough review of geologic sources including the 2015 Herzog preliminary geotechnical investigation. Based on the analysis of the geologic conditions and updated project description, the conditions at the "East Slide" and the smaller slumps along the earthen access roads ("Older Fire Trails") were determined to be an existing condition that would not be exacerbated by the proposed Project because the building envelopes on the proposed three lots are in more stable geologic materials located on the ridge and not susceptible to slope failure. Therefore, the following claim by the commenter is a flawed conclusion:

> Potential impacts of unstable Older Fire Trails on destabilizing mapped landslides (both uphill and downhill of the trails) should have been evaluated in the IS/NMD [sic] or Amendment because their instability can transport sediment directly into the on- and off-site Headwater and East Slide Creeks.

Ms. Collins also claims that:

> Figure 5 also shows that the HLM does not map the full extent of the landslides toes that are adjacent to Headwater Creek and beneath East Slide Creek at its confluence to Headwater Creek

This is incorrect and demonstrates the value of field observation rather than attempting to interpret conditions from adjacent properties, low-resolution aerial photography, or maps. Based on onsite observations made in August 2022 by a California Certified Engineering Geologist of the lower portions of the "East Slide" (toe) that are adjacent to "Headwater Creek" and beneath the "East Slide Creek," it is evident that the slope failure features mapped by Herzog in 2015 are stable, revegetated, and are not currently transporting excess sediment to waterways. The toes of these failures are separated from Headwater Creek by a walking trail. The observation of actual conditions associated with the small slope failures

identified by Herzog in 2015, discussed in the IS/MND and then reassessed in the field in August 2022, invalidates the commenter's claim that:

> This should ultimately signal and justify the need for evaluation of potential increased sediment supply to downstream threatened and endangered fish habitat in Redwood Creek. Not only is the activity status and full extent of the landslide toes emanating from the Project not delineated in the GTR, they are not evaluated in the IS/NMD. Therefore, baseless assumptions have been made about Project impacts from the unstable Older Fire Trail and landslide features and their influence on sediment supply. This causes conclusions in the IS/MND to be wrong.

4-18 In Figure 5**,** the commenter contends that there was an incomplete mapping effort related to geotechnical issues. As discussed previously, Herzog completed a preliminary geotechnical investigation of the property, which includes a review of site conditions, a site reconnaissance, and preliminary recommendations. This level of investigation typically does not include the in-depth mapping effort that Ms. Collins believes should have been completed. Herzog evaluated the site preliminarily with the understanding that a design level geotechnical investigation would be completed at a later stage of Project design.

The commenter questions why a culvert was placed through the Fire Road fill in 2014, if there is not an existing creek draining to the culvert. The culvert was installed when the Fire Road fill was constructed in 2014. The commenter is apparently unaware of the presence of an inboard (i.e., upslope) road ditch along the Fire Road that collects runoff from the road surface and from the slope above it. The ditch conveys runoff to the culvert. The culvert also drains the wetland perched upslope of the Fire Road.

Ms. Collins states that "contents of the fill and it potential effect on water quality was not discussed in any of the reviewed documents including the IS/MND, which makes the impact conclusions of the IS/MND incomplete and unreliable." That contention is false. The source and content of the fill and its potential effects on water quality were evaluated in IS/MND Section IV.9, Hazards and Hazardous Materials and Section IV.10, Hydrology and Water Quality, and in Response to Comments on the IS/MND, Master Response 4.

Ms. Collins' analysis of the wetland in the description of Figure 7 is incorrect and based on conjecture. Her statement that the source of the wetland is the high groundwater table, and that ponded water saturates soil next to the fill and underneath, is pure speculation. The wetland shown on Figure 7 is formed by surface water flow from offsite that ponds behind the Fire Road fill. Drainage from this wetland is conveyed down the Fire Road to the culvert and eventually downslope. Ms. Collins' statement that the wetland contributes to groundwater saturation of the "East Slide" is inaccurate and misleading as it implies that the wetland is saturating the soils beneath the "East Slide" and the Fire Road fill.

According to the soil boring logged by Herzog in 2015, groundwater stabilized beneath the Fire Road Fill at a depth of 16 feet, or 6 feet below the interface of the Fire Road fill and the native surface of the "East Slide".

The commenter's interpretation of the features in Figure 8 are, yet again, based on speculation. The area of green vegetation represents a topographic low where drainage from the slope and Fire Road to the east (toward Panoramic Highway) collects and ponds. This area was covered when the Fire Road fill was placed but this is also the location that the culvert was installed to facilitate drainage and avoid surface water impoundment behind the newly placed (2014) Fire Road fill. The statement that the preexisting channel (marked by the blue arrow) "could also lead" to the lateral scarp of the East Slide is unfounded and is not based on field observation. Contrary to the commenter's claim, the culvert was installed beneath the 2014 Fire Road fill in an area that received local surface water drainage in order to dewater and redirect flow and avoid surface water contributing to erosion of the Fire Road fill.

4-19 In Figures 9 through 26b and associated discussion, Ms. Collins presents a lengthy evaluation of historic slope instability on the property and on adjoining parcels based on aerial photography from select years (1946, 1955, 1965, 1987, 1993, 2002, 2007, 2008 2013). However, as stated in the response to comment 4-14, the method used to identify and map landslide features is questionable. Aerial photographic interpretation is but one tool used by geologists to determine previous landsliding, but the process, when carried out correctly, requires high resolution, stereo-pair photographs viewed through a stereoscope, producing a 3-dimensional effect with an exaggerated vertical component. Ms. Collins did not use the stereo pairs approach but rather relied on importing single-frame digital images into Google Earth, resulting in a low-resolution, quasi-3-D effect. This approach provides some information, but it is grounds for questioning the validity of the commenter's interpretations, and is not the best-available source of information.

The commenter's assessment focuses on historic slope instability and the development of fire roads throughout the property. In general, her interpretation of landslide susceptibility is consistent with the general understanding of slope stability in this region of Marin County. Prior to 1965, when hillslopes were not as vegetated as they are today, and many were still grazed, there were many slope failures on less stable, unvegetated slopes. This includes the area she has identified as the "East Slide." The lower portion of this feature was identified in 1976[25] and mapped as an area in the "least stable" category. As noted by Ms. Collins (Figures 14 and 15), vegetation on the hillsides began to recover following the removal of grazing activities in about 1965. The recovery of the vegetation in turn facilitated the stabilization of the "East Slide" as evidenced by photographs

[25] Rice, op. cit.

of this area after 1965. There is no argument that, historically, the area identified as the "East Slide" may have been susceptible to isolated slope failures, especially during the period that the hillslopes were grazed and unvegetated. This was identified by Rice in 1976. However, as vegetation reestablished in this area, movement on the "East Slide" likely diminished or ceased completely. As discussed in Master Response 2, the field reconnaissance completed by a California Certified Engineering Geologist of the "East Slide" area performed in August 2022, found no evidence of ongoing landslide activity.

In Figures 16 through 25, Ms. Collins, through the use of low-resolution aerial photography, provides a historical rendering of the evolution of Fire Road construction on the property and implies that these fire road cuts have destabilized the sloped portion of the property, triggered movement on the "East Slide", and are contributing sediment production and supply within and beyond the watershed. Many of the conclusions reached by the commenter are not based on fact, and none are based on field observation. They are at best speculative. For example, Ms. Collins states (page 17) that "[s]ubsequent imagery seems to indicate that these Older Fire Trail segments may have been abandoned due to movement of the East Slide." This statement is pure speculation. There is no evidence that the road segment she is referring to was abandoned due to movement of the East Slide nor is there evidence that the East Slide was actively moving.

On page 17, Ms. Collins speculates that a grove of Eucalyptus trees were planted between 1952 and 1965 to remove water from the slope and then were felled in 2008. She follows this speculation with another, that after the trees were removed,

> the benefits to the earthflow stability that the trees evapotranspiration processes provided in reducing soil saturation were now gone. Additionally, after several years following cutting, when the tree roots rot in the saturated soils of the East Slide, the benefits of added soil cohesion was also lost. Tree roots, especially a grove's worth, help bind soil as well as help it resist downslope movement, especially under saturated conditions.

There is no evidence that 1) the trees observed in the aerial photograph were Eucalyptus trees, 2) that if they were in fact Eucalyptus trees, they were actively reducing soil moisture, and 3) that cutting the trees triggered slope instability.

Please also see Master Response 2.

4-20 The commenter is incorrect in stating that the "GTR," that is, the two Geotechnical Reports (Herzog, 2015 and 2018) prepared for the Applicant, "…has been the primary source of information for planning, impact assessment, and mitigation development of the Project." In fact, the IS/MND's analysis of impacts related to Geology and Soils uses these Geotechnical Reports as one source, in addition

to other Project background reports, published literature, and field observations. References are listed at the conclusion of the Geology and Soils section of the IS/MND. Please see also Master Response 2.

4-21 Please see Master Response 2.

4-22 This comment includes the commenter's "field reconnaissance photographic documentation of existing conditions." None of the photographs or observations, however, are of the Project site, other than what can be seen at a distance from public access points. Please see Master Response 2.

4-23 Please see Master Responses 2 and 3.

4-24 Please see Master Responses 2 and 3.

4-25 Please see Master Responses 2 and 3.

4-26 Please see Master Response 3.

4-27 Please see Master Response 2.

4-28 Please see Master Response 3.

4-29 The actual amount of fill placed on the Fire Road during the 2014 unpermitted grading is undocumented. Marin County Department of Public Works staff, who inspected the site and spoke with the Applicant and the grading contractor who performed the work, estimated 1,200 cubic yards of soil was placed (email correspondence between Bernice Davidson, DPW, County of Marin, and Raul Rojas and Bob Beaumont, Marin County, on March 25, 2014). The Project Grading Plan includes a comparison of pre- and post-grading topographic maps of the area around the Fire Road, and estimates 42 cubic yards of cut and 882 cubic yards of fill, for a total earthwork quantity of 924 cubic yards (Ziegler, 2018, Sheet 15, Grading Plan). Generally, the IS/MND uses the more conservative 1,200 cubic yards figure. The IS/MND consistently describes grading quantities associated with the 2014 work as "approximate." Whether 882 cubic yards, 1,200 cubic yards, or some quantity of soil in-between s was actually placed on the Fire Road in 2014 has little bearing on the impact analysis. Please see Master Response 2.

There is no record of grading having taken place on the project site in 2013. On November 15, 2013, Department of Public Works staff inspected the Project site in response to a complaint, and found that the vegetation clearing work that had been recently performed did not require a grading permit.[26] Photographs from

[26] Wong, Jason, 2013. Letter from Jason Wong, Marin County Department of Public Works, to Daniel and Shira Weissman, re: Potential grading violation, 455 Panoramic Highway, Mill Valley, APN: 046-161-11, December 9, 2013.

that site visit are included in the Administrative Record, and several are included in the Response to Comments on the IS/MND, Master Response 4.

This is yet another instance in which the commenter misinterprets aerial photos, does not utilize readily available documentation of site conditions previous to and following the 2014 grading work, and draws conclusions based on faulty assumptions, conjecture, and speculation. The commenter admits as much when she states in this comment that, "Documents do not provide adequate photos of current conditions and landowner does not allow access to property *both of which are vital to assessment of potential existing and future impacts*" (emphasis added). Because of this admitted lack of vital information, the commenter's conclusions of significant impacts are unfounded.

4-30 The commenter's opinions numbered 1-10 all address perceived deficiencies with the Applicant's geotechnical reports, not with the IS/MND or IS/MND Amendment. The geotechnical reports were prepared by a registered California Geotechnical Engineer and peer reviewed for the purpose of determining their suitability for use as a background document by the California Certified Engineering Geologist who prepared the Geology and Soils section of the IS/MND. The geotechnical reports do not purport to be a comprehensive inventory of all landslides on the Project site, but rather were intended to characterize and evaluate site conditions in order to generate recommendations to ensure stability of planned future development. One of the reports (Herzog, 2015) was prepared to support the previous version of the Project that has since been superseded.

There is no question that the Project site is subject to landsliding, as is true of much of coastal California, as discussed in the IS/MND Section IV.7, Geology and Soils. Here, as throughout her comment letter, the commenter conflates existing conditions with potential impacts of the Project, mischaracterizes current site conditions, incorrectly interprets Project plans, and bases impact conclusions on faulty assumptions, factual errors, and speculation. The commenter presents no substantial evidence to support a fair argument that the Project would cause a significant impact related to slope stability, erosion, or sedimentation of the stream system, but rather simply speculates that such an impact could occur. Please see also Master Responses 2 and 3.

4-31 The "Older Fire Road" is an existing condition that will not be affected by the Project. Therefore, the IS/MND does not identify any impacts or require any mitigation associated with this feature.

4-32 Please see Master Response 3,

4-33 As noted in the response to comment 4-9, Dr. Sicular has a Doctorate in Geography and has over 25 years of experience conducting environmental analysis pursuant to CEQA. The Geology and Soils section of the IS/MND,

however, was prepared by Peter Hudson, a Certified Engineering Geologist with over 20 years of experience preparing CEQA documents, and the Hydrology and Water Quality section was prepared by Justin Taplin, M.S., a Hydrologist and Certified Fisheries Professional with 15 years of CEQA experience. In sum, the consultant team is highly qualified to conduct the CEQA analysis.

4-34 The IS/MND Amendment addresses the three issues raised in the Court Order, and reconsiders impact conclusions based on any relevant new information, as well as additional observations of the Project site. The IS/MND findings of no significant impact related to Geology and Soils, Hydrology and Water Quality, or sensitive biological resources downstream, are all founded on substantial evidence, including the best available scientific information and repeated site reconnaissance by qualified experts. The commenter fails to provide substantial evidence to support a conclusion of a significant impact. Please see Master Responses 2 and 3.

4-35 As noted by the commenter herself, without access to the Project site (which is at the discretion of the landowner, the Applicant) her, "ability to evaluate the concerns of the Final Ruling are hindered." The commenter substitutes questionable methods of analysis, conjecture, speculation, and inference for fact-based analysis.

4-36 A representative recent photo of site conditions and descriptive observations by the consultant team's Certified Engineering Geologist are included in the IS/MND Amendment, pages 10 and 11. The commenter does not take note of, nor provide comment on, this highly relevant information.

4-37 As noted above, the commenter provides no substantial evidence to support a conclusion of a significant impact. The commenter's "opinion" cannot be relied upon, as it is based on speculation, not factual evidence, and because she lacks the professional qualifications and licensure required of experts in her field.

4-38 Here, again, the commenter critiques the Applicant's geotechnical reports, not the IS/MND. Please see the response to comment 4-30.

4-39 Please see responses to comments 4-33 and 4-34, above.

4-40 Please see Master Responses 2 and 3.

4-41 Potential soil instability, erosion, stream sedimentation, and impacts of climate change are all of concern and all considered in the IS/MND. Findings of less-than-significant impacts reached in the IS/MND, and confirmed in the Response to Comments on the IS/MND, responses to other comments received prior to the Board of Supervisors hearing in 2020, the IS/MND Amendment, and the current response to comments document, are all based on the best available factual information, actual observation of site conditions by qualified experts, careful

review of Project plans during visits to the Project site, and an understanding of the requirements and standards of environmental review under CEQA. The commenter's conclusions, in contrast, are based on an "analysis" that itself is based on faulty assumptions, misinterpretations, factual errors, conjecture, speculation, and, because she did not make any direct observations of current site conditions, a lack of knowledge of the Project site.

Impacts of climate change on watersheds draining Mount Tamalpais are not, and will not, be caused by the Project.

4-42 We note that the commenter describes herself as a "geomorphologist" with a lower case "g." According to her CV, she lacks a graduate degree or a degree in science. Furthermore, she lacks any State certification as a geologist, and therefore cannot legally practice geology in the State of California, as defined in Title 16, California Code of Regulations Section 3003(f). While she has a lengthy work history as a field and lab technician and as a natural resources planner, her conclusions in the comments above are not based on fact or observation of the natural world, but on conjecture, speculation, mistaken assumptions, and misinterpretations. Her views cannot be considered evidence-based opinions of a qualified expert.

We note further that in her 14-page CV, she lists only one project related to CEQA, a review of the City of Sausalito General Plan Draft EIR. It is abundantly evident from her wildly speculative conclusions of significant impacts that she does not understand or appreciate standards of practice and legal review under CEQA. In particular, she takes no heed of the definition of "substantial evidence" contained in State CEQA Guidelines Section 15384:

> (a) "Substantial evidence" as used in these guidelines means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached. Whether a fair argument can be made that the project may have a significant effect on the environment is to be determined by examining the whole record before the lead agency. *Argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly erroneous or inaccurate,* or evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment *does not constitute substantial evidence*.
>
> (b) *Substantial evidence shall include facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts.*
>
> (emphasis added)

Letter 5

From: Louette Colombano
To: Taylor, Tammy
Subject: Dipsea Ranch/Weissman Development Project - Comment Period
Date: Friday, July 8, 2022 4:20:28 PM

Dear Ms. Taylor,

Please review my comments below regarding the Dipsea Ranch/Weissman Project. I live across the road from the potential development and have serious concerns about the failure of the Mitigated Negative Declaration to address our communities concerns. 1

Issue 1: Failure to analyze the illegally modified Fire Road

Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road." 2

Issue 2: Failure to analyze project drainage through critical habitat (WCA - wetland conservation area)

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum 3

amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks.

3 cont.

Issue 3: Failure to explain where excess fill will be deposited

With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek.

4

Sincerely,
Louette Colombano
62 Monte Cimas Avenue
Mill Valley, CA 94941

Letter 5. Louette Colombano

5-1 This comment is preamble. Please see the following responses.

5-2 Please see Master Response 2.

5-3 Please see Master Response 3. IS/MND Section IV.10, Hydrology and Water Quality, presents a detailed and comprehensive analysis of hydrology and water quality impacts from implementation of the proposed Project. The analysis of impacts includes consideration of the proposed stormwater management system as well as development of the site as proposed within the established building envelopes and associated driveway and septic system improvements. The analysis considers conservative estimates for impervious surfaces as well as stormwater management system construction and function within the context of Stream and Wetland Conservation Areas. The assessment presented in the 2020 IS/MND represents the maximum impervious surface for the proposed development of two additional homes following subdivision of the subject parcel.

5-4 Please see Master Response 1.

Letter 6

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: Deep concerns over lack of appropriately vetting the Dipsea Ranh Project
Date: Monday, July 11, 2022 9:03:52 AM

FYI:

From: Dr Lonniebarbach <drbarbach@lonniebarbach.com>
Sent: Friday, July 8, 2022 9:02 PM
To: Rodoni, Dennis <DRodoni@marincounty.org>; Moulton-Peters, Stephanie <smoultonpeters@marincounty.org>; Rice, Katie <KRice@marincounty.org>; Connolly, Damon <DConnolly@marincounty.org>; Arnold, Judy <JArnold@marincounty.org>; Lai, Thomas <TLai@marincounty.org>; Tejirian, Jeremy <JTejirian@marincounty.org>; Taylor, Tammy <TTaylor@marincounty.org>
Subject: Deep concerns over lack of appropriately vetting the Dipsea Ranh Project

To Tom, Jeremy, Stephanie, Dennis, Tammy Katie, Damon and Judy
I live directly across Panoramic from the proposed project. I am deeply concerned about a number of aspects that I think the county needs to revisit.

First, the illegal alleged fire road. This road is not a fire road. It was laid in the dead of night without any permits nor engineering. The fire marshall DID NOT ask Weissman to put it in (Weissman lied about this). The County must either examine the weight capabilities of the existing alleged fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road." Personally, I think Weissman put this road in so he could have access for developing the lower parcel just

1

off Panoramic.

1 cont.

Second, It's a flat-out lie that the stormwater system modification are not within the WCA. This was pointed out to both the Board of Supervisors and Planning Commission, yet the County is recycling it here. When the Wetland Conservation Area is laid over the stormwater plan - the stormwater system modifications are well within the conservation area. In fact, the storm drainage runs against the existing slope within the WCA - how is that supposed to be achieved without any modification to the hillside? This is a precious and fragile ecosystem and we need to protect it. If we don't, who will?

2

Third, With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. And Weissman needs to be held to it. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? This is a huge amount of soil - the equivalent of 2 acres by 1 ft. If that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek.We need specificity on this.

3

Fourth, Also, I was dropped from the list of people interested in being informed about this project. This is the second time I have not received appropriate notice of important hearings on this project. It is starting to feel like you are intentionally blocking community input and participation. Would you please check into this to ensure that all interested parties are given appropriate notice.

4

Thank you,
Lonnie Barbach

Letter 6. Lonnie Barbach

6-1 Please see Master Response 2.

6-2 Please see Master Response 3.

6-3 Please see Master Response 1.

6-4 All legally required notice for public hearings for this Project will be provided.

Letter 7

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: Dipsea Ranch Subdivision makes no sense environmentally
Date: Monday, July 11, 2022 9:04:05 AM

FYI:

From: Douglas Ullman <doug1as@comcast.net>
Sent: Friday, July 8, 2022 10:04 PM
To: Taylor, Tammy <TTaylor@marincounty.org>
Subject: Dipsea Ranch Subdivision makes no sense environmentally

Dear Ms. Taylor,
I care deeply about my neighborhood, and Dipsea Ranch Subdivision makes no sense environmentally for the reasons below:

Marin County Court's Judge Sweet revoked the approval of the subdivision because the County of Marin's environmental analysis of the proposed development was flawed.
Issue 1: Failure to analyze future use of the illegally modified "Fire Road"
Issue 2: Failure to analyze project drainage through critical habitat (WCA & SCA wetland/stream conservation areas)
Issue 3: Failure to explain where excess fill will be deposited

1

Issue 1
Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road."

2

Issue 2
Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks.

3

Issue 3
With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a

4

devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek.

4 cont.

Thank-you for your time,
Doulas Ullman
446 Panoramic Hwy

Letter 7. Douglas Ullman

7-1 This comment recounts the three issues raised in the Court Order. Please see the following responses.

7-2 Please see Master Response 2.

7-3 Please see Master Response 3 and response to comment 5-3.

7-4 Please see Master Response 1.

Letter 8

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: Dipsea Ranch
Date: Monday, July 11, 2022 9:08:06 AM

FYI:

From: Lai, Thomas <TLai@marincounty.org>
Sent: Monday, July 11, 2022 8:24 AM
To: Taylor, Tammy <TTaylor@marincounty.org>
Subject: FW: Dipsea Ranch

FYi

Regards,
-Tom Lai, Director
Marin County Community Development Agency
(415) 473-6292

From: Arlene F Hoffman <arlenehoffman@afhoffman.com>
Sent: Friday, July 8, 2022 11:14 PM
To: Rodoni, Dennis <DRodoni@marincounty.org>; Moulton-Peters, Stephanie <smoultonpeters@marincounty.org>; Lai, Thomas <TLai@marincounty.org>
Subject: Dipsea Ranch

Dear dedicated county supervisors, project planner and community development director;

I have lived at 282 Panoramic Highway since 1989 and rented on Panoramic Highway since 1978. This is the first time I have ever written to the County expressing my concerns. I am very troubled about the potential development of the "Dipsea Ranch" property. I agree totally with the findings of more knowledgeable people who have investigated the problems with the Dipsea Ranch. To be specific the following expresses most of my concerns: 1

Issue 1: Failure to analyze the illegally modified Fire Road

Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of 1 cont. 2

the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road."

2 cont.

Issue 2: Failure to analyze project drainage through critical habitat (WCA - wetland conservation area)

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks.

3

Issue 3: Failure to explain where excess fill will be deposited

With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek.

4

I do hope you pay attention to the concerns of the people, such as myself, who will be living with the decisions that you will be making and hope that you realize the negative impact on the area that will occur if the Dipsea Ranch/ Weissman development project proceeds without being required to do additional analyses.

5

Thank you very much,

Arlene F Hoffman, DPM, PhD

Letter 8. Arlene Hoffman

8-1 This comment is preamble to those that follow. Please see the following responses.

8-2 Please see Master Response 2.

8-3 Please see Master Response 3 and response to comment 5-3.

8-4 Please see Master Response 1.

8-5 This comment addresses the commenter's perceived merits of the Project, or lack thereof. The IS/MND Amendment fulfills the requirements of the Court Order. No additional analysis is required.

Letter 9

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: 455 Panoramic Highway
Date: Monday, July 11, 2022 9:04:20 AM
Attachments: Prison2ec-logo-e1494293967992.png

FYI:

From: Diana Williams <de.williams@icloud.com>
Sent: Saturday, July 9, 2022 10:57 AM
To: Taylor, Tammy <TTaylor@marincounty.org>
Subject: 455 Panoramic Highway

To: Tammy Taylor
From: Diana Williams
Re: Weissman Project

Those of us who are concerned about the Weissman Project at 455 Panoramic Highway ask you to address the following issue:

Issue 1: Failure to analyze the illegally modified Fire Road

Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road." 1

Issue 2: Failure to analyze project drainage through critical habitat (WCA - wetland conservation area)

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any 2

constructed storm water drainage controls within stream and wetland setbacks.

2 cont.

Issue 3: Failure to explain where excess fill will be deposited

With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek.

3

Please take our concerns seriously –

Diana Williams
15 Madera Way
Mill Valley, CA 94941
Diana Williams, MA, CPCC
Prison to Employment Connection
P.O. Box 217
San Quentin, CA 94964
415 271-2022
https://prison2ec.org/

Prison to Employment Connection
A Better Way Out
Diana Williams, MA, CPCC
Prison to Employment Connection
P.O. Box 217
San Quentin, CA 94964
415 271-2022
https://prison2ec.org/

Prison to Employment Connection
A Better Way Out

Letter 9. Diana Williams

9-1 Please see Master Response 2.

9-2 Please see Master Response 3 and response to comment 5-3.

9-2 Please see Master Response 1.

Letter 10

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: The FLAWED ENVIRONMENTAL REPORT
Date: Monday, July 11, 2022 9:04:30 AM

FYI:

From: Robert Cantor <bob@robertcantor.com>
Sent: Saturday, July 9, 2022 3:15 PM
To: Rodoni, Dennis <DRodoni@marincounty.org>; Moulton-Peters, Stephanie <smoultonpeters@marincounty.org>; Lai, Thomas <TLai@marincounty.org>; Taylor, Tammy <TTaylor@marincounty.org>
Subject: The FLAWED ENVIRONMENTAL REPORT

We just learned that the Marin County Court's Judge Sweet revoked the approval of the subdivision(because the County of Marin's environmental analysis of the proposed development was flawed). 1

PLEASE KNOW MY WIFE AND I FEEL STRONGLY ABOUT THE FOLLOWING:

Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road." 2

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to 3

specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks.

3 cont.

With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek.

4

Respectfully,

Robert Cantor
Gail Mason

Letter 10. Robert Cantor and Gail Mason

10-1 This comment is preamble. Please see the following responses.

10-2 Please see Master Response 2.

10-3 Please see Master Response 3 and response to comment 5-3.

10-4 Please see Master Response 1.

Letter 11

From: Dororthy McQuown
To: Rodoni, Dennis; Moulton-Peters, Stephanie; Rice, Katie; Connolly, Damon; Arnold, Judy; Lai, Thomas; Tejirian, Jeremy; Taylor, Tammy
Subject: Dipsea Ranch/Weissman Development Project
Date: Sunday, July 10, 2022 5:53:54 PM

Dear Supervisors: I am writing to express my concern and dismay that the the required analyses of this project have not been done. 1

Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road." 2

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks. 3

With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek. 4

Yours truly, Dorothy McQuown, Ph.D., Mill Valley, CA

Letter 11. Dorothy McQuown

11-1 This comment is preamble. Please see the following responses.

11-2 Please see Master Response 2.

11-3 Please see Master Response 3 and response to comment 5-3

11-4 Please see Master Response 1.

Letter 12

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: Dipsea Ranch/Weissman
Date: Monday, July 11, 2022 9:05:48 AM

FYI:

From: Abigail Hill <abbyhh@gmail.com>
Sent: Sunday, July 10, 2022 2:21 PM
To: Rodoni, Dennis <DRodoni@marincounty.org>; Moulton-Peters, Stephanie <smoultonpeters@marincounty.org>; Rice, Katie <KRice@marincounty.org>; Connolly, Damon <DConnolly@marincounty.org>; Arnold, Judy <JArnold@marincounty.org>; Lai, Thomas <TLai@marincounty.org>; Tejirian, Jeremy <JTejirian@marincounty.org>; Taylor, Tammy <TTaylor@marincounty.org>
Subject: Dipsea Ranch/Weissman

To My County Representatives,

At this point with this whole Dipsea ranch/Weissman issue I personally am feeling like the fight is more against the county than him at the moment. I have lived in Mill Valley my whole life. Having been brought up on Mount Tam and explored all the nooks and crannies, this is my home. This has been iterated so many times that I fear it is falling on deaf ears. This development is the antithesis of what this mountain needs an Weissman is a very smart man who has found loopholes and tactics to get you our representatives to overlook things and allow him to possibly go through with his plan. I feel incredibly let down. With that said we have a fantastic group of passionate people up here who do have the best interest of each other and the land and the integrity of the environment from from femoral creeks to salmon to native agriculture etc. working on behalf of this issue. Below is equally my sentiments as expressed by the wonderful people at the forefront of this issue. Please hear us!
Abby Hill
643 Edgewood Ave
Mill Valley

1

Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support

vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road."

2 cont.

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks.

3

With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek.

4

Letter 12. Abby Hill

12-1 This comment does not address the IS/MND Amendment nor the environmental analysis.

12-2 Please see Master Response 2.

12-3 Please see Master Response 3 and response to comment 5-3.

12-4 Please see Master Response 1.

Letter 13

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: Fire road /Panoramic/Weissman
Date: Monday, July 11, 2022 9:06:00 AM

FYI:

From: Woody Payne <woodwardpayne@gmail.com>
Sent: Sunday, July 10, 2022 3:08 PM
To: Woodward Payne <woodwardpayne@gmail.com>
Cc: Rodoni, Dennis <DRodoni@marincounty.org>; Rice, Katie <KRice@marincounty.org>; Connolly, Damon <DConnolly@marincounty.org>; Arnold, Judy <JArnold@marincounty.org>; Lai, Thomas <TLai@marincounty.org>; Tejirian, Jeremy <JTejirian@marincounty.org>; Taylor, Tammy <TTaylor@marincounty.org>; Moulton-Peters, Stephanie <smoultonpeters@marincounty.org>
Subject: Fire road /Panoramic/Weissman

To whom it may concern,

How many other people have waited months and years to get permits granted and in many cased denied. How could this permit be granted so carelessly. THIS IS SHAMEFULL! 1

Woodward Payne
45 Madera Way
Mill Valley, CA

Letter 13. Woodward Payne

13-1 This comment does not address the IS/MND Amendment nor the environmental analysis.

Letter 14

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: FRIENDS OF MUIR WOODS PARK / FIRE ROAD / WEISSMAN
Date: Monday, July 11, 2022 9:06:13 AM

FYI:

-----Original Message-----
From: Beverly Anderson <beverlyanderson333@gmail.com>
Sent: Sunday, July 10, 2022 3:20 PM
To: Beverly Anderson <beverlyanderson333@gmail.com>
Subject: FRIENDS OF MUIR WOODS PARK / FIRE ROAD / WEISSMAN

To whom it may concern,

This seemingly unstable road and all the complications it has rendered is truly the failure of the county and the powers that be. 1
It is SHAMEFLULL.

Very Sincerely,
Beverly Anderson
45 Madera Way
Mill Valley, CA 94941

Letter 14. Beverly Anderson

14-1 This comment does not address the IS/MND Amendment nor the environmental analysis. Regarding Fire Road stability, please see Master Response 2.

Letter 15

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: Please reexamine the Dipsea ranch/Weissman project
Date: Monday, July 11, 2022 3:35:46 PM

FYI:

From: Susan hayes <suehayesmv@yahoo.com>
Sent: Monday, July 11, 2022 3:35 PM
To: Taylor, Tammy <TTaylor@marincounty.org>
Subject: Please reexamine the Dipsea ranch/Weissman project

Please reexamine this project for the following reasons:

Issue 1: Failure to analyze future use of the illegally modified "Fire Road" 1
Issue 2: Failure to analyze project drainage through critical habitat (WCA & SCA wetland/stream conservation areas) 2
Issue 3: Failure to explain where excess fill will be deposited 3

Sincerely,
Susan Hayes
Mill Valley

Letter 15. Susan Hayes

15-1 Please see Master Response 2.

15-2 Please see Master Response 3.

15-3 Please see Master Response 1.

Letter 16

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: - Weismann Development Project concerns
Date: Monday, July 11, 2022 5:09:58 PM
Attachments: Weissman Development Project - ACTION.docx
image002.png

FYI:

From: Lai, Thomas <TLai@marincounty.org>
Sent: Monday, July 11, 2022 5:05 PM
To: Taylor, Tammy <TTaylor@marincounty.org>
Subject: FW: - Weismann Development Project concerns

Regards,
-Tom Lai, Director
Marin County Community Development Agency
(415) 473-6292

From: Bob Wright <bwright@firebk.com>
Sent: Monday, July 11, 2022 5:01 PM
To: Lai, Thomas <TLai@marincounty.org>
Subject: - Weismann Development Project concerns

Hi Tom,

I remain concerned about the impact of the Weismann project on Mt Tam and the historic Dipsea – approval of the plan without modifications will adversely impact this important land for generations to come. 1

I have attached a list of issues and ask that you carefully and thoughtfully take these into consideration.

Thank you

Bob

Robert M. Wright
Partner. Possibilitarian
Firebrick, Inc. |
mobile 1.415.314.7579 |
www.Firebrick | follow us on LinkedIn

FIREBRICK

July 11, 2022

To: Tom Lai

From: Robert Wright

Re: Weissman Overdevelopment Project

I am one of the many that continues to remain concerned about the Weissman Project at 455 Panoramic Highway – This “heavy” development project continues to skirt environmental laws and is right on the HISTORIC Dipsea Trail. If this project is approved “as is” – generations to come will never get back what has been lost. 2

Help protect our Mt. Tam treasure from this needless overdevelopment.

Specifically, the issues with this project remain:

Issue 1: Failure to analyze the illegally modified Fire Road

Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road." 3

Issue 2: Failure to analyze project drainage through critical habitat (WCA - wetland conservation area)

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks. 4

Issue 3: Failure to explain where excess fill will be deposited

With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek. 5

Please take these concerns seriously –

Robert M. Wright

65 Throckmorton

Mill Valley, CA 94941

Letter 16. Bob Wright

16-1 This comment does not address the three issues raised in the Court Order and addressed in the IS/MND Amendment. Regarding impacts on the Dipsea Trail, please see IS/MND Section IV.1, Aesthetics, topic a) (pages 21 and 25, and Figure 1-2), and Section IV.5, Cultural Resources, topics a and b, page 70. The IS/MND determined that the Project would not have a significant effect on scenic vistas from publicly accessible viewpoints, including the Dipsea Trail, and would not have a significant impact on historic resources, including the Dipsea Trail. The Project would not directly or indirectly impact the Dipsea Trail.

16-2 This comment is preamble. Please see the following responses.

16-3 Please see Master Response 2.

16-4 Please see Master Response 3 and response to comment 5-3.

16-5 Please see Master Response 1.

Letter 17

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: Dipsea Ranch/Weissman Comment Deadline
Date: Tuesday, July 12, 2022 10:22:53 AM

FYI:

From: gordon robinson <gogorobinson@hotmail.com>
Sent: Tuesday, July 12, 2022 9:49 AM
To: Rodoni, Dennis <DRodoni@marincounty.org>; SMoultonPeters@MarinCounty.or; Lai, Thomas <TLai@marincounty.org>; Taylor, Tammy <TTaylor@marincounty.org>
Subject: Dipsea Ranch/Weissman Comment Deadline

Because this project apparently started with activities that ignored legal requirements, I am very concerned about the counties vague and inadequate amended reposes to the community's concerns. I am not against development. I simply think it's vital our elected representatives and appointed officials ensure these activities meticulously follow the rules and regulations intended ensure the safety and quality of the community as well as appropriate protection of the environment. Two areas in particular stand out for me. 1

First, concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an 2

actual "fire road."

2 cont.

Second, I can't find any specific statement on how where excess soil will be managed. "According to legal requirements" is far from adequate to dispel concerns. A few decades ago, massive amounts of soil from the **Buck Center Project** were dumped behind a neiborhood in Novato that resulted in serious damage to the foundation of several homes as the weight of the resulting berm caused the ground to shift. This led to serious lawsuits. Presuming the county tracked this project "legal requirements" didn't work.

3

With regard to the disposal of any and all excess soil from the Weissman site, we must know where and how this soil will be disposed. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site and if so, could it make its way into Redwood Creek? This would be an environmental disaster for salmon.

4

Gordon Robinson
64 Monte Cimas Ave.
Mill Valley

Letter 17. Gordon Robinson

17-1 This comment does not address the IS/MND Amendment nor the environmental analysis. As directed by the Court, with the completion of the IS/MND Amendment, the County will have complied with the requirements of CEQA.

17-2 Please see Master Response 2.

17-3 Please see Master Response 1.

17-4 Please see Master Response 1.

Letter 18

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: documents for Dipsea Ranch Comment Period
Date: Tuesday, July 12, 2022 4:44:37 PM
Attachments: Preston Brown Letter_7_11_22.docx

FYI:

From: Judy Schriebman <judy@leapfrogproductions.com>
Sent: Tuesday, July 12, 2022 2:55 PM
To: Taylor, Tammy <TTaylor@marincounty.org>
Subject: Re: documents for Dipsea Ranch Comment Period

Thank you Tammy. Here is the first one, from Preston Brown of SPAWN.
Please let me know you received it.

Judy

> On Jul 12, 2022, at 2:28 PM, Taylor, Tammy <TTaylor@marincounty.org> wrote:
>
> Hi Judy,
>
> Yes, email is fine. If they are very large documents, please submit them as a DropBox or Google Drive link. Otherwise, hard copy is fine too.
>
> Thank you,
>
> Tammy
>
> -----Original Message-----
> From: Judy Schriebman <judy@leapfrogproductions.com>
> Sent: Tuesday, July 12, 2022 12:55 PM
> To: Taylor, Tammy <TTaylor@marincounty.org>
> Subject: documents for Dipsea Ranch Comment Period
>
> HI Tammy,
>
> I have some documents to be submitted to Planning re: the Dipsea Ranch for the comment period. Can these be submitted via email or do they need to be brought in as hard copies?
>
> These are independent reports.
>
> Judy
> Email Disclaimer: https://www.marincounty.org/main/disclaimers

1

Preston Brown
PO Box 370 Forest Knolls, CA. 94953
preston@tirn.net
415-66308590

Curriculum Vitae

Selected Publications and Presentations

- *Brown, P., White, J., Strom, M. "Encouraging Coarse Bedload Deposition in Incised Stream Channels to Promote Floodplain Connectivity and Riffle Formation" 2019. Salmonid Restoration Federation, Arcata, CA.*
- *Brown. P, Cruz, J. "Lagunitas Creek Floodplain Activation Flow Assessment of Lagunitas Creek". U.C.Berkeley Stream Restoration Workshop, August 2018.*
- *Brown, P. Woodson, E. "Large Woody Debris- Let it Be. Lessons Learned from a Passive Approach to Wood Recruitment in Developed Watersheds". Salmonid Restoration Federation Workshop August 2018.*
- *Brown, P. "The Importance of Small Streams for Coho Recovery – Insights into the Role Ephemeral Streams Have for Growing Large Fish". River Restoration Northwest Conference. April 2017.*

Relevant Experience

Director – Board Secretary

Coho Salmon Land Trust (C-SALT) *2020- Present*

- Develop partnerships with regional organizations, agencies, tribes, and NGO's to acquire lands for preservation of salmon habitat in northern CA.
- Oversee projects for identifying strategic acquisition of landscapes for salmon habitat recovery using publicly-available data.
- Prepare compliance documents and maintain land conservation easements.

Director of Watershed Conservation

Salmon Protection And Watershed Network (SPAWN) September 2016 – Present

- Administer $14 million dollar of stream restoration and watershed improvement projects across private and public lands in northern CA. Project management

responsibilities include securing funding; managing grants; overseeing contractor and consultant activities; overseeing and implementing restoration construction; documenting environmental compliance and permitting; supervising and training team of six full-time staff and interns.

- Directed a dam removal project, totaling 5 acres of stream restoration across 0.25 miles. Totaled $3million in total funding and resulted in the removal of NOAA's highest priority fish passage barrier for Central CA. Coast Coho salmon.
- Develop and maintain strategic partnership programs with local, state, and federal agencies, tribal governments, privatelandowners, ranchers, farmers, land trusts, NGO's, University researchers, and more stakeholders. Identify and enact multi-benefit policies with broad stakeholder consensus.
- Participating member of the Lagunitas Creek Technical Advisory Committee and former Chair of subcommittee organized to evaluate opportunities for "floodplain activation" within the watershed.
- Administered and oversaw floodplain restoration actions on Lagunitas Creek that resulted in 10 acres of floodplain restoration, across 0.5 miles of stream habitat.
- Oversee public relations communications, prepare press-releases, and deliver presentations to stakeholder conferences and integrated watershed forums. Have represented SPAWN in interviews with Reuters News, CBS News, NBC News, NPR, Pacifica Radio, and local news outlets.
- Oversee community volunteer program, which has an average of 1,200 volunteer participants annually.
- Initiated, presented, and participated in river restoration and salmonid recovery training workshops for regulatory stakeholders, practitioners, engineers, contractors, landowners, and other stakeholders.

2 cont.

Watershed Biologist

Salmon Protection And Watershed Network (SPAWN) September 2013 – August 2016

- Implemented endangered salmonid life cycle monitoring, was responsible for PIT tagging, redd counts, snorkel surveys, electrofishing, pebble counts, and safe handling of fish in compliance with state and federal permits.
- Performed effectiveness monitoring of stream restoration projects, which included:

collecting longitudinal profiles, installing stream gauges and temperature loggers, hydraulic measurements, large woody debrisinventory, scour chain installation and recording, stream invertebrate sampling, and vegetation recovery.

- Maintained GIS database of salmonid restoration data. Created maps and visuals for presentations and publications.
- Managed Native Plant Nursery for riparian restoration projects, which included collecting seeds and cuttings, cultivate and care for seedlings, manage nursery greenhouse and irrigation infrastructure, andcarry out riparian restoration.
- Implemented community-centered events and festivals, participated in group trainings, teachings, and workshops for landowners and practitioners.

Natural Resources Intern

Midpeninsula Regional Open Space District May 2012 to April 2013

- Implemented community-oriented invasive species eradication program on private lands adjacent toDistrict lands. Made presentations to neighborhoods associations, handled communications with landowners, and oversaw contractor activities for eradiation.
- Produced maps of forest road inventories, invasive species locations, and trail erosion problems using ArcGIS to guide management decisions for District staff.

2 cont.

Education

B.S. Natural Resources Management
Colorado State University

RE: Comments on the Dipsea Ranch Subdivision Amended Mitigated Negative Declaration
7/15/2022

Watershed Alliance of Marin
446 Panoramic Hwy.
Mill Valley, CA 94941

Dear Watershed Alliance of Marin,

I am currently Director of Watershed Conservation for Salmon Protection and Watershed Network (SPAWN) and have been involved with salmon restoration and conservation for the past 10 years. I have 13 years of experience in fisheries and watershed biology and particularly salmonid habitat restoration. During my tenure at SPAWN I have supervised over 25 projects that included stream assessments, design, and restoration. I have managed multiple types of projects, including stream habitat and evaluation and monitoring, salmon population counts and, implementation of multi-million-dollar habitat restoration projects in the Lagunitas Creek Watersheds. Our projects are granted by Federal, State and Local Agencies and non-profits that we work cooperatively with.

2 cont.

The main issues regarding the Dipsea Ranch Subdivision Amended Mitigated Negative Declaration include surplus fill from grading, the fire road stability, and stormwater run-off. All these issues are linked by water and stormwater management. The illegal fire road with 1,200 cubic yards of sediment dumped in the winter on top of a watercourse violated several regulations that if followed would have protected the environment. (Figure 2)

Changes in stormwater discharge upstream on the Dipsea Ranch property will have a direct impact on the salmon habitat downstream in Redwood Creek. The coho and steelhead salmon of Redwood Creek are critical to the health of Marin's biosphere (Figure 11), providing vital marine nutrients from the ocean every winter, helping boost insect populations and health of riparian habitat. Excess fine sediment coming from the project, coupled with changes in hydrology, could result in salmonid mortality downstream. For example, impacts from excessive sediment runoff, landslides, or heavy rainfall events can send fine sediment pouring downslope into the gravel beds of salmon and steelhead nests in Redwood Creek below the property. The threats to their ultimate survival are described in the 2012 NOAA NMFS Central Coast Coho Recovery Plan (Recovery Plan) in the Administrative Record and for the Redwood Creek National Park Service latest Coho Redds update (Figure 1).

The proposed projects include grading 1,700 cubic yards of soil, augmentation of the ground and soils for septic systems, bioswales, cisterns, foundations, and driveways; all part of and affecting the Stormwater Control Plan (Figure 8). This will impact groundwater infiltration to the surrounding 1400 linear feet of creek year-round base flows, water temperature, erosion and Critical Habitat. (Figure 5) Related to the Stormwater Control Plan, is the potential construction of 12 homes, with dozens more vehicles and trips, that would release the highly toxic quinone transformation product of *N*-(1,3-dimethylbutyl)-*N*'-phenyl-p-phenylenediamine (6PPD), a globally ubiquitous tire rubber antioxidant deadly to coho, plus fertilizer and pesticides, all less controllable once the project has been fully implemented.

3

The proposed development's incredibly complex Stormwater Control Plan and routing patterns into the existing wetland and ephemeral creek setbacks will likely adversely impact downstream salmon habitat and critical base flows. It will likely cause erosion and suspended sediment loads. The soil deposits also

have the potential to buildup hydrostatic pressure and lead to separation of the fill from the native grade, potentially causing failure. Inadequate stormwater management on steep slopes and on new cut and fill will have an adverse impact on the habitat. Loss of groundwater infiltration with cisterns, pipes and bioswales impacts year-round base flows potentially dangerous for salmon downstream. (Figure 6 and 8)

The Redwood Creek sub-watershed Conlon reach contains the Dipsea Ranch Project that sits at the headwaters. The tributary reach that derives from behind the "fire road" and wetlands is inaccessible yet crucial to determining road stability, erosion and sediment contribution since it was constructed. (Figure 2). A point of concern is the fire road stability, the potential erosive issue with 8' deep to ground water from the road base from the Herzog boring and being constructed on a historic slide is relevant to issue.[1]

The intensity of storms and precipitation levels caused by orographic lift on the Panoramic Hwy.[2] ridge is significantly higher than almost anywhere in the county. Yet the Project stormwater plan fails to address this and is therefore inadequate to protect against the immense rainfall events at the site. Sending concentrated flows into the Stream and Wetland Conservation Areas behind the fire will add to focused energy of water on a steep slope, leading to inadequate water infiltration and suspended sediment being released downstream into the main stem and into designated Critical Habitat. Important areas downstream and upstream of the fire road have not had an independent assessment.

3 cont.

The Recovery Plan appears to not have been addressed as it relates to the Project in the limited judicial directive and is part of the Administrative Record. The Recovery Plan suggests the Dipsea Ranch Project could impact sediment loads, erosion, refuge, viability, stormwater velocity, loss of riparian vegetation that are limiting factors to Coho and Steelhead survival in the Redwood Creek Watershed. I would add, impacts to base flows and turbidity. The issues are clearly outlined by the National Park Service's letter and they are tasked with salmonid conservation. It seems their concerns remain unanswered.

The National Park Service and other Federal, State and local watershed and natural resource experts have determined that fine sediment loading in the watershed is an issue of concern and have spent many millions to rectify this. They hired Pacific Watershed Associates on several occasions to comprehensively review the erosion issues throughout the watershed but they were not tasked with looking at the private Dipsea Ranch property only about 400' upstream from site #79. (Figure 9) AR 04089 Erosion calculations from the area just below the project area at the Muir Woods Road crossing, are rated as a moderate high priority for treatment.[3] This is a significant rating that should be addressed promptly.

The IS/MND and now the AMND for the Dipsea Ranch Project fails to recognize several concerning issues regarding potential salmonid habitat damage from the project and soils instability also brought up

[11]Ziegler Hydrology and Land Use Page 32
[2] Ziegler Hydrology and Land Use Page 34
[3] Redwood Creek Watershed, Muir Woods Road and Trail Re-evaluation and Assessment Marin County, California Report No. 171024403, August 2017
Page 20, Moderately High impact to Sediment Delivery is at the road crossing just below the Weissman Property. # 78, 79. Figure 9

by then Acting GGNRA Superintendent Craig Kenkel on May 6, 2017 also in the Administrative Record. AR 03716, 03720

- Potential impacts to Redwood Creek Water quality during construction and following construction from additional residential homes in the community
- Potential impacts to Redwood Creek Steelhead trout and Coho salmon and habitat because of increased storm water runoff and sedimentation
- Potential for less than adequate stormwater improvements proposed for the subdivision access roads and driveways
- Need for a septic/sewage disposal plan designed to avoid impacts to the Watershed
- Potential to negatively impact visitors to Muir Woods National Monument and current residents in the local community with increased automobile traffic

The NPS looks forward to providing more detailed comments when the CEQA analysis for the proposed project is released for public scoping. As noted in the Planning Commission's Dipsea Public Statement, the Marin County Board of Supervisors will not approve the project until it determines whether the project would have the potential to cause significant environmental impacts to resources within and adjacent to the project location. The NPS requests the analysis to also include the potential for significant impacts to the Watershed and downstream resources protected by the NPS in the Monument and at the end of Redwood Creek at Muir Beach. (Acting Superintendent Kenkel 5/6/17)

3 cont.

The Federal Endangered Species Act listing for Coho salmon threatened in 1996 and endangered in 2005. The Project property is about ½ mile from the mainstem of Redwood Creek home to Critical Habitat for coho salmon and steelhead. According to the Recovery Plan, the highest threats to Coho Salmon survival in Redwood Creek are: Sediment, Stream Velocity, Lack of Refuge, Redd Viability, Riparian Vegetation, Urban Development, Roads, Severe Weather and Channel Modification.

Please see attached NOAA National Marine Fisheries Service 2012 Central California Coast Coho Salmon Restoration Plan AR 04158-04176; highlighted for all issues listed in the Redwood Creek watershed. The highest priority in the watershed, is to: Implement relevant high priority treatments - Pacific Watershed Associates assessment, and make new recommendations for treatment and encourage road decommissioning where feasible. This should have been reviewed in the IS/MND since the Project includes an unpermitted road on a wetland and ephemeral area constructed and graded during the winter. The County should determine, without question, the source of the fill used for the road in 2014 and to certify that it was free of toxins. For watershed health and best management practices, the road should be removed and the wetland and ephemeral area restored.

No evidence has been provided on the current condition of the creek on the Project site reach, approximately 400 feet, that descends from the fire road to the main stem perennial creek. Assessment of the fire road on this reach is critical to understanding the impacts to the creek area and habitat below the fire road. The Fire Road encroaches completely (100 feet) into the Wetland and Stream Conservation Areas as does the Stormwater routing.

Alteration of upstream underground hydrology has the capacity to affect base flows. The AMND is insufficient to address maintaining fall, spring and critical summer base flows for Coho and Steelhead habitat downstream brought up in the NPS letter. Instead, the following AMND solution does not respect normal hydrology and increased imperviousness from buildout will impact base flows. The

stormwater management plan proposal will likely cause a cascade of issues from increased velocity, increased landslides (Figure 7) increased suspended sediment, and increased erosion that will threaten salmonids. “The Project proposes the development of a stormwater management system that would utilize a system of storm drains, cisterns, and bio swales to control runoff.” Ziegler Conceptual Stormwater Plan. This plan is inadequate for the high rainfall intensities and slope of the site.

Contrary to the AMND, hydromodification is very likely to occur given the land instability (Figure 7) and almost 40% slope, large grading of cut and fill, imperviousness of new housing and driveways, piping water off site in large concentrations with focused detention basins, bioswales and cisterns. Hydromodification is and will continue to occur from the inception of the Fire road, Culvert, essentially a dam and now Stormwater Conceptual Plan proposal that moves the equivalent of well over 1 acre of dirt cut at 1 foot high on the ridge above water courses that are critical to species survival. The stormwater management requires much greater scrutiny with a focus on maintaining year-round base flows in the creeks, not concentrating water, and removing sediment from known drainages. Without that established, any stormwater plan may be harmful to the environment and unlikely to succeed.

The current Stormwater Conceptual Plan is likely to cause erosion because it is being deposited behind the fire road and forced into an already installed culvert. The culvert could cause further fire road degradation and be undermined. The life of corrugated metal culverts is limited, subject to erosion around their edges and collapse and their rating is critical to the road stability and strength. This area could easily become a contributory source of excess sediment in Redwood Creek independent of the fire road. An examination of culverts throughout the watershed shows varying degrees of usefulness, strength and decay. This proposed project does not provide enough information about the sufficiency of the culvert's size rating, placement or best management practices for maintenance. It appears to be installed in 3/24/2014 as an after-thought to correct the dangers created by the fire road fill. (Figure 10)

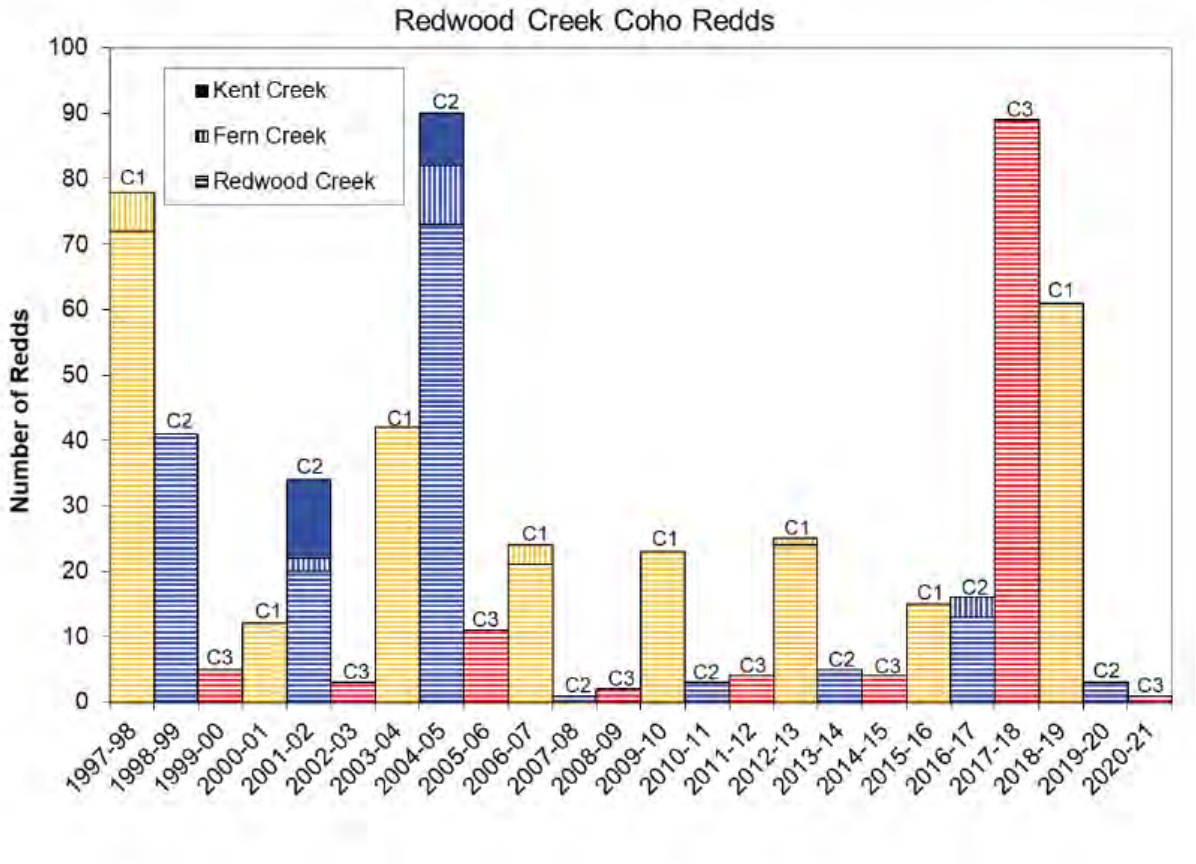
3 cont.

In 2022 Redwood Creek saw only 19 surviving Coho juvenile smolt of an evolutionary significant unit. They were removed from the creek to be raised in captivity, the agencies fearing an entire cohort mortality without this action. This is the fourth such intervention. (Figure 1). Typically, smolts should be counted in the thousands or tens of thousands but this is a staggeringly low number.

Conclusion:
The project would potentially adversely impact water quality and quantity through erosion, hillslope failure, and hydromodification, all leading to delivery of suspended sediment into the Redwood Creek Watershed Critical Habitat downstream.

This Project’s stormwater treatment concept on steep hillsides is inadequate to accommodate large rainfall events and does not improve conditions but destabilizes the unpermitted, un-engineered fire road and hillside leading away from the development area. This increases the change for dangerous amounts of suspended sediment in Redwood Creek. The location of drainages on the property in relation to stream or wetland conservation areas and the County’s opinion that none of this should be changed is wrong. The Project intent to drain the bulk of the surface run-off down a 40% slope, into the stream conservation area, into the wetland area behind the 200’ long 8’ high berm with a hole in it is a miscalculation. Hydrostatic pressure behind the fire road berm on a landslide for an un-engineered road, is dangerous. We have described those still unresolved environmental impacts above.

Sincerely,
Preston Brown
Director of Watershed Conservation
Salmon Protection And Watershed Network



4

Figure 1. AR 04449, 04464-04482

Figure 2. 1200 Cubic Yards of Fill dumped at the headwaters. AR 03989

Figure 3. Original Fire Road and Culvert AR 04463

5

Total Project Site Area (acres)	8.29 Acres
Total New and Replaced Impervious Surface Area	13,500 sf = 0.31 Acres
Total Pre-Project Impervious Surface Area	11,664 sf = 0.27 Acres
Total Post-Project Impervious Surface Area	25,164 sf = 0.58 Acres

5 cont.

Ziegler Conceptual Stormwater Plan AR 01211
Figure 4.

[[Page 23711]] Critical habitat is defined as the specific areas within the geographical area occupied by the species, on which are found those physical and biological features essential to the conservation of the species and which may require special management considerations or protections (ESA section 3(5)(A)(i)). Critical habitat shall not include the entire geographical area occupied by the species unless failure to designate such areas would result in the extinction of the species.[4]...

6

[Federal Register Volume 63, Number 83 (Thursday, April 30, 1998)]
[Proposed Rules]
[Pages 23710-23711]
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]
[FR Doc No: 98-11427]
DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
50 CFR Part 226

Figure 5.

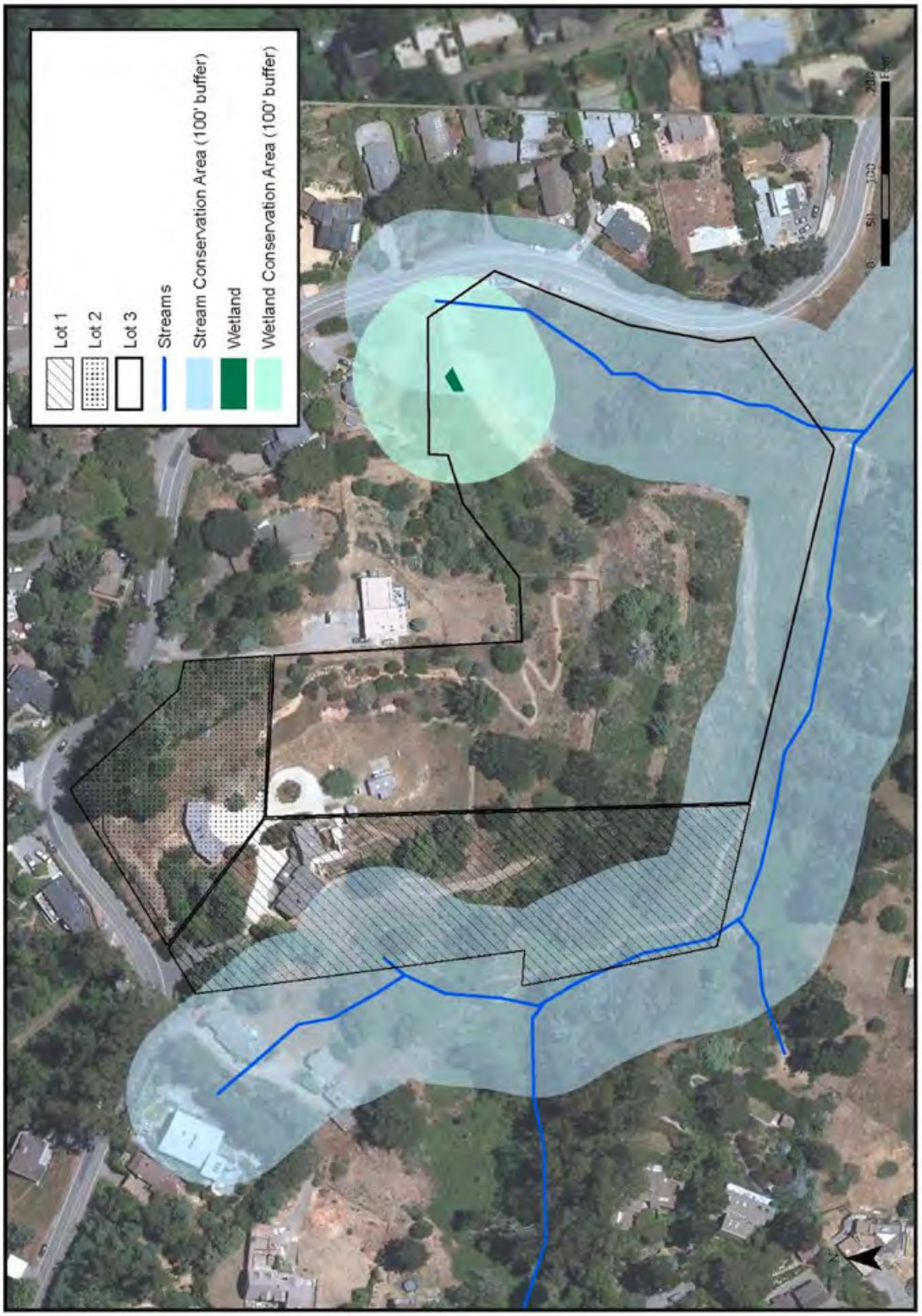
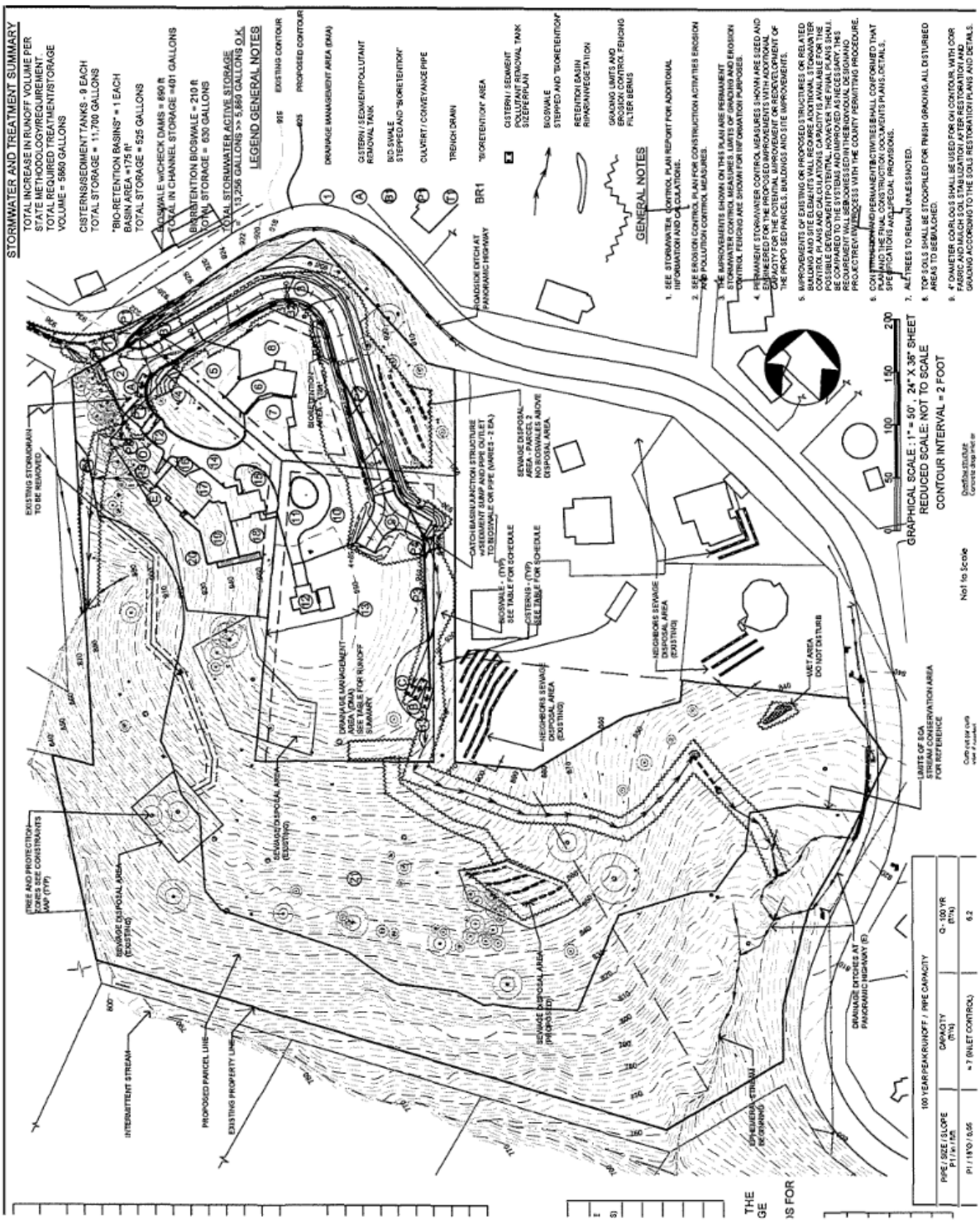


Figure 6. Wetlands Road Encroachment AR 00887, 04436

7

Figure 7. Landslides

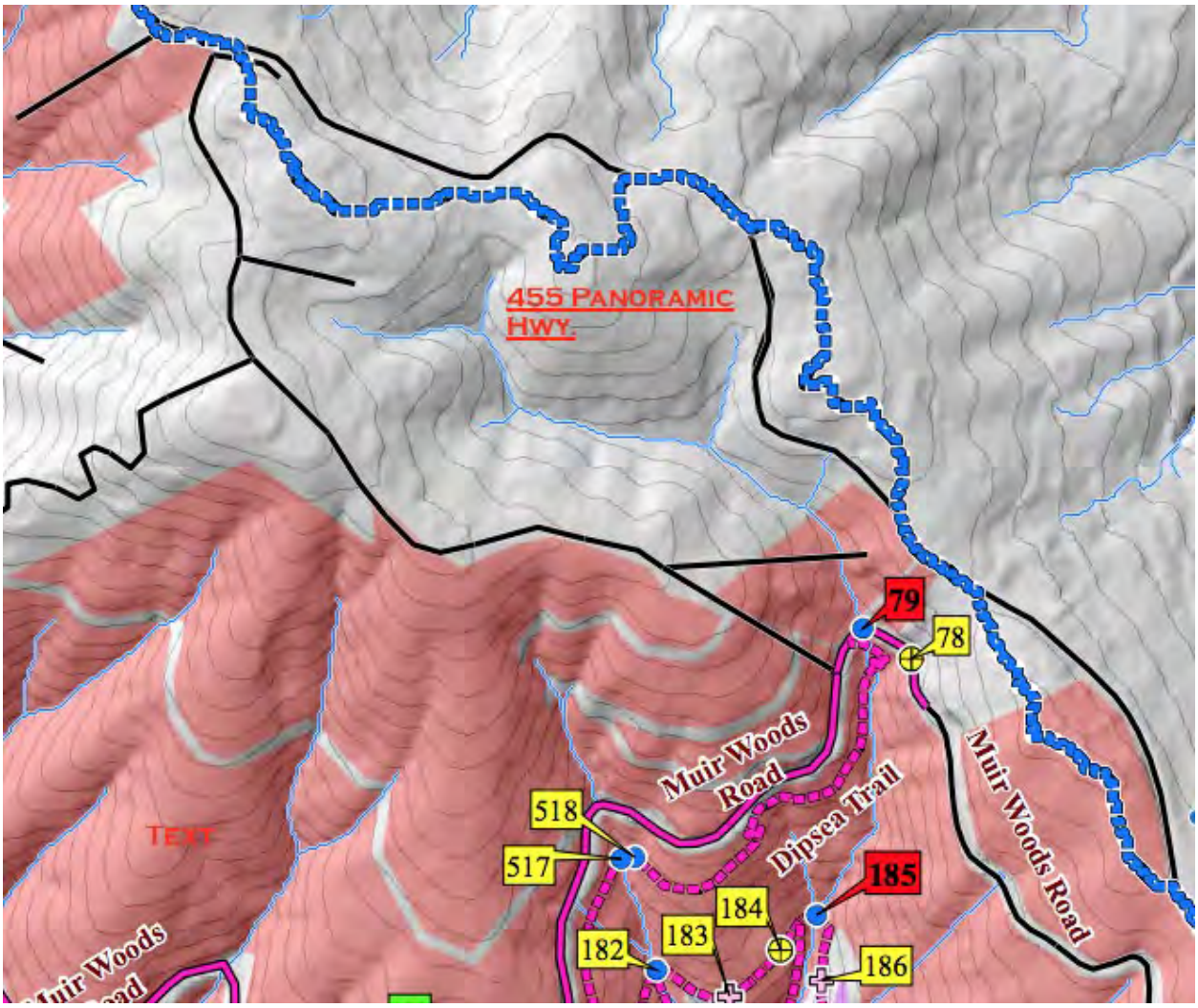
8



Conceptual Stormwater Plan

Figure 8. Notes: Submitted May 1, 2018, Herzog Geotechnical Engineering. First boring is on Fire Road above Herzog text/ Registered sloughing and instability.

8 cont.



Pacific Watershed Associates **AR 04092, 04448**
Golden Gate National Recreation Area
Redwood Creek Watershed, Muir Woods
Road and Trail Re-evaluation and Assessment
Marin County, California
Report No. 171024403
August 2017

Page 20, Moderately High impact to Sediment Delivery is at the road crossing just below the Weissman Property. # 78,79.

Figure 10.

9

Figure 10. Culvert Installation on 3/24/2014 - Size and proper installation BMPs unknown. Source of fill dirt unknown. AR 00950

10

Appendix A. Fish and Stream Aquatic Assemblages

While juvenile coho and steelhead are likely to be the most frequently captured aquatic species, there are several others that may be encountered. Because salmonid surveys will likely be the primary long-term stream fish monitoring program supported by the parks, collected data will be important for not only documenting the status and trends of juvenile salmonids, but other species as well. Equal care in field sampling and consistency in identification is required.

Common name	Scientific name	Life stage	Code
Coho salmon	*Oncorhynchus kisutch*	young of year	CO
Steelhead/Rainbow trout	*Oncorhynchus mykiss*	young of year	SH
Unknown salmonid			Salmonid
Sculpin spp.	*Cottus spp.*		SCU
Prickly sculpin	*Cottus asper*		PS
Coastrange sculpin	*Cottus aleuticus*		CRS
Riffle sculpin**	*Cottus gulosus*		RS
Pacific staghorn sculpin	*Leptocottus armatus*		PSS
Threespine stickleback	*Gasterosteus aculeatus*		STK
California roach	*Hesperoleucus symmetricus*		RO
Sacramento sucker	*Catostomus occidentalis*		SUC
*Golden Shiner	*Notemigonus crysoleucas*		
Lamprey spp.	*Lampetra spp.*	ammocete	LAM
Pacific lamprey	*Lampetra tridentata*	smolt/adult	PL
Pacific brook lamprey	*Lampetra pacifica*	adult	PBL
River lamprey	*Lampetra ayresi*	adult	RL
*Green sunfish	*Lepomis cyanellus*		GSF
Other Aquatic Vertebrates			
California giant salamander	*Dicamptodon ensatus*	larva	CGS
California newt	*Taricha torosa*	adult	CAN
Rough-skinned newt	*Taricha granulosa*	adult	RSN
California red-legged frog	*Rana aurora draytonii*	adult	RLF
*Bullfrog	*Rana catesbeiana*	adult	BF
Foothill yellow-legged frog	*Rana boylii*		YLF
Pacific treefrog	*Hyla regilla*	adult	PTF
Western pond turtle	*Clemmys marmorata*		WPT
*Red-eared slider	*Pseudemys scripta elegans*		RES
Invertebrates			
California freshwater shrimp	*Syncaris pacifica*		CFS
*Signal crayfish	*Pacifastacus leniusculus*		Cray
*Swamp crayfish	*Procambarus clarkii*		SWC

*non-native

11

Figure 11

Letter 18. Judy Schreibman, with attached letter from Preston Brown

18-1 This comment does not address the IS/MND Amendment nor the environmental analysis.

18-2 This comment includes the Curriculum Vitae for Preston Brown. While other commenters refer to Mr. Brown as a "Fisheries Biologist" and he describes himself in his CV as previously holding a position as a "Watershed Biologist," we note that he does not hold a degree in biology, and therefore is not a qualified expert in the biology of salmonids. The Biological Resources section of the IS/MND (Section IV.4), as well as Master Response 2 in the Response to Comments on the IS/MND, which addresses potential Impacts of the Project on Redwood Creek Watershed Biological Resources, were prepared by qualified biologists holding Masters degrees in Biology and various biological certifications. Please see resumés for Jennifer Michaud and Joan Schwan in Appendix A.

18-3 Regarding surplus fill, please see Master Response 1. Regarding fire road stability, hydrostatic pressure, depth to groundwater, and historic landslides, please see Master Response 2. Regarding stormwater runoff, please see Master Response 3.

Regarding the violation of regulations and potential impacts to water resources related to grading and the placement of fill associated with the Fire Road, please see Section IV.4, Biological Resources and Section IV.10, Hydrology and Water Quality in the IS/MND; Response to Comments on the IS/MND, Master Responses 2, 3, and 4; and responses to comments received during the appeal process.[27] The Initial Study's conclusion of a less-than-significant impact remains the same and the concerns raised by the commenter, as well as the information provided as part of comments submitted on the IS/MND Amendment, do not represent substantial evidence supporting a fair argument that the placement of fill during construction of the Fire Road resulted in a significant impact. The commenter presents no factual information to support assertions of impacts occurring.

Regarding the commenter's contention that the Project could allow for the construction of up to 12 homes on the Project site, the Court Order concluded that impacts related to this level of development are speculative. As such, the concerns expressed related to vehicle trips associated with 12 homes and the

[27] Hudson, Peter, and Justin Taplin, 2020. Letter from Peter Hudson and Justin Taplin, Sutro Science, to Dan Sicular, Sicular Environmental Consulting, re: Technical Review of Lotic Environmental Services Technical Memorandum Submitted in Support of Appeal of Planning Commission Decision on 7/27/20: Dipsea Ranch Land Division Initial Study, Marin County, California. October 5, 2020.

potential release of pollutants from tires are also speculative and not supported by substantial evidence.

Regarding concerns Acting GGNRA Superintendent Craig Kenkel expressed on May 6, 2017, the referenced letter addressed an earlier version of the Project that was subsequently modified, and predates the current version of the Project, including the design of the proposed stormwater management system. The IS/MND thoroughly examines potential impacts of the current version of the Project on sensitive biological resources downstream (IS/MND, Section IV.4, Biological Resources) and on surface water flows, hydromodification, and water quality (Section IV.10, Hydrology and Water Quality) and finds, based on substantial evidence, that the Project would have a less than significant impact.

Regarding the NMFS Recovery Plan, please see Response to Comments on the IS/MND, Master Response 8. As described in detail in Master Response 8, the proposed stormwater system is designed to meet or exceed the minimum standards required by and to be consistent with the goals and policies of State and federal water quality requirements, the Countywide Plan, Marin County Zoning, Marin County Development Code, the Tamalpais Area Community Plan, the Redwood Creek Watershed Assessment and "Vision for the Future," and the NMFS Recovery Plan proposed for the steelhead and Coho salmon of Redwood Creek (see IS/MND, page 111).

18-4 This graph is referred to in the text of comment 18-3. Please see the response to that comment.

18-5 Figure 2, is referred to in the text of comment 18-3. Please see the response to that comment. There is no reference to Figure 3 or Figure 4, and no caption explaining their relevance.

18-6 The definition of critical habitat from the federal Register included in this comment is referred to in the text of comment 18-3. Please see the response to that comment.

18-7 This figure is referred to in the text of comment 18-3. Please see the response to that comment.

18-8 This figure is referred to in the text of comment 18-3. Please see the response to that comment.

18-9 These figures are referred to in the text of comment 18-3. Please see the response to that comment. The figure identifying high potential for sediment delivery from the Pacific Watershed Associates survey does not identify the areas proposed for development within the Project site as being at high risk.

18-10 This figure is referred to in the text of comment 18-3. Please see the response to that comment.

Letter 19

From: Kutter, Rhonda
To: Hall, Chelsea
Subject: FW: Panoramic project
Date: Tuesday, July 19, 2022 12:46:42 PM

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susan letteer <sletteer@sbcglobal.net>
Sent: Wednesday, July 13, 2022 3:32 PM
To: Rodoni, Dennis <DRodoni@marincounty.org>
Cc: Connolly, Damon <DConnolly@marincounty.org>
Subject: Panoramic project

To: Dennis Rodini

From: Diana Williams

Re: Weissman Project

Those of us who are concerned about the Weissman Project at 455 Panoramic Highway ask you to address the following issue:

Issue 1: Failure to analyze the illegally modified Fire Road

Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road." 1

Issue 2: Failure to analyze project drainage through critical habitat (WCA - wetland conservation area)

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks. 2

Issue 3: Failure to explain where excess fill will be deposited

With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek. 3

Please take our concerns seriously –

The fill issue is certain to be a problem, and harming the wetland habitat a tragedy that cannot be remedied,

3
cont.

Susan Letteer
MV resident of 30 years.

Letter 19. Susan Letteer

19-1 Please see Master Response 2.

19-2 Please see Master Response 3.

19-3 Please see Master Response 1.

Letter 20

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: Dipsea ranch development project
Date: Wednesday, July 13, 2022 12:06:14 PM

FYI:

From: Rebecca Heitz <rebeccadheitz@gmail.com>
Sent: Wednesday, July 13, 2022 12:02 PM
To: Rodoni, Dennis <DRodoni@marincounty.org>; Moulton-Peters, Stephanie <smoultonpeters@marincounty.org>; Taylor, Tammy <TTaylor@marincounty.org>
Subject: Dipsea ranch development project

Hello,

Those of us who are concerned about the Weissman Project at 455 Panoramic Highway ask you to address the following issue:

Issue 1: Failure to analyze the illegally modified Fire Road

Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road."

1

Issue 2: Failure to analyze project drainage through critical habitat (WCA - wetland conservation area)

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing

2

environmental damage, orrequiring any constructed storm water drainage controls within stream and wetland setbacks.

2 cont.

Issue 3: Failure to explain where excess fill will be deposited

With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek.

3

Please take our concerns seriously, thank you,

Rebecca Heitz

12 Somerset Lane

Letter 20. Rebecca Heitz

20-1 Please see Master Response 2.

20-2 Please see Master Response 3.

20-3 Please see Master Response 1.

Letter 21

Lee and Jim Budish
508 Browning Court
Mill Valley, CA. 94941
budishlee@gmail.com

July 13, 2022 Transmitted Via Email

Dennis Rodoni, District 4 Supervisor
Stephanie Moulton-Peters, District 3 Supervisor Katie
Rice, District 2 Supervisor
Damon Connolly, District 1 Supervisor
Judy Arnold, District 5 Supervisor
Tom Lai, Community Development Agency Director
Jeremy Tejirian, Planning Manager
Tammy Taylor, Project Planner
3501 Civic Center Drive
San Rafael, CA 94903

Re: Weissman Dipsea Land Division – P 1589

Gentlepeople,

On Monday, January 10, 2021, Marin County Judge Sweet found that the County's Initial Study and Mitigated Negative Declaration (IS/MND) failed to provide required information under the California Environmental Quality Act (CEQA) regarding the proposed development.

Those of us who are concerned about the Weissman Project at 455 Panoramic are asking that that the outstanding issues regarding the project are addressed by County Officials in response to Judge Sweet's rulings: 1

1. **A requirement for the construction of a fire road in accordance with Marin County and California State Guidelines in a WUI.**

Concerning the County's statements on the "fire road," the amended MND fails to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. It is our understanding that the minimum weight for a fire truck is 50,000 tons and a 16' wide requirement in a WUI. Will the fire road be retrofitted to accommodate the hillside for the possibility of earthquakes and where will water flow from the fire road? If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and result in risk to lives and property. 2

Therefore, we ask that the County also review the requirements in the attached Senate Bill 12 by Mark McGuire, currently under review. Where it states,

(g) (1) A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also

address evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

2 cont.

2. A requirement for a detailed study of project drainage through critical habitat (WCA - wetland conservation area) including drainage calculations in accordance with ridge and hillside development

Concerning the proposed drainage of the future development, if the County claims no engineered constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage or requiring any constructed storm water drainage controls within stream and wetland setbacks and a report on drainage calculations. We have recently seen extensive slide damage in California as a result of erosion – this issue goes much further as to the fact that the slides will impact the streams and wetlands which could result in irreparable harm to the environment for generations to come.

3

3. Landfill removal

We ask for a detailed analysis on where the land fill will be dumped. Will it be dispersed on-site, to then make its way into Redwood Creek? Will the run-off flow into Redwood Creek and harm the endangered species in the Creek and will the run-off find its way to harm the eco-system along the way in which the run-off flows? How far will the run-off reach and where will it end up since we all know water moves and has far reaching impact above and below ground? What will be the environmental damage in the long term?

4

The land proposed for development is a once in a lifetime opportunity – once done it cannot be undone and if not done without the proper requirements under CEQA much will be lost to the community in terms of public safety, wildlife and sadly it will result in permanent environmental damage for generations to come.

The only proper way to go forward is with a FULL and COMPLETE Environmental Impact Report under CEQA to address in detail Judge Sweet's findings in his ruling of January 2021.

5

Respectfully,

Lee and Jim Budish

Attachment: Bill Text/CA SB12, 2021-2022

Bill Text: CA SB12 | 2021-2022 | Regular Session | Amended
California Senate Bill 12

Bill Title: Local government: planning and zoning: wildfires.

Spectrum: Partisan Bill (Democrat 5-0)

Status: *(Engrossed)* 2022-06-15 - June 15 set for first hearing canceled at the request of author. [SB12 Detail]

Download: California-2021-SB12-Amended.html

AMENDED IN ASSEMBLY JUNE 06, 2022
AMENDED IN ASSEMBLY MAY 24, 2022
AMENDED IN ASSEMBLY JULY 01, 2021
AMENDED IN SENATE MAY 04, 2021

CALIFORNIA LEGISLATURE— 2021–2022 REGULAR SESSION

SENATE BILL NO. 12

Introduced by Senators McGuire and Stern
(Coauthors: Senators Atkins, Caballero, and Dodd)

December 07, 2020

An act to amend Sections 65007, 65302, 65584, 65584.04, and 65584.06 of, and to add Sections 65011, 65012, 65013, 65040.18, 65302.11, 65860.2, 65865.6, 65962.3, and 66474.03 to, the Government Code, to amend Section 13132.7 of the Health and Safety Code, to amend Section 4290 of, and to add Section 4123.6 to, the Public Resources Code, and to add Chapter 10 (commencing with Section 550) to Division 1 of the Water Code, relating to local government.

LEGISLATIVE COUNSEL'S DIGEST

SB 12, as amended, McGuire. Local government: planning and zoning: wildfires.

(1) The Planning and Zoning Law requires the legislative body of a city or county to adopt a comprehensive, long-term general plan that includes various elements, including, among others, a housing element and a safety element for the protection of the community from unreasonable risks associated with the effects of various geologic and seismic hazards, flooding, and wildland and urban fires. Existing law requires the housing element to be revised according to a specific schedule. Existing law requires the planning agency to review and, if necessary, revise the safety element upon each revision of the housing element or local hazard mitigation plan, but not less than once every 8 years to identify new information relating to flood and fire hazards and climate adaptation and resiliency strategies applicable to the city or county that was not available during the previous revision of the safety element.

Existing law requires that the Office of Planning and Research, among other things, coordinate with appropriate entities, including

6 cont.

state, regional, or local agencies, to establish a clearinghouse for climate adaptation information for use by state, regional, and local entities, as provided.

This bill would require the safety element, upon the next revision of the housing element or the hazard mitigation plan, on or after July 1, 2024, whichever occurs first, to be reviewed and updated as necessary to include a comprehensive retrofit strategy to reduce the risk of property loss and damage during wildfires, as specified, and would require the planning agency to submit the adopted strategy to the Office of Planning and Research for inclusion into the above-described clearinghouse. The bill would also require the planning agency to review and, if necessary, revise the safety element upon each revision of the housing element or local hazard mitigation plan, but not less than once every 8 years, to identify new information relating to retrofit updates applicable to the city or county that was not available during the previous revision of the safety element. By increasing the duties of local officials, this bill would create a state-mandated local program.

(2) Existing law requires the general plan to include a land use element that designates the proposed general distribution and general location and extent of the uses of the land for, among other purposes, housing, business, and industry. Existing law additionally requires the general plan to include a housing element and requires each local government to review and revise its housing element, as specified.

This bill would require a city or county that contains residential structures in a very high fire risk area, as defined, upon each revision of the housing element on or after July 1, 2024, to amend the land use element of its general plan to contain, among other things, the locations of all very high fire risk areas within the city or county and feasible implementation measures designed to carry out specified goals, objectives, and policies relating to the protection of lives and property from unreasonable risk of wildfire. The bill would require the city or county to complete a review of, and make findings related to, wildfire risk reduction standards, as defined, upon each subsequent revision of the housing element, as provided. The bill would require the State Board of Forestry and Fire Protection to review the findings and make recommendations, as provided.

The bill would additionally require the Office of the State Fire Marshal, in consultation with the Office of Planning and Research and the State Board of Forestry and Fire Protection, by January 1, 2023, to adopt wildfire risk reduction standards for residential developments, as defined, in a very high fire risk area that meet certain requirements and reasonable standards for third-party inspection and certifications for a specified enforcement program. The bill would also require the Office of the State Fire Marshal to, by January 1, 2024, update the maps of the very high fire hazard severity zones, as specified. The bill would require the Office of the State Fire Marshal to convene a working group of stakeholders, as specified, to assist in this effort and to consider specified national standards.

Existing law requires county or city zoning ordinances to be consistent with the general plan of the county or city, as specified.

This bill would require a city or county that contains a very high fire risk area, within 12 months following the amendment of the city or county's land use element, to adopt a very high fire risk overlay zone or otherwise amend its zoning ordinance so that it is consistent with the general plan, as specified.

This bill would additionally prohibit the legislative body of a city or county that contains a very high fire risk area, upon the effective date of the revision of the city or county's land use element, from entering into a development agreement for a residential development that is located within a very high fire risk area, approving specified discretionary permits or other discretionary entitlements for projects located within a very high fire risk area, or approving a tentative map or a parcel map for which a tentative map was not required for a subdivision that is located within a very high fire risk area, unless the city or county makes specified findings based on substantial evidence in the record.

By increasing the duties of local officials, this bill would impose a state-mandated local program.

(3) Existing law requires the Department of Housing and Community Development, in consultation with each council of governments, to determine each region's existing and projected housing need, as provided. Existing law requires each council of governments, or the department for cities and counties without a council of governments, to adopt a final regional housing need plan that allocates a share of the regional housing need to each city, county, or city and county and that furthers specified objectives.

This bill would require the regional housing needs allocation plan to additionally further the objective of reducing residential development pressure within very high fire risk areas.

(4) Existing law requires the council of governments, or delegate subregion, as applicable, to develop a proposed methodology for distributing the existing and projected regional housing need and, to the extent that sufficient data is available as provided, to include specified factors to develop the methodology that allocates regional housing needs, including, among other factors, the rate of overcrowding.

This bill would additionally require the council of governments, or delegate subregion, as applicable, to include within those factors for the seventh and subsequent revisions of the housing element, the amount of land in each member jurisdiction that is within a very high fire risk area by allocating a lower proportion of housing if the council of governments or delegate subregion determines, based on specified factors, that it is likely that the jurisdiction would otherwise need to identify lands within a very high fire risk area as adequate sites in order to meet its housing need allocation.

6 cont.

For cities and counties without a council of governments, existing law requires the Department of Housing and Community Development to determine and distribute the existing and projected housing need, unless that responsibility is delegated as provided to cities and counties, based upon available data and in consultation with the cities and counties, taking into consideration, among other things, the availability of suitable sites and public facilities.

This bill would also require the department, for the seventh and subsequent revisions of the housing element, to take into consideration the amount of land in each city and each county that is within a very high fire risk area, as defined, by allocating a lower proportion of housing if the department determines, based on specified factors, that it is likely that the jurisdiction would otherwise need to identify lands within a very high fire risk area as adequate sites in order to meet its housing need allocation.

By increasing the duties of local officials, this bill would impose a state-mandated local program.

(5) Existing law requires the Office of Planning and Research to implement various long-range planning and research policies and goals that are intended to, among other things, encourage the formation and proper functioning of local entities and, in connection with those responsibilities, to adopt guidelines for the preparation and content of the mandatory elements required in city and county general plans.

This bill would require the Office of Planning and Research, on or before January 1, 2023, in collaboration with cities and counties, to identify local ordinances, policies, and best practices relating to land use planning in very high fire risk areas, wildfire risk reduction, and wildfire preparedness and publish these resources on the above-described clearinghouse, as specified.

(6) Existing law requires, until the 2023–24 fiscal year, the amount of $165,000,000 to be appropriated from the Greenhouse Gas Reduction Fund to the Department of Forestry and Fire Protection for healthy forest and fire prevention programs and projects that improve forest health and reduce greenhouse gas emissions caused by uncontrolled wildfires.

This bill would establish the Wildfire Risk Reduction Planning Support Grants Program, administered by the Department of Forestry and Fire Protection, for the purpose of providing small jurisdictions, as defined, containing very high fire hazard risk areas with grants for specified planning activities to enable those jurisdictions to meet the requirements set forth in the bill, as described above. Upon appropriation, the bill would require the department to distribute grant funds under the program via a noncompetitive, over-the-counter process, as provided, to small jurisdictions. The bill would require a recipient small jurisdiction to use the allocation solely for wildfire risk reduction planning activities, as specified. The bill would authorize the department to set aside up to 5% of any amount appropriated for these purposes for program administration.

(7) Existing law requires the State Board of Forestry and Fire Protection to adopt regulations implementing minimum fire safety standards that are applicable to lands classified and designated as very high fire hazard severity zones, and requires the regulations to apply to the perimeters and access to all residential, commercial, and industrial building construction within lands classified and designated as very high fire hazard severity zones, as defined, after July 1, 2021.

This bill would specify that the above-described regulations apply to the perimeters and access to all residential, commercial, and industrial building construction within lands classified and designated as very high fire hazard severity zones. The bill would also require the regulations to conform as nearly as practicable with specified existing regulations adopted by the State Fire Marshal.

(8) Existing law requires a common interest development within a very high fire severity zone to allow an owner to install or repair a roof with at least one type of fire retardant roof covering material that meets specified requirements.

This bill would require the one type of fire retardant roof covering material to additionally meet, at a minimum, class B standards, as specified in the International Building Code.

(9) Existing law requires the State Fire Marshal to classify lands within state responsibility areas into fire hazard severity zones and to identify areas in the state as very high fire hazard severity zones based on consistent statewide criteria and based on the severity of fire hazard that is expected to prevail in those areas. Existing law also requires each city, county, city and county, and district responsible for fire protection within an identified very high fire hazard severity zone to designate, by ordinance, very high fire hazard severity zones in its jurisdiction.

Existing law requires the State Fire Marshal, in consultation with the Director of Forestry and Fire Protection and the Director of Housing and Community Development, to propose fire protection building standards for roofs, exterior walls, structure projections, and structure openings of buildings located in those very high fire hazard severity zones, as specified.

This bill would require, on and after January 1, 2023, a water district, city, county, city and county, or water corporation that provides drinking water, wastewater, or recycled water, for water infrastructure projects that meet specified conditions, to use only heat-resilient water conveyance infrastructure components, as defined, in those areas designated as very high fire hazard severity zones.

By placing additional duties upon local public entities, the bill would impose a state-mandated local program.

(10) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

6 cont.

This bill would provide that with regard to certain mandates no reimbursement is required by this act for a specified reason.

With regard to any other mandates, this bill would provide that, if the Commission on State Mandates determines that the bill contains costs so mandated by the state, reimbursement for those costs shall be made pursuant to the statutory provisions noted above.

Digest Key

Vote: majority Appropriation: no Fiscal Committee: yes Local Program: yes

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Bill Text

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. Section 65007 of the Government Code is amended to read:

65007. As used in Sections 65302.9, 65860.1, 65865.5, 65962, and 66474.5, the following terms have the following meanings, unless the context requires otherwise:

(a) “Adequate progress” means all of the following:

(1) The total project scope, schedule, and cost of the completed flood protection system have been developed to meet the appropriate standard of protection.

(2) (A) Revenues that are sufficient to fund each year of the project schedule developed in paragraph (1) have been identified and, in any given year and consistent with that schedule, at least 90 percent of the revenues scheduled to be received by that year have been appropriated and are currently being expended.

(B) Notwithstanding subparagraph (A), for any year in which state funding is not appropriated consistent with an agreement between a state agency and a local flood management agency, the Central Valley Flood Protection Board may find that the local flood management agency is making adequate progress in working toward the completion of the flood protection system.

(3) Critical features of the flood protection system are under construction, and each critical feature is progressing as indicated by the actual expenditure of the construction budget funds.

(4) The city or county has not been responsible for a significant delay in the completion of the system.

(5) The local flood management agency shall provide the Department of Water Resources and the Central Valley Flood Protection Board with the information specified in this subdivision sufficient to determine substantial completion of the required flood protection. The local flood management agency shall annually report to the Central Valley Flood Protection Board on the efforts in working toward completion of the flood protection system.

(b) “Central Valley Flood Protection Plan” has the same meaning as that set forth in Section 9612 of the Water Code.

(c) “Developed area” has the same meaning as that set forth in Section 59.1 of Title 44 of the Code of Federal Regulations.

(d) “Flood hazard zone” means an area subject to flooding that is delineated as either a special hazard area or an area of moderate hazard on an official flood insurance rate map issued by the Federal Emergency Management Agency (FEMA). The identification of flood hazard zones does not imply that areas outside the flood hazard zones, or uses permitted within flood hazard zones, will be free from flooding or flood damage.

(e) “National Federal Emergency Management Agency standard of flood protection” means the level of flood protection that is necessary to withstand flooding that has a 1-in-100 chance of occurring in any given year using criteria developed by FEMA for application in the National Flood Insurance Program.

(f) “Nonurbanized area” means a developed area or an area outside a developed area in which there are fewer than 10,000 residents that is not an urbanizing area.

(g) “Project levee” means any levee that is part of the facilities of the State Plan of Flood Control.

(h) “Sacramento-San Joaquin Valley” means lands in the bed or along or near the banks of the Sacramento River or San Joaquin River, or their tributaries or connected therewith, or upon any land adjacent thereto, or within the overflow basins thereof, or upon land susceptible to overflow therefrom. The Sacramento-San Joaquin Valley does not include lands lying within the Tulare Lake basin, including the Kings River.

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(i) “State Plan of Flood Control” has the same meaning as that set forth in subdivision (j) of Section 5096.805 of the Public Resources Code.

(j) “Tulare Lake basin” means the Tulare Lake Hydrologic Region as defined in the California Water Plan Update 2009, prepared by the Department of Water Resources pursuant to Chapter 1 (commencing with Section 10004) of Part 1.5 of Division 6 of the Water Code.

(k) “Undetermined risk area” means an urban or urbanizing area within a moderate flood hazard zone, as delineated on an official flood insurance rate map issued by FEMA, which has not been determined to have an urban level of protection.

(l) “Urban area” means a developed area in which there are 10,000 residents or more.

(m) “Urbanizing area” means a developed area or an area outside a developed area that is planned or anticipated to have 10,000 residents or more within the next 10 years.

(n) “Urban level of flood protection” means the level of protection that is necessary to withstand flooding that has a 1-in-200 chance of occurring in any given year using criteria consistent with, or developed by, the Department of Water Resources. “Urban level of flood protection” shall not mean shallow flooding or flooding from local drainage that meets the criteria of the national FEMA standard of flood protection.

(o) “Very high fire risk area” has the same meaning as defined in Section 65011.

SEC. 2. Section 65011 is added to the Government Code, to read:

65011. For the purposes of Sections 65012, 65013, 65302, 65302.11, 65860.2, 65865.6, 65962.3, and 66474.03, unless the context requires otherwise, the following terms have the following meanings:

(a) “Adequate progress” means the city or county is taking concrete steps reasonably calculated to achieve funding and implementation of the applicable standard with the timeframe specified in subdivision (b) of Section 65012.

(b) “Residential development” means a development that includes at least one residential dwelling unit.

(c) “Very high fire risk area” means any lands located within a very high fire hazard severity zone, as indicated on maps adopted by the Department of Forestry and Fire Protection pursuant to Section 4202 of the Public Resources Code or as designated pursuant to subdivisions (a) and (b) of Section 51179.

SEC. 3. Section 65012 is added to the Government Code, to read:

65012. (a) For the purposes of Sections 65302.11, 65860.2, 65865.6, 65962.3, and 66474.03, “wildfire risk reduction standard” means the following:

(1) For a residential development of any size:

(A) The regulations adopted by the State Board of Forestry and Fire Protection, the State Fire Marshal, and the California Building Standards Commission regarding defensible space, vegetation management, fuel modification, and materials and construction methods for exterior wildfire exposure, including, but not limited to, all of the following, or the successor provisions:

(i) Chapter 7A of the California Building Code.

(ii) Chapter 49 of the California Fire Code.

(iii) Section R337 of the California Residential Code.

(iv) Chapter 12-7A of the California Referenced Standards Code.

(v) Subchapter 2 (commencing with Section 1270) of Chapter 7 of Division 1.5 of Title 14 of the California Code of Regulations.

(vi) Article 3 (commencing with Section 1299.01) of Subchapter 3 of Chapter 7 of Division 1.5 of Title 14 of the California Code of Regulations.

(B) A wildland fire hazard assessment and wildfire hazard mitigation plan approved by the enforcing agency in accordance with standards adopted by the State Fire Marshal pursuant to Section 65013.

(C) An enforcement program established, funded, and implemented to verify ongoing compliance of the defensible space, vegetation management, and fuel modification requirements of the regulations described in subparagraph (A), and with any continuing obligations imposed under a fire protection plan or wildfire hazard mitigation plan established for the project. The enforcing agency may charge a fee sufficient to cover the costs of administering the program and providing any inspections conducted by the enforcing agency. The program shall ensure that compliance is documented for each affected property or structure at least once every three years.

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Acceptable methods of compliance inspection and documentation shall be determined by the enforcing agency and may include any of the following:

(i) The local, state, or federal fire authority or designee authorized to enforce vegetation management requirements.

(ii) The enforcing agency.

(iii) Third-party inspection and certification authorized in accordance with the regulations adopted by the State Fire Marshal pursuant to Section 65013.

(D) The regulations relating to the organization and deployment of fire suppression operations, fire protection infrastructure, water supplies for fire fighting, and reducing ignition hazards from wildland fire adopted by the State Fire Marshal pursuant to Section 65013.

(2) For a residential development of nine or more residential units:

(A) All of the standards set forth in paragraph (1).

(B) A fire protection plan setting forth reasonable site-specific safety measures to ensure that the development as a whole is planned and constructed to resist the encroachment of uncontrolled fire. The fire protection plan may be combined with the wildfire hazard mitigation plan prepared for the development in accordance with subparagraph (B) of paragraph (1). The plan shall include, but not be limited to, all of the following:

(i) A development layout that reduces wildfire risk to the greatest extent practicable, through measures that may include, but are not limited to, clustering of structures in the lowest risk areas on the property, while still requiring all structures to be separated by a safe distance to avoid the spread of fires from structure to structure, the use of natural and manmade features as fire breaks, and the establishment of community protection fire breaks on the perimeter of the property.

(ii) Identification of a low-risk fire safety area where community members can evacuate to and wait until emergency service providers can reach them.

(iii) Mechanisms, including funding, to maintain common areas and open spaces within the development so that ground fuels do not promote the spread of wildfire and aerial fuels do not allow the spread of a fire through the tree canopy.

(C) A condition on the development that all parcels within the development containing residential structures are subject to an ongoing, permanent fee, tax, or assessment, an assessment through a homeowners' association, or a similar funding mechanism sufficient to ensure that defensible space and vegetation management maintenance is funded and occurs on a schedule so as to comply with subparagraph (C) of paragraph (1), and other requirements for maintaining defensible space and vegetation management under law, including, but not limited to, Section 4291 of the Public Resources Code.

(D) The development shall not be approved unless the city or county finds, based on substantial evidence in the record, that the development can be reasonably accessed and served in the case of a wildfire, with adequate ingress and egress, including, but not limited to, primary and secondary routes and capacity for evacuation and emergency response at the same time.

(3) For any residential development subject to this subdivision that includes 100 or more residential dwelling units:

(A) All of the standards set forth in paragraphs (1) and (2).

(B) Additional wildfire risk reduction standards adopted by the State Fire Marshal pursuant to clause (ii) of subparagraph (A) of paragraph (1) of subdivision (a) of Section 65013, or conditions imposed by the city or county that provide the same practical effect as the standards and are at least the equivalent of the standards in reducing the risk to life and property from catastrophic wildfire.

(b) For a period of five years following adoption of the zoning ordinance amendment pursuant to Section 65860.2, a residential development shall be deemed in compliance with the wildfire risk reduction standards set forth in subparagraphs (C) and (D) of paragraph (1) of subdivision (a) if the city or county finds, based on substantial evidence in the record, that the responsible state and local agencies have made adequate progress toward providing protection from wildfire risk to the level set forth in those standards, or wildfire protection standards adopted by the city or county that meet or exceed those standards.

(c) Nothing in this section shall be construed to limit the existing authority of the State Fire Marshal or any other public agency under any other law from adopting standards that are more protective of life and property from the risk of wildfire.

SEC. 4. Section 65013 is added to the Government Code, to read:

65013. (a) By January 1, 2023, the Office of the State Fire Marshal, in consultation with the Office of Planning and Research and the State Board of Forestry and Fire Protection, shall do all of the following:

(1) Adopt wildfire risk reduction standards for residential developments in a very high fire risk area that meet all of the following requirements:

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(A) (i) Account for differences in the size of proposed developments, consistent with the categories set forth in Section 65012.

(ii) When adopting standards for developments that include 100 or more residential dwelling units, the Office of the State Fire Marshal shall incorporate all applicable recommendations included in the Office of Planning and Research's 2015 publication of "Fire Hazard Planning–General Plan Technical Advice Series."

(B) Include standards for organization and development of fire suppression operations, fire protection infrastructure, water supplies ~~for~~ *sufficient to aid in* fire fighting, and reducing structure ignition hazards from wildland fire.

(C) Include any additional requirements for fire hardening or similar building standards applicable to structures located in areas without a secondary egress route that are identified in accordance with subdivision (a) of Section 4290.5 of the Public Resources Code.

(D) Establish community-scale risk reduction measures, including, but not limited to, both of the following:

(i) Community design and layout.

(ii) Location and construction of infrastructure to reduce ignition potential and ensure availability of water supplies ~~essential for~~ *sufficient to aid in* fire suppression during a wildfire.

(E) Are designed to reduce the risk of catastrophic loss due to wildfire based upon a risk model that uses current wildfire hazard severity information known for the very high fire risk areas. The Office of the State Fire Marshal shall utilize a risk model that meets both of the following requirements:

(i) The risk model is able to quantify the risk for a community or parcel in a very high fire risk area through the input of mitigating factors into the model.

(ii) The model uses the best available science and objective scientific methodologies.

(F) Are directly applicable to, and account for, California's climate, weather, topography, and development patterns.

(2) Adopt standards for third-party inspection and certification conducted pursuant to subparagraph (C) of paragraph (1) of subdivision (a) of Section 65012.

(b) (1) By January 1, 2024, the Office of the State Fire Marshal shall update the maps of the very high fire hazard severity zones pursuant to Section 51178.

(2) In updating the maps pursuant to subparagraph (A), the State Fire Marshal shall identify areas within very high fire hazard severity zones where new residential development poses exceptional risk to future occupants of the development and to fire personnel and other public safety personnel that must access the development during a wildfire.

(c) Standards adopted pursuant to this section, regulations and rules of general applicability adopted pursuant to Section 65012, and regulations and rules of general applicability adopted by state or local agencies as necessary to implement those standards, shall be reasonable, and shall be feasible and achievable for the majority of developments in each category set forth in subdivision (a) of Section 65012.

(d) In developing the standards required by this section, the Office of the State Fire Marshal shall do both of the following:

(1) Convene a working group of stakeholders, including representatives of urban, suburban, and rural counties and cities to assist in this effort.

(2) Consider national standards, including, but not limited to, the ~~following:~~ *following or their successors:*

(A) The ICC International Wildland-Urban Interface Code.

(B) NFPA 1141: Standard for Fire Protection Infrastructure for Land Development and Wildland, Rural, and Suburban Areas.

(C) NFPA 1142: Standard on Water Supplies for Suburban and Rural Fire Fighting.

(D) NFPA 1144: Standard for Reducing Structure Ignition Hazards from Wildland Fire.

(E) NFPA 1710: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments.

~~(E)~~

(F) NFPA 1720: Standards for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments.

(e) The Office of the State Fire Marshal may incorporate some or all of the wildfire risk reduction standards adopted pursuant to this

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section into the building standards developed pursuant to Section 13108.5 of the Health and Safety Code or the regulations adopted pursuant to Section 4290 of the Public Resources Code.

(f) Standards adopted pursuant to this section shall be adopted pursuant to the rulemaking provisions of the Administrative Procedure Act (Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2).

(g) Nothing in this section shall be construed to limit the existing authority of the State Fire Marshal or any other state or local public agency under any other law from adopting standards that are more protective of life and property from the risk of wildfire.

(h) “Very high fire risk area” has the same meaning as defined in Section 65011.

SEC. 5. Section 65040.18 is added to the Government Code, to read:

65040.18. By January 1, 2023, the Office of Planning and Research, in collaboration with cities and counties, shall identify local ordinances, policies, and best practices relating to land use planning in very high fire risk areas, wildfire risk reduction, and wildfire preparedness and publish these resources on the clearinghouse established pursuant to Section 71360 of the Public Resources Code. The office shall include in the clearinghouse any comprehensive retrofit strategies submitted pursuant to subparagraph (E) of paragraph (6) of subdivision (g) of Section 65302. The office shall regularly update the clearinghouse materials made available pursuant to this section. For purposes of this section, “very high fire risk area” has the same meaning as defined in Section 65011.

SEC. 6. Section 65302 of the Government Code is amended to read:

65302. The general plan shall consist of a statement of development policies and shall include a diagram or diagrams and text setting forth objectives, principles, standards, and plan proposals. The plan shall include the following elements:

(a) A land use element that designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, greenways, as defined in Section 816.52 of the Civil Code, and other categories of public and private uses of land. The location and designation of the extent of the uses of the land for public and private uses shall consider the identification of land and natural resources pursuant to paragraph (3) of subdivision (d). The land use element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan. The land use element shall identify and annually review those areas covered by the plan that are subject to flooding identified by flood plain mapping prepared by the Federal Emergency Management Agency (FEMA) or the Department of Water Resources. The land use element shall also do both of the following:

(1) Designate in a land use category that provides for timber production those parcels of real property zoned for timberland production pursuant to the California Timberland Productivity Act of 1982 (Chapter 6.7 (commencing with Section 51100) of Part 1 of Division 1 of Title 5).

(2) Consider the impact of new growth on military readiness activities carried out on military bases, installations, and operating and training areas, when proposing zoning ordinances or designating land uses covered by the general plan for land, or other territory adjacent to military facilities, or underlying designated military aviation routes and airspace.

(A) In determining the impact of new growth on military readiness activities, information provided by military facilities shall be considered. Cities and counties shall address military impacts based on information from the military and other sources.

(B) The following definitions govern this paragraph:

(i) “Military readiness activities” mean all of the following:

(I) Training, support, and operations that prepare the members of the military for combat.

(II) Operation, maintenance, and security of any military installation.

(III) Testing of military equipment, vehicles, weapons, and sensors for proper operation or suitability for combat use.

(ii) “Military installation” means a base, camp, post, station, yard, center, homeport facility for any ship, or other activity under the jurisdiction of the United States Department of Defense as defined in paragraph (1) of subsection (g) of Section 2687 of Title 10 of the United States Code.

(b) (1) A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan.

(2) (A) Commencing January 1, 2011, upon any substantive revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and

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highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.

(B) For purposes of this paragraph, “users of streets, roads, and highways” mean bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.

(c) A housing element as provided in Article 10.6 (commencing with Section 65580).

(d) (1) A conservation element for the conservation, development, and utilization of natural resources, including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources. The conservation element shall consider the effect of development within the jurisdiction, as described in the land use element, on natural resources located on public lands, including military installations. That portion of the conservation element including waters shall be developed in coordination with any countywide water agency and with all district and city agencies, including flood management, water conservation, or groundwater agencies that have developed, served, controlled, managed, or conserved water of any type for any purpose in the county or city for which the plan is prepared. Coordination shall include the discussion and evaluation of any water supply and demand information described in Section 65352.5, if that information has been submitted by the water agency to the city or county.

(2) The conservation element may also cover all of the following:

(A) The reclamation of land and waters.

(B) Prevention and control of the pollution of streams and other waters.

(C) Regulation of the use of land in stream channels and other areas required for the accomplishment of the conservation plan.

(D) Prevention, control, and correction of the erosion of soils, beaches, and shores.

(E) Protection of watersheds.

(F) The location, quantity, and quality of the rock, sand, and gravel resources.

(3) Upon the next revision of the housing element on or after January 1, 2009, the conservation element shall identify rivers, creeks, streams, flood corridors, riparian habitats, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management.

(e) An open-space element as provided in Article 10.5 (commencing with Section 65560).

(f) (1) A noise element that shall identify and appraise noise problems in the community. The noise element shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

(A) Highways and freeways.

(B) Primary arterials and major local streets.

(C) Passenger and freight online railroad operations and ground rapid transit systems.

(D) Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.

(E) Local industrial plants, including, but not limited to, railroad classification yards.

(F) Other ground stationary noise sources, including, but not limited to, military installations, identified by local agencies as contributing to the community noise environment.

(2) Noise contours shall be shown for all of these sources and stated in terms of community noise equivalent level (CNEL) or day-night average sound level (Ldn). The noise contours shall be prepared on the basis of noise monitoring or following generally accepted noise modeling techniques for the various sources identified in subparagraphs (A) to (F), inclusive, of paragraph (1).

(3) The noise contours shall be used as a guide for establishing a pattern of land uses in the land use element that minimizes the exposure of community residents to excessive noise.

(4) The noise element shall include implementation measures and possible solutions that address existing and foreseeable noise problems, if any. The adopted noise element shall serve as a guideline for compliance with the state’s noise insulation standards.

(g) (1) A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wildland and urban

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fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, military installations, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

(2) The safety element, upon the next revision of the housing element on or after January 1, 2009, shall also do the following:

(A) Identify information regarding flood hazards, including, but not limited to, the following:

(i) Flood hazard zones. As used in this subdivision, “flood hazard zone” means an area subject to flooding that is delineated as either a special hazard area or an area of moderate or minimal hazard on an official flood insurance rate map issued by FEMA. The identification of a flood hazard zone does not imply that areas outside the flood hazard zones or uses permitted within flood hazard zones will be free from flooding or flood damage.

(ii) National Flood Insurance Program maps published by FEMA.

(iii) Information about flood hazards that is available from the United States Army Corps of Engineers.

(iv) Designated floodway maps that are available from the Central Valley Flood Protection Board.

(v) Dam failure inundation maps prepared pursuant to Section 6161 of the Water Code that are available from the Department of Water Resources.

(vi) Awareness Floodplain Mapping Program maps and 200-year flood plain maps that are or may be available from, or accepted by, the Department of Water Resources.

(vii) Maps of levee protection zones.

(viii) Areas subject to inundation in the event of the failure of project or nonproject levees or floodwalls.

(ix) Historical data on flooding, including locally prepared maps of areas that are subject to flooding, areas that are vulnerable to flooding after wildfires, and sites that have been repeatedly damaged by flooding.

(x) Existing and planned development in flood hazard zones, including structures, roads, utilities, and essential public facilities.

(xi) Local, state, and federal agencies with responsibility for flood protection, including special districts and local offices of emergency services.

(B) Establish a set of comprehensive goals, policies, and objectives based on the information identified pursuant to subparagraph (A), for the protection of the community from the unreasonable risks of flooding, including, but not limited to:

(i) Avoiding or minimizing the risks of flooding to new development.

(ii) Evaluating whether new development should be located in flood hazard zones, and identifying construction methods or other methods to minimize damage if new development is located in flood hazard zones.

(iii) Maintaining the structural and operational integrity of essential public facilities during flooding.

(iv) Locating, when feasible, new essential public facilities outside of flood hazard zones, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities or identifying construction methods or other methods to minimize damage if these facilities are located in flood hazard zones.

(v) Establishing cooperative working relationships among public agencies with responsibility for flood protection.

(C) Establish a set of feasible implementation measures designed to carry out the goals, policies, and objectives established pursuant to subparagraph (B).

(3) Upon the next revision of the housing element on or after January 1, 2014, the safety element shall be reviewed and updated as necessary to address the risk of fire for land classified as state responsibility areas, as defined in Section 4102 of the Public Resources Code, and land classified as very high fire hazard severity zones, as defined in Section 51177. This review shall consider the advice included in the Office of Planning and Research’s most recent publication of “Fire Hazard Planning - General Plan Technical Advice Series” and shall also include all of the following:

(A) Information regarding fire hazards, including, but not limited to, all of the following:

(i) Fire hazard severity zone maps available from the Office of the State Fire Marshal.

(ii) Any historical data on wildfires available from local agencies or a reference to where the data can be found.

(iii) Information about wildfire hazard areas that may be available from the United States Geological Survey.

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(iv) General location and distribution of existing and planned uses of land in very high fire hazard severity zones and in state responsibility areas, including structures, roads, utilities, and essential public facilities. The location and distribution of planned uses of land shall not require defensible space compliance measures required by state law or local ordinance to occur on publicly owned lands or open space designations of homeowner associations.

(v) Local, state, and federal agencies with responsibility for fire protection, including special districts and local offices of emergency services.

(B) A set of goals, policies, and objectives based on the information identified pursuant to subparagraph (A) for the protection of the community from the unreasonable risk of wildfire.

(C) A set of feasible implementation measures designed to carry out the goals, policies, and objectives based on the information identified pursuant to subparagraph (B), including, but not limited to, all of the following:

(i) Avoiding or minimizing the wildfire hazards associated with new uses of land.

(ii) Locating, when feasible, new essential public facilities outside of high fire risk areas, including, but not limited to, hospitals and health care facilities, emergency shelters, emergency command centers, and emergency communications facilities, or identifying construction methods or other methods to minimize damage if these facilities are located in a state responsibility area or very high fire hazard severity zone.

(iii) Designing adequate infrastructure if a new development is located in a state responsibility area or in a very high fire hazard severity zone, including safe access for emergency response vehicles, visible street signs, and water supplies for structural fire suppression.

(iv) Working cooperatively with public agencies with responsibility for fire protection.

(D) If a city or county has adopted a fire safety plan or document separate from the general plan, an attachment of, or reference to, a city or county's adopted fire safety plan or document that fulfills commensurate goals and objectives and contains information required pursuant to this paragraph.

(4) Upon the next revision of a local hazard mitigation plan, adopted in accordance with the federal Disaster Mitigation Act of 2000 (Public Law 106-390), on or after January 1, 2017, or, if a local jurisdiction has not adopted a local hazard mitigation plan, beginning on or before January 1, 2022, the safety element shall be reviewed and updated as necessary to address climate adaptation and resiliency strategies applicable to the city or county. This review shall consider advice provided in the Office of Planning and Research's General Plan Guidelines and shall include all of the following:

(A) (i) A vulnerability assessment that identifies the risks that climate change poses to the local jurisdiction and the geographic areas at risk from climate change impacts, including, but not limited to, an assessment of how climate change may affect the risks addressed pursuant to paragraphs (2) and (3).

(ii) Information that may be available from federal, state, regional, and local agencies that will assist in developing the vulnerability assessment and the adaptation policies and strategies required pursuant to subparagraph (B), including, but not limited to, all of the following:

(I) Information from the internet-based Cal-Adapt tool.

(II) Information from the most recent version of the California Adaptation Planning Guide.

(III) Information from local agencies on the types of assets, resources, and populations that will be sensitive to various climate change exposures.

(IV) Information from local agencies on their current ability to deal with the impacts of climate change.

(V) Historical data on natural events and hazards, including locally prepared maps of areas subject to previous risk, areas that are vulnerable, and sites that have been repeatedly damaged.

(VI) Existing and planned development in identified at-risk areas, including structures, roads, utilities, and essential public facilities.

(VII) Federal, state, regional, and local agencies with responsibility for the protection of public health and safety and the environment, including special districts and local offices of emergency services.

(B) A set of adaptation and resilience goals, policies, and objectives based on the information specified in subparagraph (A) for the protection of the community.

(C) A set of feasible implementation measures designed to carry out the goals, policies, and objectives identified pursuant to subparagraph (B), including, but not limited to, all of the following:

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(i) Feasible methods to avoid or minimize climate change impacts associated with new uses of land.

(ii) The location, when feasible, of new essential public facilities outside of at-risk areas, including, but not limited to, hospitals and health care facilities, emergency shelters, emergency command centers, and emergency communications facilities, or identifying construction methods or other methods to minimize damage if these facilities are located in at-risk areas.

(iii) The designation of adequate and feasible infrastructure located in an at-risk area.

(iv) Guidelines for working cooperatively with relevant local, regional, state, and federal agencies.

(v) The identification of natural infrastructure that may be used in adaptation projects, where feasible. Where feasible, the plan shall use existing natural features and ecosystem processes, or the restoration of natural features and ecosystem processes, when developing alternatives for consideration. For purposes of this clause, "natural infrastructure" means using natural ecological systems or processes to reduce vulnerability to climate change related hazards, or other related climate change effects, while increasing the long-term adaptive capacity of coastal and inland areas by perpetuating or restoring ecosystem services. This includes, but is not limited to, the conservation, preservation, or sustainable management of any form of aquatic or terrestrial vegetated open space, such as beaches, dunes, tidal marshes, reefs, seagrass, parks, rain gardens, and urban tree canopies. It also includes systems and practices that use or mimic natural processes, such as permeable pavements, bioswales, and other engineered systems, such as levees that are combined with restored natural systems, to provide clean water, conserve ecosystem values and functions, and provide a wide array of benefits to people and wildlife.

(D) (i) If a city or county has adopted the local hazard mitigation plan, or other climate adaptation plan or document that fulfills commensurate goals and objectives and contains the information required pursuant to this paragraph, separate from the general plan, an attachment of, or reference to, the local hazard mitigation plan or other climate adaptation plan or document.

(ii) Cities or counties that have an adopted hazard mitigation plan, or other climate adaptation plan or document that substantially complies with this section, or have substantially equivalent provisions to this subdivision in their general plans, may use that information in the safety element to comply with this subdivision, and shall summarize and incorporate by reference into the safety element the other general plan provisions, climate adaptation plan or document, specifically showing how each requirement of this subdivision has been met.

(5) Upon the next revision of the housing element on or after January 1, 2020, the safety element shall be reviewed and updated as necessary to identify residential developments in any hazard area identified in the safety element that do not have at least two emergency evacuation routes.

(6) Upon the next revision of the housing element or the hazard mitigation plan, after July 1, 2024, whichever occurs first, the safety element shall be reviewed and updated as necessary to include a comprehensive retrofit strategy for residential developments to reduce the risk of property loss and damage during wildfires. The comprehensive retrofit strategy shall include, but is not limited to, all of the following:

(A) A list of the types of retrofits needed in an area based on fire risk.

(B) A process for identifying and inventorying residential structures in need of retrofit for fire hardening. The strategy shall prioritize the identification and inventorying of residential structures in very high fire risk areas.

(C) Goals and milestones for completing needed retrofit work.

(D) Potential funding sources and financing strategies to pay for needed retrofits on public and private property.

(E) Once adopted, the planning agency shall submit the adopted comprehensive retrofit strategy to the Office of Planning and Research for inclusion in the clearinghouse established pursuant to Section 71360 of the Public Resources Code.

(7) After the initial revision of the safety element pursuant to paragraphs (2), (3), (4), (5), and (6) the planning agency shall review and, if necessary, revise the safety element upon each revision of the housing element or local hazard mitigation plan, but not less than once every eight years, to identify new information relating to flood and fire hazards, climate adaptation and resiliency strategies, and retrofit updates applicable to the city or county that was not available during the previous revision of the safety element.

(8) Cities and counties that have flood plain management ordinances that have been approved by FEMA that substantially comply with this section, or have substantially equivalent provisions to this subdivision in their general plans, may use that information in the safety element to comply with this subdivision, and shall summarize and incorporate by reference into the safety element the other general plan provisions or the flood plain ordinance, specifically showing how each requirement of this subdivision has been met.

(9) Before the periodic review of its general plan and before preparing or revising its safety element, each city and county shall consult the California Geological Survey of the Department of Conservation, the Central Valley Flood Protection Board, if the city or county is located within the boundaries of the Sacramento and San Joaquin Drainage District, as set forth in Section 8501 of the Water Code, and the Office of Emergency Services for the purpose of including information known by and available to the department, the agency, and the board required by this subdivision.

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(10) To the extent that a county's safety element is sufficiently detailed and contains appropriate policies and programs for adoption by a city, a city may adopt that portion of the county's safety element that pertains to the city's planning area in satisfaction of the requirement imposed by this subdivision.

(h) (1) An environmental justice element, or related goals, policies, and objectives integrated in other elements, that identifies disadvantaged communities within the area covered by the general plan of the city, county, or city and county, if the city, county, or city and county has a disadvantaged community. The environmental justice element, or related environmental justice goals, policies, and objectives integrated in other elements, shall do all of the following:

(A) Identify objectives and policies to reduce the unique or compounded health risks in disadvantaged communities by means that include, but are not limited to, the reduction of pollution exposure, including the improvement of air quality, and the promotion of public facilities, food access, safe and sanitary homes, and physical activity.

(B) Identify objectives and policies to promote civic engagement in the public decisionmaking process.

(C) Identify objectives and policies that prioritize improvements and programs that address the needs of disadvantaged communities.

(2) A city, county, or city and county subject to this subdivision shall adopt or review the environmental justice element, or the environmental justice goals, policies, and objectives in other elements, upon the adoption or next revision of two or more elements concurrently on or after January 1, 2018.

(3) By adding this subdivision, the Legislature does not intend to require a city, county, or city and county to take any action prohibited by the United States Constitution or the California Constitution.

(4) For purposes of this subdivision, the following terms shall apply:

(A) "Disadvantaged communities" means an area identified by the California Environmental Protection Agency pursuant to Section 39711 of the Health and Safety Code or an area that is a low-income area that is disproportionately affected by environmental pollution and other hazards that can lead to negative health effects, exposure, or environmental degradation.

(B) "Public facilities" includes public improvements, public services, and community amenities, as defined in subdivision (d) of Section 66000.

(C) "Low-income area" means an area with household incomes at or below 80 percent of the statewide median income or with household incomes at or below the threshold designated as low income by the Department of Housing and Community Development's list of state income limits adopted pursuant to Section 50093 of the Health and Safety Code.

SEC. 7. Section 65302.11 is added to the Government Code, to read:

65302.11. (a) Upon each revision of the housing element on or after July 1, 2024, each city or county that contains residential structures in a very high fire risk area shall amend the land use element of its general plan to contain all of the following with respect to residential lands located within a very high fire risk area:

(1) (A) The goals contained in the most recent Strategic Fire Plan for California prepared by the Department of Forestry and Fire Protection.

(B) The locations of all very high fire risk areas within the city or county.

(C) The data and analysis described in the Office of Planning and Research's most recent publication of "Fire Hazard Planning–General Plan Technical Advice Series."

(D) The goals of any local hazard mitigation plan, community wildfire protection plan, and climate adaptation plan that has been adopted by the governing body of the city or county.

(2) Objectives and policies, based on the goals, data, and analysis identified pursuant to paragraph (1), for the protection of lives and property from unreasonable risk of wildfire. These objectives and policies shall take into consideration, and be consistent with, the information, goals, policies, objectives, and implementation measures included in the safety element in accordance with paragraph (3) of subdivision (g) of Section 65302.

(3) Feasible implementation measures designed to carry out the goals, objectives, and policies established pursuant to this subdivision.

(b) (1) After the initial amendment of the land use element pursuant to subdivision (a), the governing body of the city or county shall review all of the following upon each subsequent revision of the housing element, but not less than once every eight years:

(A) The implementation of the wildfire risk reduction standards, as defined in Section 65012, within the jurisdiction. The governing body shall make written findings, based upon substantial evidence, regarding whether the city or county has implemented the wildfire risk reduction standards during the preceding planning period, or made adequate progress toward implementing the wildfire risk

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reduction standards as provided in subdivision (b) of Section 65012.

(B) The designation of lands within the jurisdiction as very high fire hazard severity zones pursuant to subdivision (b) of Section 51179. The governing body shall make written findings, based upon substantial evidence, supporting the determinations made in accordance with that subdivision.

(2) The draft findings required under this subdivision shall be submitted to the State Board of Forestry and Fire Protection and to every local agency that provides fire protection to territory in the city or county at least 90 days prior to adoption by the governing body.

(A) The State Board of Forestry and Fire Protection shall, and a local agency may, review the draft findings and recommend changes to the city or county within 60 days of its receipt regarding both of the following:

(i) Whether the city or county has implemented the wildfire risk reduction standards during the preceding planning period, or made adequate progress toward implementing the wildfire risk reduction standards as provided in subdivision (b) of Section 65012.

(ii) Whether the designation of lands within the jurisdiction as very high fire hazard severity zones is appropriate.

(B) (i) Prior to the adoption of its draft findings, the governing body shall consider the recommendations, if any, made by the State Board of Forestry and Fire Protection and any local agency that provides fire protection to territory in the city or county. If the governing body determines not to accept all or some of the recommendations, if any, made by the State Board of Forestry and Fire Protection or the local agency, the governing body shall communicate in writing to the State Board of Forestry and Fire Protection or the local agency, its reasons for not accepting the recommendations.

(ii) If the governing body proposes not to adopt the State Board of Forestry and Fire Protection's recommendations concerning its draft findings, the State Board of Forestry and Fire Protection, within 15 days of receipt of the governing body's written response, may request in writing a consultation with the governing body to discuss the State Board of Forestry and Fire Protection's recommendations and the governing body's response. The consultation may be conducted in person, electronically, or telephonically. If the State Board of Forestry and Fire Protection requests a consultation pursuant to this subparagraph, the governing body shall not approve the draft element or draft amendment until after consulting with the State Board of Forestry and Fire Protection. The consultation shall occur within 30 days after the State Board of Forestry and Fire Protection's request.

(C) The State Board of Forestry and Fire Protection shall notify the city or county and may notify the Office of the Attorney General that the city or county is in violation of state law if the State Board of Forestry and Fire Protection finds that the written findings do not substantially comply with this section, or that the city or county has otherwise failed to substantially comply with this section or with Section 65860.2.

(3) Any interested person may bring an action to compel compliance with the requirements of this subdivision. The action shall be brought pursuant to Section 1085 of the Code of Civil Procedure.

(c) For purposes of this section, "very high fire risk area" has the same meaning as defined in Section 65011.

SEC. 8. Section 65584 of the Government Code is amended to read:

65584. (a) (1) For the fourth and subsequent revisions of the housing element pursuant to Section 65588, the department shall determine the existing and projected need for housing for each region pursuant to this article. For purposes of subdivision (a) of Section 65583, the share of a city or county of the regional housing need shall include that share of the housing need of persons at all income levels within the area significantly affected by the general plan of the city or county.

(2) It is the intent of the Legislature that cities, counties, and cities and counties should undertake all necessary actions to encourage, promote, and facilitate the development of housing to accommodate the entire regional housing need, and reasonable actions should be taken by local and regional governments to ensure that future housing production meets, at a minimum, the regional housing need established for planning purposes. These actions shall include applicable reforms and incentives in Section 65582.1.

(3) The Legislature finds and declares that insufficient housing in job centers hinders the state's environmental quality and runs counter to the state's environmental goals. In particular, when Californians seeking affordable housing are forced to drive longer distances to work, an increased amount of greenhouse gases and other pollutants is released and puts in jeopardy the achievement of the state's climate goals, as established pursuant to Section 38566 of the Health and Safety Code, and clean air goals.

(b) The department, in consultation with each council of governments, shall determine each region's existing and projected housing need pursuant to Section 65584.01 at least two years prior to the scheduled revision required pursuant to Section 65588. The appropriate council of governments, or for cities and counties without a council of governments, the department, shall adopt a final regional housing need plan that allocates a share of the regional housing need to each city, county, or city and county at least one year prior to the scheduled revision for the region required by Section 65588. The allocation plan prepared by a council of governments shall be prepared pursuant to Sections 65584.04 and 65584.05.

(c) Notwithstanding any other provision of law, the due dates for the determinations of the department or for the council of

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governments, respectively, regarding the regional housing need may be extended by the department by not more than 60 days if the extension will enable access to more recent critical population or housing data from a pending or recent release of the United States Census Bureau or the Department of Finance. If the due date for the determination of the department or the council of governments is extended for this reason, the department shall extend the corresponding housing element revision deadline pursuant to Section 65588 by not more than 60 days.

(d) The regional housing needs allocation plan shall further all of the following objectives:

(1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low income households.

(2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.

(3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.

(4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.

(5) Affirmatively furthering fair housing.

(6) Promoting resilient communities. Furthering this objective shall include reducing residential development pressure within very high fire risk areas. This paragraph shall apply only to the regional housing needs allocation plan for the seventh and subsequent revisions of the housing element.

(e) For purposes of this section, "affirmatively furthering fair housing" means taking meaningful actions, in addition to combating discrimination, that overcome patterns of segregation and foster inclusive communities free from barriers that restrict access to opportunity based on protected characteristics. Specifically, affirmatively furthering fair housing means taking meaningful actions that, taken together, address significant disparities in housing needs and in access to opportunity, replacing segregated living patterns with truly integrated and balanced living patterns, transforming racially and ethnically concentrated areas of poverty into areas of opportunity, and fostering and maintaining compliance with civil rights and fair housing laws.

(f) For purposes of this section, "household income levels" are as determined by the department as of the most recent American Community Survey pursuant to the following code sections:

(1) Very low incomes, as defined by Section 50105 of the Health and Safety Code.

(2) Lower incomes, as defined by Section 50079.5 of the Health and Safety Code.

(3) Moderate incomes, as defined by Section 50093 of the Health and Safety Code.

(4) Above moderate incomes are those exceeding the moderate-income level of Section 50093 of the Health and Safety Code.

(g) Notwithstanding any other provision of law, determinations made by the department, a council of governments, or a city or county pursuant to this section or Section 65584.01, 65584.02, 65584.03, 65584.04, 65584.05, 65584.06, 65584.07, or 65584.08 are exempt from the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code).

SEC. 9. Section 65584.04 of the Government Code is amended to read:

65584.04. (a) At least two years prior to a scheduled revision required by Section 65588, each council of governments, or delegate subregion as applicable, shall develop, in consultation with the department, a proposed methodology for distributing the existing and projected regional housing need to cities, counties, and cities and counties within the region or within the subregion, where applicable pursuant to this section. The methodology shall further the objectives listed in subdivision (d) of Section 65584.

(b) (1) No more than six months before the development of a proposed methodology for distributing the existing and projected housing need, each council of governments shall survey each of its member jurisdictions to request, at a minimum, information regarding the factors listed in subdivision (e) that will allow the development of a methodology based upon the factors established in subdivision (e).

(2) With respect to the objective in paragraph (5) of subdivision (d) of Section 65584, the survey shall review and compile information that will allow the development of a methodology based upon the issues, strategies, and actions that are included, as available, in an Analysis of Impediments to Fair Housing Choice or an Assessment of Fair Housing completed by any city or county or the department that covers communities within the area served by the council of governments, and in housing elements adopted pursuant to this article by cities and counties within the area served by the council of governments.

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(3) The council of governments shall seek to obtain the information in a manner and format that is comparable throughout the region and utilize readily available data to the extent possible.

(4) The information provided by a local government pursuant to this section shall be used, to the extent possible, by the council of governments, or delegate subregion as applicable, as source information for the methodology developed pursuant to this section. The survey shall state that none of the information received may be used as a basis for reducing the total housing need established for the region pursuant to Section 65584.01.

(5) If the council of governments fails to conduct a survey pursuant to this subdivision, a city, county, or city and county may submit information related to the items listed in subdivision (e) before the public comment period provided for in subdivision (d).

(c) The council of governments shall electronically report the results of the survey of fair housing issues, strategies, and actions compiled pursuant to paragraph (2) of subdivision (b). The report shall describe common themes and effective strategies employed by cities and counties within the area served by the council of governments, including common themes and effective strategies around avoiding the displacement of lower income households. The council of governments shall also identify significant barriers to affirmatively furthering fair housing at the regional level and may recommend strategies or actions to overcome those barriers. A council of governments or metropolitan planning organization, as appropriate, may use this information for any other purpose, including publication within a regional transportation plan adopted pursuant to Section 65080 or to inform the land use assumptions that are applied in the development of a regional transportation plan.

(d) Public participation and access shall be required in the development of the methodology and in the process of drafting and adoption of the allocation of the regional housing needs. Participation by organizations other than local jurisdictions and councils of governments shall be solicited in a diligent effort to achieve public participation of all economic segments of the community as well as members of protected classes under Section 12955. The proposed methodology, along with any relevant underlying data and assumptions, an explanation of how information about local government conditions gathered pursuant to subdivision (b) has been used to develop the proposed methodology, how each of the factors listed in subdivision (e) is incorporated into the methodology, and how the proposed methodology furthers the objectives listed in subdivision (e) of Section 65584, shall be distributed to all cities, counties, any subregions, and members of the public who have made a written or electronic request for the proposed methodology and published on the council of governments', or delegate subregion's, internet website. The council of governments, or delegate subregion, as applicable, shall conduct at least one public hearing to receive oral and written comments on the proposed methodology.

(e) To the extent that sufficient data is available from local governments pursuant to subdivision (b) or other sources, each council of governments, or delegate subregion as applicable, shall include the following factors to develop the methodology that allocates regional housing needs:

(1) Each member jurisdiction's existing and projected jobs and housing relationship. This shall include an estimate based on readily available data on the number of low-wage jobs within the jurisdiction and how many housing units within the jurisdiction are affordable to low-wage workers as well as an estimate based on readily available data, of projected job growth and projected household growth by income level within each member jurisdiction during the planning period.

(2) The opportunities and constraints to development of additional housing in each member jurisdiction, including all of the following:

(A) Lack of capacity for sewer or water service due to federal or state laws, regulations or regulatory actions, or supply and distribution decisions made by a sewer or water service provider other than the local jurisdiction that preclude the jurisdiction from providing necessary infrastructure for additional development during the planning period.

(B) The availability of land suitable for urban development or for conversion to residential use, the availability of underutilized land, and opportunities for infill development and increased residential densities. The council of governments may not limit its consideration of suitable housing sites or land suitable for urban development to existing zoning ordinances and land use restrictions of a locality, but shall consider the potential for increased residential development under alternative zoning ordinances and land use restrictions. The determination of available land suitable for urban development may exclude lands where the Federal Emergency Management Agency (FEMA) or the Department of Water Resources has determined that the flood management infrastructure designed to protect that land is not adequate to avoid the risk of flooding.

(C) Lands preserved or protected from urban development under existing federal or state programs, or both, designed to protect open space, farmland, environmental habitats, and natural resources on a long-term basis, including land zoned or designated for agricultural protection or preservation that is subject to a local ballot measure that was approved by the voters of that jurisdiction that prohibits or restricts conversion to nonagricultural uses.

(D) County policies to preserve prime agricultural land, as defined pursuant to Section 56064, within an unincorporated area and land within an unincorporated area zoned or designated for agricultural protection or preservation that is subject to a local ballot measure that was approved by the voters of that jurisdiction that prohibits or restricts its conversion to nonagricultural uses.

(3) The distribution of household growth assumed for purposes of a comparable period of regional transportation plans and opportunities to maximize the use of public transportation and existing transportation infrastructure.

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(4) Agreements between a county and cities in a county to direct growth toward incorporated areas of the county and land within an unincorporated area zoned or designated for agricultural protection or preservation that is subject to a local ballot measure that was approved by the voters of the jurisdiction that prohibits or restricts conversion to nonagricultural uses.

(5) The loss of units contained in assisted housing developments, as defined in paragraph (9) of subdivision (a) of Section 65583, that changed to non-low-income use through mortgage prepayment, subsidy contract expirations, or termination of use restrictions.

(6) The percentage of existing households at each of the income levels listed in subdivision (f) of Section 65584 that are paying more than 30 percent and more than 50 percent of their income in rent.

(7) The rate of overcrowding.

(8) The housing needs of farmworkers.

(9) The housing needs generated by the presence of a private university or a campus of the California State University or the University of California within any member jurisdiction.

(10) The housing needs of individuals and families experiencing homelessness. If a council of governments has surveyed each of its member jurisdictions pursuant to subdivision (b) on or before January 1, 2020, this paragraph shall apply only to the development of methodologies for the seventh and subsequent revisions of the housing element.

(11) The loss of units during a state of emergency that was declared by the Governor pursuant to the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2), during the planning period immediately preceding the relevant revision pursuant to Section 65588 that have yet to be rebuilt or replaced at the time of the analysis.

(12) The region's greenhouse gas emissions targets provided by the State Air Resources Board pursuant to Section 65080.

(13) The amount of land in each member jurisdiction that is within a very high fire risk area, by allocating a lower proportion of housing to a jurisdiction if it is likely that the jurisdiction would otherwise need to identify lands within a very high fire risk area as adequate sites pursuant to Section 65583 in order to meet its housing need allocation. In determining whether it is likely the jurisdiction would otherwise need to identify lands within a very high fire risk area as adequate sites pursuant to Section 65583 in order to meet its housing need allocation, the council of governments, or delegate subregion as applicable, shall consider factors that include, but are not limited to, the following:

(A) (i) The percentage of land described in subparagraph (B) of paragraph (2) within the jurisdiction that includes a very high fire risk area.

(ii) Whether suitable alternative sites exist outside the jurisdiction, but within the region, to accommodate the remaining regional housing need.

(B) Any determination by a council of governments, or delegate subregions, as applicable, to establish, or not establish, a lower allocation under this paragraph for a jurisdiction containing a very high fire risk area shall be supported by a data-driven analysis demonstrating that the reduced allocation is, or is not, appropriate, including evidence-based consideration of the factors set forth in clauses (i) and (ii) of subparagraph (A).

(C) This paragraph shall apply only to the development of methodologies for the seventh and subsequent revisions of the housing element.

(D) For the purposes of this paragraph, "very high fire risk area" has the same meaning as defined in Section 65011.

(14) Any other factors adopted by the council of governments, that further the objectives listed in subdivision (d) of Section 65584, provided that the council of governments specifies which of the objectives each additional factor is necessary to further. The council of governments may include additional factors unrelated to furthering the objectives listed in subdivision (d) of Section 65584 so long as the additional factors do not undermine the objectives listed in subdivision (d) of Section 65584 and are applied equally across all household income levels as described in subdivision (f) of Section 65584 and the council of governments makes a finding that the factor is necessary to address significant health and safety conditions.

(f) The council of governments, or delegate subregion, as applicable, shall explain in writing how each of the factors described in subdivision (e) was incorporated into the methodology and how the methodology furthers the objectives listed in subdivision (d) of Section 65584. The methodology may include numerical weighting. This information, and any other supporting materials used in determining the methodology, shall be posted on the council of governments', or delegate subregion's, internet website.

(g) The following criteria shall not be a justification for a determination or a reduction in a jurisdiction's share of the regional housing need:

(1) Any ordinance, policy, voter-approved measure, or standard of a city or county that directly or indirectly limits the number of residential building permits issued by a city or county.

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(2) Prior underproduction of housing in a city or county from the previous regional housing need allocation, as determined by each jurisdiction's annual production report submitted pursuant to subparagraph (H) of paragraph (2) of subdivision (a) of Section 65400.

(3) Stable population numbers in a city or county from the previous regional housing needs cycle.

(h) Following the conclusion of the public comment period described in subdivision (d) on the proposed allocation methodology, and after making any revisions deemed appropriate by the council of governments, or delegate subregion, as applicable, as a result of comments received during the public comment period, and as a result of consultation with the department, each council of governments, or delegate subregion, as applicable, shall publish a draft allocation methodology on its internet website and submit the draft allocation methodology, along with the information required pursuant to subdivision (e), to the department.

(i) Within 60 days, the department shall review the draft allocation methodology and report its written findings to the council of governments, or delegate subregion, as applicable. In its written findings the department shall determine whether the methodology furthers the objectives listed in subdivision (d) of Section 65584. If the department determines that the methodology is not consistent with subdivision (d) of Section 65584, the council of governments, or delegate subregion, as applicable, shall take one of the following actions:

(1) Revise the methodology to further the objectives listed in subdivision (d) of Section 65584 and adopt a final regional, or subregional, housing need allocation methodology.

(2) Adopt the regional, or subregional, housing need allocation methodology without revisions and include within its resolution of adoption findings, supported by substantial evidence, as to why the council of governments, or delegate subregion, believes that the methodology furthers the objectives listed in subdivision (d) of Section 65584 despite the findings of the department.

(j) If the department's findings are not available within the time limits set by subdivision (i), the council of governments, or delegate subregion, may act without them.

(k) Upon either action pursuant to subdivision (i), the council of governments, or delegate subregion, shall provide notice of the adoption of the methodology to the jurisdictions within the region, or delegate subregion, as applicable, and to the department, and shall publish the adopted allocation methodology, along with its resolution and any adopted written findings, on its internet website.

(l) The department may, within 90 days, review the adopted methodology and report its findings to the council of governments, or delegate subregion.

(m) (1) It is the intent of the Legislature that housing planning be coordinated and integrated with the regional transportation plan. To achieve this goal, the allocation plan shall allocate housing units within the region consistent with the development pattern included in the sustainable communities strategy.

(2) The final allocation plan shall ensure that the total regional housing need, by income category, as determined under Section 65584, is maintained, and that each jurisdiction in the region receive an allocation of units for low- and very low income households.

(3) The resolution approving the final housing need allocation plan shall demonstrate that the plan is consistent with the sustainable communities strategy in the regional transportation plan and furthers the objectives listed in subdivision (d) of Section 65584.

SEC. 10. Section 65584.06 of the Government Code is amended to read:

65584.06. (a) For cities and counties without a council of governments, the department shall determine and distribute the existing and projected housing need, in accordance with Section 65584 and this section. If the department determines that a county or counties, supported by a resolution adopted by the board or boards of supervisors, and a majority of cities within the county or counties representing a majority of the population of the county or counties, possess the capability and resources and has agreed to accept the responsibility, with respect to its jurisdiction, for the distribution of the regional housing need, the department shall delegate this responsibility to the cities and county or counties.

(b) The distribution of regional housing need shall, based upon available data and in consultation with the cities and counties, take into consideration market demand for housing, the distribution of household growth within the county assumed in the regional transportation plan where applicable, employment opportunities and commuting patterns, the availability of suitable sites and public facilities, the needs of individuals and families experiencing homelessness, agreements between a county and cities in a county to direct growth toward incorporated areas of the county, or other considerations as may be requested by the affected cities or counties and agreed to by the department. As part of the allocation of the regional housing need, the department shall provide each city and county with data describing the assumptions and methodology used in calculating its share of the regional housing need. Consideration of suitable housing sites or land suitable for urban development is not limited to existing zoning ordinances and land use restrictions of a locality, but shall include consideration of the potential for increased residential development under alternative zoning ordinances and land use restrictions. The determination of available land suitable for urban development may exclude lands where the Federal Emergency Management Agency (FEMA) or the Department of Water Resources has determined that the flood management infrastructure designed to protect that land is not adequate to avoid the risk of flooding.

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(c) (1) The distribution of regional housing need pursuant to this section shall also take into consideration the amount of land in each city and each county that is within a very high fire risk area, by allocating a lower proportion of housing to a jurisdiction if it is likely that the jurisdiction would otherwise need to identify lands within a very high fire risk area as adequate sites pursuant to Section 65583 in order to meet its housing need allocation. In determining whether it is likely the jurisdiction would otherwise need to identify lands within a very high fire risk area as adequate sites pursuant to Section 65583 in order to meet its housing need allocation, the department shall consider factors that include, but are not limited to, the following:

(A) The percentage of land described in subparagraph (B) of paragraph (2) of subdivision (e) of Section 65584.04 within the jurisdiction that includes a very high fire risk area.

(B) Whether suitable alternative sites exist outside the jurisdiction, but within the region, to accommodate the remaining regional housing need.

(2) Any determination to establish, or not establish, a lower allocation under this paragraph for a jurisdiction containing a very high fire risk area shall be supported by a data-driven analysis demonstrating that the reduced allocation is, or is not, appropriate, including evidence-based consideration of the factors set forth in paragraph (1).

(3) This paragraph shall apply only to the development of methodologies for the seventh and subsequent revisions of the housing element.

(d) Within 90 days following the department's determination of a draft distribution of the regional housing need to the cities and the county, a city or county may propose to revise the determination of its share of the regional housing need in accordance with criteria set forth in the draft distribution. The proposed revised share shall be based upon comparable data available for all affected jurisdictions, and accepted planning methodology, and shall be supported by adequate documentation.

(e) (1) Within 60 days after the end of the 90-day time period for the revision by the cities or county, the department shall accept the proposed revision, modify its earlier determination, or indicate why the proposed revision is inconsistent with the regional housing need.

(2) If the department does not accept the proposed revision, then, within 30 days, the city or county may request a public hearing to review the determination.

(3) The city or county shall be notified within 30 days by certified mail, return receipt requested, of at least one public hearing regarding the determination.

(4) The date of the hearing shall be at least 10 but not more than 15 days from the date of the notification.

(5) Before making its final determination, the department shall consider all comments received and shall include a written response to each request for revision received from a city or county.

(f) If the department accepts the proposed revision or modifies its earlier determination, the city or county shall use that share. If the department grants a revised allocation pursuant to subdivision (d), the department shall ensure that the total regional housing need is maintained. The department's final determination shall be in writing and shall include information explaining how its action is consistent with this section. If the department indicates that the proposed revision is inconsistent with the regional housing need, the city or county shall use the share that was originally determined by the department. The department, within its final determination, may adjust the allocation of a city or county that was not the subject of a request for revision of the draft distribution.

(g) The department shall issue a final regional housing need allocation for all cities and counties within 45 days of the completion of the local review period.

(h) Statutory changes enacted after the date the department issued a final determination pursuant to this section shall not be a basis for a revision of the final determination.

(i) For purposes of this section, "very high fire risk area" has the same meaning as defined in Section 65011.

SEC. 11. Section 65860.2 is added to the Government Code, to read:

65860.2. (a) Not more than 12 months following the amendment of the land use element of a city's or county's general plan pursuant to Section 65302.11, each city or county that contains a very high fire risk area, as defined in Section 65011, shall adopt a very high fire risk overlay zone or otherwise amend its zoning ordinance so that it is consistent with the general plan, as amended.

(b) Notwithstanding any other law, the minimum requirements set forth in this section shall apply to all cities, including charter cities, and counties that contain a very high fire risk area. The Legislature finds and declares that establishment of minimum requirements for wildfire protection for residential developments in very high fire risk areas is a matter of statewide concern and not a municipal affair as that term is used in Section 5 of Article XI of the California Constitution. Except as expressly stated, it is not the intent of the Legislature to limit the ordinances, rules, or regulations that a city or county may otherwise adopt and enforce beyond the minimum

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requirements outlined in this section.

SEC. 12. Section 65865.6 is added to the Government Code, to read:

65865.6. (a) Notwithstanding any other law and subject to subdivision (b), after the amendments to the land use element of the city's or county's general plan and zoning ordinances required by Sections 65302.11 and 65860.2 have become effective, the legislative body of a city or county that contains a very high fire risk area, as defined in Section 65011, shall not enter into a development agreement for a residential development that is located within such a very high fire risk area unless the city or county finds, based on substantial evidence in the record that the residential development project and all residential structures within the project are protected from wildfire risk in accordance with the wildfire risk reduction standards in effect at the time that the development agreement is entered into, or wildfire protection standards adopted by the city or county that meet or exceed the wildfire risk reduction standards in effect at the time that the development agreement is entered into.

(b) Subdivision (a) shall apply only to a development agreement entered into on or after the date upon which the statutes of limitation specified in subdivision (c) of Section 65009 have run with respect to the amendments to a city's or county's general plan and zoning ordinances required by Sections 65302.11 and 65860.2 or, if the amendments and any associated environmental documents are challenged in court, the validity of the amendments and any associated environmental documents has been upheld in a final decision.

(c) For purposes of this section, "wildfire risk reduction standards" means the wildfire risk reduction standards set forth in Section 65012 that are adopted pursuant to Section 65013 or implemented by the city or county pursuant to subparagraph (B) or (C) of paragraph (1) or subparagraph (B), (C), or (D) of paragraph (2) of subdivision (a) of Section 65012.

(d) This section shall not be interpreted to change or diminish the requirements of any other law or ordinance relating to fire protection. In the event of conflict among the wildfire risk reduction standards, or between the wildfire risk reduction standards and the requirements of any other law relating to fire protection, such conflicts shall be resolved in a manner which on balance is most protective against potential loss from wildfire exposure. Nothing in this section shall be construed to limit the existing authority of a city or county under any other law from adopting ordinances, rules, or regulations beyond the minimum requirements outlined in this section.

(e) For purposes of this section, "very high fire risk area" has the same meaning as defined in Section 65011.

SEC. 13. Section 65962.3 is added to the Government Code, to read:

65962.3. (a) Notwithstanding any other law, and subject to subdivision (b), after the amendments to the land use element of the city's or county's general plan and zoning ordinances required by Sections 65302.11 and 65860.2 have become effective, a city or county that contains a very high fire risk area, as defined in Section 65011, shall not approve a discretionary permit or other discretionary entitlement that would result in the construction of a new residential building or construction that would result in an increase in allowed occupancy for an existing residential building, or a ministerial permit that would result in the construction of a new residence, for a project that is located within such a very high fire risk area unless the city or county finds, based on substantial evidence in the record that the project and all structures within the project are protected from wildfire risk in accordance with the wildfire risk reduction standards defined in Section 65012, or wildfire protection standards in effect at the time the application for the permit or entitlement is deemed complete, adopted by the city or county that meet or exceed the wildfire risk reduction standards in effect at the time the application for the permit or entitlement is deemed complete. ~~Approval of a final map or parcel map that conforms to a previously approved tentative map pursuant to Section 66458 shall not constitute approval of a ministerial permit for purposes of this section.~~ *For a ministerial permit, compliance with the wildfire risk reduction standards defined in Section 65012, or wildfire protection standards adopted by the city or county, and the finding required pursuant to this subdivision for the approval of the ministerial permit, shall not constitute a "project" for purposes of Division 13 (commencing with Section 21000) of the Public Resources Code.*

(b) Subdivision (a) shall only apply to a discretionary permit, discretionary entitlement, or ministerial permit issued on or after the date upon which the statutes of limitation specified in subdivision (c) of Section 65009 have run with respect to the amendments to a city's or a county's general plan and zoning ordinances required by Sections 65302.11 and 65860.2 or, if the amendments and any associated environmental documents are challenged in court, the validity of the amendments and any associated environmental documents has been upheld in a final decision.

(c) This section shall not apply to approval of a final map or parcel map that conforms to a previously approved tentative map pursuant to Section 66458.

(d) Notwithstanding the provisions of Sections 65012 and 65013, the approval of a permit for the construction of a single residential unit shall not be required to comply with any wildfire risk reduction standard to the extent that the standard requires construction of improvements outside of the perimeter of the parcel.

~~(c)~~

(e) This section shall not be interpreted to waive or reduce a city or county's obligation pursuant to Section 65863 to ensure that its

6 cont.

housing element inventory accommodates, at all times throughout the housing element planning period, its remaining share of its regional housing need.

~~(d)~~

(f) This section shall not be interpreted to change or diminish the requirements of any other law or ordinance relating to fire protection. In the event of conflict among the wildfire risk reduction standards, or between the wildfire risk reduction standards and the requirements of any other law relating to fire protection, such conflicts shall be resolved in a manner which on balance is most protective against potential loss from wildfire exposure. Nothing in this section shall be construed to limit the existing authority of a city or county under any other law from adopting ordinances, rules, or regulations beyond the minimum requirements outlined in this section.

~~(e)~~

(g) For purposes of this section, "wildfire risk reduction standards" means those wildfire risk reduction standards set forth in Section 65012 that are adopted pursuant to Section 65013 or implemented by the city or county pursuant to subparagraph (B) or (C) of paragraph (1) of or subparagraph (B), (C), or (D) of paragraph (2) of subdivision (a) of Section 65012.

~~(f)~~

(h) For purposes of this section, "very high fire risk area" has the same meaning as defined in Section 65011.

SEC. 14. Section 66474.03 is added to the Government Code, to read:

66474.03. (a) Notwithstanding any other law and subject to subdivision (b), after the amendments to the land use element of the city's or county's general plan and zoning ordinances required by Sections 65302.11 and 65860.2 have become effective, each city and each county that contains a very high fire risk area, as defined in Section 65011, shall deny approval of a tentative map, or a parcel map for which a tentative map was not required, for a residential subdivision that is located within such a very high fire risk area unless, in addition to any findings required under Section 66474.02, the city or county finds, based on substantial evidence in the record that the residential development project and all residential structures within the project are protected from wildfire risk in accordance with the wildfire risk reduction standards in effect at the time the application for the tentative map or parcel map is deemed complete, or wildfire protection standards adopted by the city or county that meet or exceed the wildfire risk reduction standards in effect at the time the application for the tentative map or parcel map is deemed complete.

(b) Subdivision (a) shall only apply to an approval of a tentative map, or a parcel map for which a tentative map was not required, on or after the date upon which the statutes of limitation specified in subdivision (c) of Section 65009 have run with respect to the amendments to the land use element of the city's or county's general plan and zoning ordinances required by Sections 65302.11 and 65860.2 or, if the amendments and any associated environmental documents are challenged in court, the validity of the amendments and any associated environmental documents has been upheld in a final decision.

(c) For purposes of this section, "wildfire risk reduction standards" means those wildfire risk reduction standards set forth in Section 65012 that are adopted pursuant to Section 65013 or implemented by the city or county pursuant to subparagraph (B) or (C) of paragraph (1) or subparagraph (B), (C), or (D) of paragraph (2) of subdivision (a) of Section 65012.

(d) This section shall not be interpreted to change or diminish the requirements of any other law or ordinance relating to fire protection. In the event of conflict among the wildfire risk reduction standards, or between the wildfire risk reduction standards and the requirements of any other law relating to fire protection, such conflicts shall be resolved in a manner which on balance is most protective against potential loss from wildfire exposure. Nothing in this section shall be construed to limit the existing authority of a city or county under any other law from adopting ordinances, rules, or regulations beyond the minimum requirements outlined in this section.

SEC. 15. Section 13132.7 of the Health and Safety Code is amended to read:

13132.7. (a) Within a very high fire hazard severity zone designated by the Director of Forestry and Fire Protection pursuant to Article 9 (commencing with Section 4201) of Chapter 1 of Part 2 of Division 4 of the Public Resources Code and within a very high fire hazard severity zone designated by a local agency pursuant to Chapter 6.8 (commencing with Section 51175) of Part 1 of Division 1 of Title 5 of the Government Code, the entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any one-year period, every new structure, and any roof covering applied in the alteration, repair, or replacement of the roof of every existing structure, shall be a fire retardant roof covering that is at least class B as defined in the Uniform Building Code, as adopted and amended by the State Building Standards Commission.

(b) In all other areas, the entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any one-year period, every new structure, and any roof covering applied in the alteration, repair, or replacement of the roof of every existing structure, shall be a fire retardant roof covering that is at least class C as defined in the Uniform Building Code, as adopted and amended by the State Building Standards Commission.

6 cont.

(c) Notwithstanding subdivision (b), within state responsibility areas classified by the State Board of Forestry and Fire Protection pursuant to Article 3 (commencing with Section 4125) of Chapter 1 of Part 2 of Division 4 of the Public Resources Code, except for those state responsibility areas designated as moderate fire hazard responsibility zones, the entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any one-year period, every new structure, and any roof covering applied in the alteration, repair, or replacement of the roof of every existing structure, shall be a fire retardant roof covering that is at least class B as defined in the Uniform Building Code, as adopted and amended by the State Building Standards Commission.

(d) (1) Notwithstanding subdivision (a), (b), or (c), within very high fire hazard severity zones designated by the Director of Forestry and Fire Protection pursuant to Article 9 (commencing with Section 4201) of Chapter 1 of Part 2 of Division 4 of the Public Resources Code or by a local agency pursuant to Chapter 6.8 (commencing with Section 51175) of Part 1 of Division 1 of Title 5 of the Government Code, the entire roof covering of every existing structure where more than 50 percent of the total roof area is replaced within any one-year period, every new structure, and any roof covering applied in the alteration, repair, or replacement of the roof of every existing structure, shall be a fire retardant roof covering that is at least class A as defined in the Uniform Building Code, as adopted and amended by the State Building Standards Commission.

(2) Paragraph (1) does not apply to any jurisdiction containing a very high fire hazard severity zone if the jurisdiction fulfills both of the following requirements:

(A) Adopts the model ordinance approved by the State Fire Marshal pursuant to Section 51189 of the Government Code or an ordinance that substantially conforms to the model ordinance of the State Fire Marshal.

(B) Transmits, upon adoption, a copy of the ordinance to the State Fire Marshal.

(e) The State Building Standards Commission shall incorporate the requirements set forth in subdivisions (a), (b), and (c) by publishing them as an amendment to the California Building Standards Code in accordance with Chapter 4 (commencing with Section 18935) of Part 2.5 of Division 13.

(f) Nothing in this section shall limit the authority of a city, county, city and county, or fire protection district in establishing more restrictive requirements, in accordance with current law, than those specified in this section.

(g) This section shall not affect the validity of an ordinance, adopted prior to the effective date for the relevant roofing standard specified in subdivisions (a) and (b), by a city, county, city and county, or fire protection district, unless the ordinance mandates a standard that is less stringent than the standards set forth in subdivision (a), in which case the ordinance shall not be valid on or after the effective date for the relevant roofing standard specified in subdivisions (a) and (b).

(h) Any qualified historical building or structure as defined in Section 18955 may, on a case-by-case basis, utilize alternative roof constructions as provided by the State Historical Building Code.

(i) The installer of the roof covering shall provide certification of the roof covering classification, as provided by the manufacturer or supplier, to the building owner and, when requested, to the agency responsible for enforcement of this part. The installer shall also install the roof covering in accordance with the manufacturer's listing.

(j) No wood roof covering materials shall be sold or applied in this state unless both of the following conditions are met:

(1) The materials have been approved and listed by the State Fire Marshal as complying with the requirements of this section.

(2) The materials have passed at least 5 years of the 10-year natural weathering test. The 10-year natural weathering test required by this subdivision shall be conducted in accordance with standard 15-2 of the 1994 edition of the Uniform Building Code at a testing facility recognized by the State Fire Marshal.

(k) The Insurance Commissioner shall accept the use of fire retardant wood roof covering material that complies with the requirements of this section, used in the partial repair or replacement of nonfire retardant wood roof covering material, as complying with the requirement in Section 2695.9 of Title 10 of the California Code of Regulations relative to matching replacement items in quality, color, and size.

(l) No common interest development, as defined in Section 4100 or 6534 of the Civil Code, may require an owner to install or repair a roof in a manner that is in violation of this section. The governing documents, as defined in Section 4150 or 6552 of the Civil Code, of a common interest development within a very high fire severity zone shall allow for at least one type of fire retardant roof covering material that meets the requirements of this section and that is, at a minimum, class B, as defined in the International Building Code.

SEC. 16. Section 4123.6 is added to the Public Resources Code, to read:

4123.6. (a) For purposes of this section:

(1) "Department" means the Department of Forestry and Fire Protection.

(2) "Program" means the Wildfire Risk Reduction Planning Support Grants Program established by this section.

6 cont.

(3) “Small jurisdiction” means either of the following:

(A) A county that had a population of less than 250,000 as of January 1, 2019.

(B) A city located within a county described in subparagraph (A) that contains a very high fire risk area.

(b) (1) The Wildfire Risk Reduction Planning Support Grants Program is hereby established for the purpose of providing small jurisdictions that contain very high fire risk areas with grants for planning activities to enable those jurisdictions to meet the requirements set forth in the act adding this section.

(2) Upon appropriation by the Legislature for purposes of this section, the department shall distribute grant funds under the program, in accordance with subdivision (e).

(c) The department shall administer the program and, consistent with the requirements of this section, provide grants to jurisdictions for the purposes described in paragraph (1) of subdivision (b).

(d) A small jurisdiction that receives an allocation of grant funds pursuant to this section shall use that allocation solely for wildfire risk reduction planning activities, including, but not limited to, one or more of the following:

(1) Updating planning documents and zoning ordinances, including general plans, community plans, specific plans, local hazard mitigation plans, community wildfire protection plans, climate adaptation plans, and local coastal programs to implement Sections 65302.11 and 65860.2 of the Government Code.

(2) Developing and adopting a comprehensive retrofit strategy in accordance with paragraph (6) of subdivision (g) of Section 65302 of the Government Code.

(3) Reviewing and updating the local designation of lands within the jurisdiction as very high fire hazard severity zones pursuant to subdivision (b) of Section 51179 of the Government Code.

(4) Implementing the wildfire risk reduction standards set forth in Sections 65012 and 65013 of the Government Code or local wildfire protection standards that meet or exceed those wildfire risk reduction standards, including development and adoption of any appropriate local ordinances, rules, or regulations.

(5) Establishing and initial funding of an enforcement program in accordance with subparagraph (C) of paragraph (1) of subdivision (a) of Section 65012 of the Government Code.

(6) Performing infrastructure planning, including for access roads, water supplies ~~providing~~ *sufficient to aid in* fire protection, or other public facilities necessary to support the wildfire risk reduction standards set forth in Sections 65012 and 65013 of the Government Code.

(7) Partnering with other local entities to implement wildfire risk reduction.

(8) Updating local planning processes to otherwise support wildfire risk reduction.

(9) Completing any environmental review associated with the activities described in paragraphs (1) to (8), inclusive.

(10) Covering the costs of temporary staffing or consulting needs associated with the activities described in paragraphs (1) to (9), inclusive.

(e) (1) The amount described in paragraph (2) of subdivision (b) shall be allocated in each year for which funding is made available for the program to small jurisdictions in accordance with this subdivision.

(2) The department shall administer a noncompetitive, over-the-counter application process for grants funded by the allocation specified in paragraph (1) for wildfire risk reduction planning activities, as described in subdivision (d), for small jurisdictions.

(3) The department shall award no more than three hundred fifty thousand dollars ($350,000), and no less than two hundred fifty thousand dollars ($250,000), to a qualifying small jurisdiction.

(4) Any qualifying small jurisdiction may submit an application for funding, in the form and manner prescribed by the department, in order to receive an allocation of funds pursuant to this subdivision. An application submitted pursuant to this paragraph shall include a description of the proposed uses of funds, in accordance with subdivision (d). The department shall verify whether each funding request meets the minimum criteria established by this subdivision and make awards on a continuous basis based on those criteria.

(f) Of any amount appropriated for purposes of this section, up to 5 percent of those funds may be set aside for program administration by the department.

(g) For purposes of this section, “very high fire risk area” has the same meaning as defined in Section 65011.

6 cont.

SEC. 17. Section 4290 of the Public Resources Code is amended to read:

4290. (a) The board shall adopt regulations implementing minimum fire safety standards related to defensible space that are applicable to state responsibility area lands under the authority of the department, and to lands classified and designated as very high fire hazard severity zones, as defined in subdivision (i) of Section 51177 of the Government Code. These regulations apply to the perimeters and access to all residential, commercial, and industrial building construction within state responsibility areas approved after January 1, 1991, and within lands classified and designated as very high fire hazard severity zones, as defined in subdivision (i) of Section 51177 of the Government Code after July 1, 2021. The regulations *for residential building construction* shall conform as nearly as practicable with the regulations adopted by the State Fire Marshal pursuant to Section ~~65013.~~ *65013 of the Government Code.* The board may not adopt building standards, as defined in Section 18909 of the Health and Safety Code, under the authority of this section. As an integral part of fire safety standards, the State Fire Marshal has the authority to adopt regulations for roof coverings and openings into the attic areas of buildings specified in Section 13108.5 of the Health and Safety Code. The regulations apply to the placement of ~~mobile homes~~ *mobilehomes* as defined by National Fire Protection Association standards. These regulations do not apply where an application for a building permit was filed prior to January 1, 1991, or to parcel or tentative maps or other developments approved prior to January 1, 1991, if the final map for the tentative map is approved within the time prescribed by the local ordinance. The regulations shall include all of the following:

(1) Road standards for fire equipment access.

(2) Standards for signs identifying streets, roads, and buildings.

(3) Minimum private water supply reserves for emergency fire use.

(4) Fuel breaks and greenbelts.

(b) The board shall, on and after July 1, 2021, periodically update regulations for fuel breaks and greenbelts near communities to provide greater fire safety for the perimeters to all residential, commercial, and industrial building construction within state responsibility areas and lands classified and designated as very high fire hazard severity zones, as defined in subdivision (i) of Section 51177 of the Government Code, after July 1, 2021. These regulations shall include measures to preserve undeveloped ridgelines to reduce fire risk and improve fire protection. The board shall, by regulation, define “ridgeline” for purposes of this subdivision.

(c) These regulations do not supersede local regulations which equal or exceed minimum regulations adopted by the state.

(d) The board may enter into contracts with technical experts to meet the requirements of this section.

SEC. 18. Chapter 10 (commencing with Section 550) is added to Division 1 of the Water Code, to read:

CHAPTER 10. Water Conveyance Infrastructure

550. The Legislature finds and declares all of the following:

(a) Wildfires have been increasing in frequency and severity in California. Recent wildfires have severely damaged critical infrastructure unable to withstand average temperatures of over 800 degrees Celsius, or 1,400 degrees Fahrenheit, underscoring the need to fire harden critical infrastructure in high fire risk areas.

(b) Recent fires have left the communities of Santa Rosa and Paradise with unforeseen wildfire recovery challenges due to the presence of contaminants in water systems due to pipe failures and the permeation of fire residues during wildfires.

(c) Certain water transmission and distribution infrastructure components can lose their integrity when heated, burned, or melted during a fire. The resulting loss of water system integrity can cause all of the following:

(1) The leeching, emission, and permeation of contaminants, exposing first responders, the public, and the environment to pollutants.

(2) The loss of water pressure or water availability to fire hydrants, fire sprinklers, and other appurtenances necessary to combat fires.

(3) Leaking sewers that can contaminate the environment and threaten public health.

(4) Undetected water leaks that waste limited water supplies, as well as the energy necessary for the treatment and pumping of that water, increasing greenhouse gas emissions and squandering increasingly scarce resources.

(5) Disruption in the ability to supply safe drinking water to occupancies during postfire recovery.

551. For purposes of this chapter, the following definitions apply:

(a) “Disadvantaged community” has the same meaning as defined in subdivision (a) of Section 79505.5.

(b) “Heat-resilient water conveyance infrastructure components” means water conveyance infrastructure components that do not

6 cont.

ignite, burn, melt, rupture, leak, lose integrity, or lose the ability to perform their intended functions without adverse effects, or permeate contaminants, as a result of exposure to wildfire temperatures.

(c) “Water conveyance infrastructure” means the following physical infrastructure components of water and sewer transmission and distribution systems, including, but not limited to, piping, pipe fittings, tubing, fittings, valves, mains, and hydrants up to a service connection, as defined in subdivision (s) of Section 116275 of the Health and Safety Code, except for infrastructure used for agricultural purposes.

(d) “Water corporation” has the same meaning as defined in Section 241 of the Public Utilities Code.

(e) “Water district” has the same meaning as defined in Section 20200.

(f) “Wildfire temperature” means a temperature over 800 degrees Celsius or 1,470 degrees Fahrenheit.

552. (a) On and after January 1, 2023, a water district, city, county, city and county, or water corporation that provides drinking water, wastewater, or recycled water shall use only heat-resilient water conveyance infrastructure components in those areas designated as very high fire hazard severity zones pursuant to Section 4202 of the Public Resources Code or Section 51178 or 51179 of the Government Code for a water infrastructure project that meet either of the following conditions:

(1) A project serving a disadvantaged community when state or federal funds pay for the entire capital expenditures on the project.

(2) All other projects when state or federal funds pay for at least 50 percent of the capital expenditures on the project.

(b) Nothing in this section precludes the use of infrastructure components that contain a de minimis amount of non-heat-resilient components or materials.

SEC. 19. No reimbursement is required by this act pursuant to Section 6 of Article XIIIB of the California Constitution because a local agency or school district has the authority to levy service charges, fees, or assessments sufficient to pay for the program or level of service mandated by this act, within the meaning of Section 17556 of the Government Code.

However, if the Commission on State Mandates determines that this act contains other costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.

Letter 21. Lee and Jim Budish

21-1 This comment is preamble. Please see the following responses.

21-2 Please see Master Response 2. The cited Senate Bill 12, the entire 25-pages of which is attached to this comment letter as comment 21-6, appears to have little to do with the Project, and in any event is not chaptered law nor in effect; it is only a bill. If passed into law, it would establish new requirements for safety elements of City and County General Plans and establish expanded grant programs and planning and design requirements for certain projects within the wildland-urban interface.

21-3 Please see Master Response 3.

21-4 Please see Master Response 1.

21-5 As determined by the Court, an EIR is not required for the Project.

21-6 Please see the response to comment 21-2.

Letter 22

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: RE Dipsea Ranch Land Division JUN2022 Amended MND - COMMENT
Date: Wednesday, July 13, 2022 3:11:16 PM

FYI:

From: Susan Hopp <hlpearth@fastmail.fm>
Sent: Wednesday, July 13, 2022 3:05 PM
To: Taylor, Tammy <TTaylor@marincounty.org>; Lai, Thomas <TLai@marincounty.org>; Tejirian, Jeremy <JTejirian@marincounty.org>
Subject: RE Dipsea Ranch Land Division JUN2022 Amended MND - COMMENT

RE Dipsea Ranch Land Division JUN2022 Amended MND - COMMENT

Dear Tammy Taylor, Tom Lai, Jeremy Tejirian,

Having just reviewed the County's amended language based on Marin County Judge Sweet's decision that the County's environmental analysis was flawed in three areas, I am writing to you as a concerned citizen and protector of our Mt. Tam Watershed. Please – this amended MND needs additional detail and due diligence by the County staff team. I am one of many stakeholders living nearby and have been following this proposed development for the last several years. It is disappointing and discouraging that the County is not assuming proper responsibility - specifically: 1

Regarding issue 1 or "A" in the County's JUN2022 Amended MND:

The judge's ruling on this issue was based on a **failure to explain where excess fill will be deposited**. The revised County language is frankly just words – as a citizen stakeholder, I and others require an explanation of where this soil will go – not some blah, blah words of 'hauled off site in accordance with applicable laws'. This landowner / developer has a record of not following legal regulatory requirements when he built the fire road without proper permits. Disposing of excess soil is a challenge for construction and all too easy to disperse on site. Given the sensitivity of the site and proximity to Redwood Creek and fragile salmon and other endangered species, this is too great a risk. Now is the time to demand specifics and something the community deserves. 2

Regarding issue 2 or "B" in the County's JUN2022 Amended MND:

The judge's ruling was based on a **lack of analysis to insure fire road soil stability and the risk of a future landslide**. Again the amendment does not inspire confidence with words "…appears not to have increased the potential for future landsliding." Huh? We need engineering quantitative detail – fire trucks are heavy. What are the weight capabilities of the road or what are the impacts of the roadway upgraded to support vehicular traffic? The risks and damage to Redwood Creek and the downstream ecosystem is great and will be irreparable. It is the County's responsibility to protect 3

this crucial public asset. How else can this be declared a “fire road”?

3 cont.

Regarding issue 3 or “C” in the County’s JUN2022 Amended MND – Drainage through stream conservation area (SCA) and wetland conservation areas (WCA):

If the County is claiming that for the proposed drainage of the future development, no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. Along with other concerned citizens, I ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks.

4

Thank you for your serious consideration of the request for this additional critical detail from a concerned constituent.

Sincerely,
Susan Hopp

--

Susan Hopp
hlpearth@fastmail.fm
415-602-9830

“Humankind is challenged, as it has never been challenged before, to prove its maturity and its mastery—not of nature but of itself.” Rachel Carson

Letter 22. Susan Hopp

22-1 This comment is preamble. Please see the following responses.

22-2 Please see Master Response 1.

22-3 Please see Master Response 2.

22-4 Please see Master Response 3.

Letter 23

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: Proposed Dipsea Ranch/ Weissman development
Date: Wednesday, July 13, 2022 5:38:51 PM

FYI:

From: John Graham <ej67g@att.net>
Sent: Wednesday, July 13, 2022 4:35 PM
To: Rodoni, Dennis <DRodoni@marincounty.org>; Moulton-Peters, Stephanie <smoultonpeters@marincounty.org>; Rice, Katie <KRice@marincounty.org>; Connolly, Damon <DConnolly@marincounty.org>; Arnold, Judy <JArnold@marincounty.org>; Lai, Thomas <TLai@marincounty.org>; Tejirian, Jeremy <JTejirian@marincounty.org>; Taylor, Tammy <TTaylor@marincounty.org>
Subject: Proposed Dipsea Ranch/ Weissman development

To Whom It May Concern:

It has come to my attention that even though Judge Sweet revoked approval of the subdivision due to flaws in the environmental analysis, the county's response seemed to hinge on evidence the community "cares". This email will at least indicate one family that cares and by talking with my neighbors I know that may others care.

Issue 1: Failure to analyze future use of the illegally modified "Fire Road"
Issue 2: Failure to analyze project drainage through critical habitat (WCA & SCA wetland/stream conservation areas)
Issue 3: Failure to explain where excess fill will be deposited

1

Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road
under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road."

2

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks.

3

With regard to the disposal of any and all excess soil (about 140 Cubic yards) from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction

4

industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek.

4 cont.

Thank you for your consideration of these points and hopefully your assistance in determining a more thorough analysis.

John and Elizabeth Graham
562 Panoramic Hwy.
Mill Valley, CA 94941

Letter 23. John Graham

23-1 This comment is preamble. Please see the following responses.

23-2 Please see Master Response 2.

23-3 Please see Master Response 3.

23-4 Please see Master Response 1.

Letter 24

From: Kutter, Rhonda
To: Hall, Chelsea
Subject: FW: Dipsea
Date: Tuesday, July 19, 2022 12:54:51 PM

-----Original Message-----
From: Roberta Weis <weisfam1@gmail.com>
Sent: Thursday, July 14, 2022 4:24 PM
To: Rodoni, Dennis <DRodoni@marincounty.org>
Subject: Dipsea

As residents living on panoramic for 42 years (across from the proposed development) we strongly protest the approval of this project, without careful oversite. All questions and probabilities of damage to this area, to the creek, which is treasured and walked everyday by many must be considered with more certainty of protection. 1
Thank you…. Mark and Roberta Weis
318 Panoramic Sent from my iPhone

Letter 24. Robert Weis

24-1 This comment does not address the IS/MND Amendment, nor other parts of the environmental review of the Project.

Letter 25

From: mmccabe812@aol.com
To: Rodoni, Dennis; Moulton-Peters, Stephanie; Rice, Katie; Connolly, Damon; Arnold, Judy
Cc: Lai, Thomas; Tejirian, Jeremy; Taylor, Tammy; Kutter, Rhonda
Subject: Dipsea Ranch Development, 455 Panormaic Highway
Date: Friday, July 15, 2022 4:15:11 PM

To Whom It May Concern:

I understand that Judge Sweet revoked the approval of the Dipsea Ranch subdivision because Marin County's environmental analysis of the proposed development plan had some flaws.
I sincerely hope that Board of Supervisors and County staff step up and do the environmental examination of this proposed project as required by Judge Sweet. 1

I have routinely expressed my frustration and disappoint with the County for it's failure to stop the owner of 455 Panoramic from the illegal activity in early 2014 that created a so called "Fire Road" on the lower portion of his parcel across from Kent Way. I watched those dump trucks loaded with dirt emptying their cargo onto the small wetlands and stream and called the County in a panic requesting that the work stop. The activity was allowed to continue until the "Fire Road" was completed. And, here we are today in 2022, looking at an illegally constructed roadway and a development project that I fear will further harm the Redwood Creek watershed. But, apparently, there is no undoing what has been done, so I can only hope that the County will be diligent in it's oversight of any and all construction projects undertaken on the 455 Panoramic parcels. 2

So, I'm asking that during the County's environmental examination of the project, as ordered by Judge Sweet, the following be done:

1) Limit any vehicular use of the illegal "Fire Road" to fire fighting or emergency equipment only. That the County specify, in writing, that no construction vehicles of any kind be allowed access to the "Fire Road". I worry that the use of heavy equipment on the illegally constructed roadway will further damage the small stream that struggles to survive already and that damage will be inflicted on the Redwood Creek watershed directly below the road. I don't want to witness dump truck loads of earth being removed from the construction projects on the property trundled over the "Fire Road". If the property owner is moving dirt/fill from his property then that debris should be removed via his own driveway at 455 Panoramic and not the "Fire Road" 3

2) Require the property owner to specify in writing, in advance, where the construction fill/dirt will be deposited or stored on his property. Please do not allow the construction dirt/fill to be piled or deposited anywhere near the Stream Conservation Area (SCA) boundaries or on the shoulder of the Panoramic Highway roadway. 4

I am hopeful that the County Board of Supervisors and County staff responsible for fulfilling Judge Sweet's orders will do so with the health of the environment and the Redwood Creek watershed in mind. 5

Thank you

Michele Egan McCabe
2 Kent Way
Mill Valley, CA 94941

Letter 25. Michele Egan McCabe

25-1 This comment is preamble. Please see the following responses.

25-2 Please see Master Response 2.

25-3 Please see Master Response 2.

25-4 Please see Master Response 1.

25-5 The IS/MND fulfills the requirements of the Court Order.

Letter 26

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: Regarding the Weissman development
Date: Monday, July 18, 2022 4:27:21 PM

FYI:

From: Scott Summit <scottwsummit@gmail.com>
Sent: Friday, July 15, 2022 9:57 AM
To: Taylor, Tammy <TTaylor@marincounty.org>
Subject: Regarding the Weissman development

> You don't often get email from scottwsummit@gmail.com. Learn why this is important

Dear Tammy Taylor,

As a resident of Mt Tam, and neighbor to the Weissman project, I must express my continued concern about the process and end-runs that are being taken around his potentially damaging project. We know that Weissman has not acted in good faith on many occasions, beginning with the construction of the illegal fire road that initiated the current problems, and we can only expect such behaviour to continue. We accept that a property owner has the right to build on their property, but this must remain within the limits defined by environmental, safety and contextural concerns. The illegal fire road clearly disregarded all, as did his original plan to pack many houses into this environmentally sensitive watershed.

We who live on the mountain and in the proximity of Weissman's illegal activities feel that his illegal fire road needs to be restored to its original state, setting a vital precedent for him and others who would choose to disregard all due process as they develop. Ignoring his illegal actions invites more of this behavior, as we've seen throughout the Bay Area and beyond. Short of that, his illegal road needs more extensive examination than the cursory reviews done to date. Since the illegal road lies in the watershed of a creek that runs 3-6 months/year (depending on drought status), dismissing the runoff issues that the illegal road presents overlooks the extensive long-term damage that it invites.

Finally, Weissman's plans must have a limits for his construction into the future. Since he clearly disregards all environmental and legal issues regarding his development, we cannot expect that he will ever voluntarily curtail his efforts until he has exploited every financial opportunity that this land offers him. We can assume that, if his current plans move forward as outlined, he will redouble his efforts to develop the remainder of the land for additional profits. If we leave him the opportunity to continue to build further and burden our mountain landscape on into the future, and we will likely all be dragged through this process again.

We deeply hope that the county acts in the reasonable manner, weighing the concerns voiced by the overwhelming majority of the local mountain residents (as seen by the hundreds of signatures collected in two days in 2021). We hope that the county will base all decisions on science, long-term interests of our mountain, and the precedent that this sets for future developers who would similarly seek to profit from this mountain's exploitation.

1

Best regards,

Scott Summit

354 Panoramic Highway

--

Scott Summit
ETHEREAL MATTER, inc

www.summitid.com
LinkedIn

* please note - the summitid@pacbell.net email is no longer in use.

Letter 26. Scott Summit

26-1 This comment does not address the IS/MND Amendment, nor other parts of the environmental review of the Project.

Letter 27

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: Weissman/Dipsea project
Date: Monday, July 18, 2022 4:27:40 PM

FYI:

From: Lai, Thomas <TLai@marincounty.org>
Sent: Friday, July 15, 2022 10:22 AM
To: Taylor, Tammy <TTaylor@marincounty.org>
Subject: FW: Weissman/Dipsea project

Regards,
-Tom Lai, Director
Marin County Community Development Agency
(415) 473-6292

From: Sara Burgess <saracburgess@gmail.com>
Sent: Friday, July 15, 2022 10:20 AM
To: Lai, Thomas <TLai@marincounty.org>
Subject: Weissman/Dipsea project

> You don't often get email from saracburgess@gmail.com. Learn why this is important

Dear Mr. Lai,

As a resident of Mt Tam, and neighbor to the Weissman project, I must express my continued concern about the process and end-runs that are being taken around his potentially damaging project. We know that Weissman has not acted in good faith on many occasions, beginning with the construction of the illegal fire road that initiated the current problems, and we can only expect such behaviour to continue. We accept that a property owner has the right to build on their property, but this must remain within the limits defined by environmental, safety and contextural concerns. The illegal fire road clearly disregarded all, as did his original plan to pack many houses into this environmentally sensitive watershed.

1

Concerning the County's statements on the "fire road", the amended MND does nothing to address the community's concerns about the stability of the existing road under the pressures of vehicular use. The County must either examine the weight capabilities of the existing fire road and post an allowable maximum weight, or it must analyze the environmental impacts of the roadway upgraded to support vehicular use, as described in the developer's own Geotechnical report. If the County fails to do either of these two things, it will be responsible for the results of

2

the road's failure, which will cause irreparable damage to the downstream ecosystem and could result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road."

2 cont.

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks.

3

With regard to the disposal of any and all excess soil from the site, I demand an explanation of where this soil will go. It is common knowledge in the construction industry that disposing of excess soil is challenging. If the contractor has trouble getting rid of it, will he just disperse it on-site, to then make its way into Redwood Creek? It is a strong possibility, and if that happens, it will be a devastating blow to a critically endangered species that is hanging on by a thread in Redwood creek.

4

Best regards,
Sara Burgess
354 Panoramic Hwy, Mill Valley
--

Sara Burgess

415-855-5629
www.saraburgessstudio.com
www.instagram.com/saraburgessstudio

Letter 27. Sara Burgess

27-1 This comment does not address the IS/MND Amendment, nor other parts of the environmental review of the Project.

27-2 Please see Master Response 2.

27-3 Please see Master Response 3.

27-4 Please see Master Response 1.

Letter 28

From: Ty Cashman
To: Rodoni, Dennis; Moulton-Peters, Stephanie; Rice, Katie; Connolly, Damon; Arnold, Judy; Lai, Thomas; Tejirian, Jeremy; Taylor, Tammy
Subject: Dipsea Ranch
Date: Saturday, July 16, 2022 12:34:23 PM

Concerning the proposed drainage of the future development, if the County claims no constructed drainage will be required within the WCA and SCA, then certainly there is a threshold the steep slope can handle without causing slides, erosion, and harm to the Creek and Wetland. We ask the County to specify the maximum amount of impermeable area the site can handle without causing environmental damage, or requiring any constructed storm water drainage controls within stream and wetland setbacks. 1

Thank you.

Letter 28. Ty Cashman

28-1 Please see Master Response 3.

Letter 29

From: Taylor, Tammy
To: Hall, Chelsea
Subject: FW: 455 PANORAMIC HIGHWAY PROPOSAL
Date: Monday, July 18, 2022 4:34:15 PM

FYI:

From: Dr. Edward J. Hyman <psychologyexpert@hotmail.com>
Sent: Saturday, July 16, 2022 8:57 AM
To: Rodoni, Dennis <DRodoni@marincounty.org>; Moulton-Peters, Stephanie <smoultonpeters@marincounty.org>; Rice, Katie <KRice@marincounty.org>; Connolly, Damon <DConnolly@marincounty.org>; Arnold, Judy <JArnold@marincounty.org>; Lai, Thomas <TLai@marincounty.org>; Tejirian, Jeremy <JTejirian@marincounty.org>; Taylor, Tammy <TTaylor@marincounty.org>
Subject: 455 PANORAMIC HIGHWAY PROPOSAL

More than a century ago, my grandfather, a Republican politician of a different epoch and ilk, along with his mentor and lifelong friend, Theodore Roosevelt, and his friends Ansel Adams, Congressman William Kent and John Muir recognized the profound beauty and significance of Marin County, and gained the political support to found what became Muir Woods National Monument. They recognized that the natural gifts to the people of Marin had to be worshipped and preserved as an environmentally sacred place for all Americans.

1

They sought to preserve that environment for their children, and their grandchildren. I am proud to carry forth that torch of conservation. Based on that tradition, I wanted to bring to your attention my concerns about the 455 Panoramic Highway Weissman proposal. Based on those serious concerns, I humbly ask you to address the following issue:

Issue 1: County's Failure to analyze the illegally modified Fire Road

I have read the County's statements on the "fire road." The amended MND does nothing of substance to address the community's concerns about the stability of the existing road under the pressures of vehicular use.
To address that concern, Marin County must either 1) examine the weight capabilities of the existing fire road and post an allowable maximum

2

weight; OR analyze the environmental impacts of the roadway properly upgraded to support vehicular use, as described in the Weissman's own Geotechnical report.
Failure to execute one of these options dictates legally that if the road fails, Marin County would become responsible for the results of the road's failure. A major concern is that such failure would cause irreparable damage to the downstream ecosystem and could further result in bodily harm and death of firefighters, misled by the County to believe this is an actual "fire road."

2 cont.

Issue 2: Failure to analyze project drainage through critical habitat (WCA - wetland conservation area)

I am further concerned with the proposed drainage of the future development. If the County asserts no constructed drainage will be required within the WCA and SCA, this determination would be made in light of the obvious threshold capacity of the steep slope to cope with runoffs without causing slides, erosion, and harm to the Creek and Wetland.
To contend with this, Marin County must determine and specify the maximum amount of impermeable area the site can handle without causing environmental damage, OR the County should require appropriate constructed storm water drainage controls within stream and wetland setbacks.

3

Issue 3: Failure to explain where excess fill will be deposited

My final concern is with disposal of any and all excess soil from the site. Where will this soil go? As is common knowledge in the construction industry, disposal of excess soil is challenging. If the contractor were to confront difficulties ridding the property of that soil, will the contractor be allowed, as is common, to disperse the excess soil on-site, then make its way into Redwood Creek?
Because of the criticality of this problem, and the proximity of this property to Redwood Creek, any such release of such materials into Redwood Creek would be devastating to Redwood Creek, a critically

4

endangered body that is hanging on by a thread. Years ago I used to run alongside the creek every January and watch the salmon return upstream to spawn. Now, the depth of the creek is so low due to broader environmental factors, that the salmon population has been severely reduced, indeed all but eliminated.

4 cont.

I ask that each of you on the Board, as well as each the respected staff at CPA, Tom, Jeremy and Tammy, take these concerns to heart and preserve a unique national treasure that our ancestors and the federal government have tried to preserve since the 1880's, a century and a half ago!

5

Sincerely,

Ed

Dr Edward J Hyman

for
Dr Deborah A McDonald
Dr Cameron McDonald-Hyman
Devon McDonald-Hyman
39 Seacape Drive, Muir Beach, CA 94965-9760
(415) 971-9725

Letter 29. Dr. Edward J. Hyman

29-1 The County appreciates the contributions of the commenter's family to the conservation of Muir Woods.

29-2 Please see Master Response 2.

29-3 Please see Master Response 3.

29-4 Please see Master Response 1.

29-5 This comment does not address the IS/MND Amendment, nor other parts of the environmental analysis of the Project.

Appendix A
Resumes of Report Preparers

IS/MND, IS/MND Amendment, Response to Comments:

Daniel Sicular, Ph.D.
Peter Hudson, CEG
Justin Taplin, M.S.

IS/MND, Response to Comments on the IS/MND:

Jennifer Michaud, M.A.
Joan Swan, M.S.

DANIEL T. SICULAR, Ph.D.

Principal, Sicular Environmental Consulting and Natural Lands Management

Dr. Daniel Sicular is the Principal of Sicular Environmental Consulting and Natural Lands Management, a firm specializing in CEQA environmental review, sustainable forest management, and habitat restoration. Dan is an experienced CEQA practitioner, having written and managed numerous Environmental Impact Reports and Initial Studies for projects ranging from natural resources permitting programs, to solid waste landfills and mining operations, to urban development projects. Dan has broad experience as an environmental planner, educator, and project manager, and has twenty-seven years of experience in watershed, forest, and wetlands conservation; land management; and habitat restoration. His work has focused on assessment of the effects of past and continuing land uses on natural resources, and the remediation of these impacts through restoration and sustainable land management practices.

Positions Held

Current
Principal, Sicular Environmental Consulting and Natural Lands Management (2016-present)

Past
Consulting Environmental Planning Manager, Marin County Community Development Agency (Sept. 2017- March 2018)
Forest Manager, Pacific Forest Trust, San Francisco, CA (2015-2016)
Senior Project Manager, Environmental Science Associates, San Francisco, CA (1994-2015)
Instructor, University of California, Berkeley Extension Environmental Management Program (1991-1994)
Instructor, San Francisco State University Environmental Resources Program (1990-1993)

Education

Ph.D., Geography, University of California, Berkeley (1989)
M.A., Geography, University of California, Berkeley (1984)
B.A., Southeast Asian Studies, University of California, Berkeley (1982)

Additional Educational Training

Geomorphic and Ecological Fundamentals of River and Stream Restoration, Intensive Short-Course taught by Prof. Matt Kondolf. U.C. Berkeley School of Environmental Design, 1996.

Salmonid Restoration Federation Field School: In-Stream Structures and Bioengineering for Stream and River Restoration, held at University of California Forestry Camp, Meadow Valley, CA, 1997.

Relevant Experience

San Rafael Rock Quarry Supplemental Environmental Review (Project Manager). Dan assisted Marin County with preparation of a CEQA Supplemental Environmental Review and EIR Addendum for the proposed extension of the reclamation timeline for the San Rafael Rock Quarry. The Addendum was adopted, and the extension granted, by the Board of Supervisors in November 2021. The extension allows for continued mining through at least 2044. Dan previously managed the completion of an EIR for the Quarry (see below). The Supplemental Environmental Review covered the full range of environmental topics.

Marin County Department of Public Works/Flood Control and Water Conservation District, Environmental Planning and Coordination Services (*Project Manager*). Dan is assisting the District with coordination and review of environmental review documents for the Ross Valley Watershed Program. These

have included the San Anselmo Flood Risk Reduction Final EIR, the Corte Madera Creek Flood Risk Management Project Draft EIS/EIR, and the Corte Madera Creek Flood Risk Management Project Phase 1 EIR.

Gallinas Levee Upgrade Initial Study, Marin County Department of Public Works/Flood Control and Water Conservation District (*Project Manager*). Dan prepared a CEQA Initial Study for the planned raising of the timber reinforced berm atop the Gallinas Levee, which protects the Santa Venetia neighborhood from tidal and riverine flooding of Las Gallinas Creek. The Initial Study was completed in June, 2019 and a Mitigated Negative Declaration was adopted for the project in October, 2019.

Alta Way Extension Initial Study, Marin County. *Project Manager*. Dan prepared a CEQA Initial Study for a proposed grading permit to extend an existing residential street in the Tamalpais Valley to access ten legal lots of record. Working closely with Community Development Agency and Department of Public Works staff, Dan navigated complex technical and planning issues as well as public controversy over the project. The Initial Study concludes that the project would have the potential for significant effects on the environment, and that an EIR should be prepared. The Initial Study was completed in April, 2018.

Marin County Emergency Operations Facility EIR, *Project Manager. (ESA)* Dan was ESA's project manager for preparation of an EIR for Marin County's proposed Emergency Operations Facility, which was being considered for location on the County Civic Center campus. Working with staff from the County Administrator's Office and Community Development Agency, Dan and his team examined in detail six potential locations for the facility, including four sites on the Civic Center campus as well as two off-site locations. Of paramount importance in the EIR was a consideration of the compatibility of the Emergency Operations Facility with the 2005 *Marin County Civic Center Master Design Guidelines*, which are intended to ensure that all future development on the Campus is consistent with Frank Lloyd Wright's original Master Plan. The EIR was unusual in conducting an economic analysis and architectural study of the alternative locations. Work was stopped on the EIR just before the Draft was due to be published in April 2011, as the Board of Supervisors began focusing attention on the Marin Commons office complex site, one of the alternatives being examined in the EIR; because this site was an existing office complex, purchasing and repurposing it for the Emergency Operations Facility were exempt from CEQA review.

San Rafael Rock Quarry EIR, **Marin County. *Project Manager (ESA)*.** Working with the Marin County Department of Public Works and Community Development Agency, Dan and his team at ESA managed the preparation an EIR for the San Rafael Rock Quarry's Amended Reclamation Plan and Surface Mining and Quarrying Permit. The quarry, located at Point San Pedro near the City of San Rafael, extracts and processes rock for use as aggregate, road base, rip-rap, and other products. Operation of the quarry had become a matter of considerable controversy, due to impacts on the residential neighborhood that adjoins the quarry property. Of particular concern to the site's neighbors were blasting, truck traffic, and a degraded view shed. The project included an analysis of potential impacts of planned post-reclamation use of the site, which included cutting a channel between the 400-foot deep main quarry bowl and San Pablo Bay in order to create a lagoon and ship channel. A mixed commercial, residential, and marina development was planned for the site. The Final EIR was certified, and the project approved by the Marin County Board of Supervisors, in 2009.

Redwood Landfill Expansion EIR, Marin County. *Project Manager (ESA).* While at ESA, Dan managed the completion of a Subsequent EIR for the proposed expansion of the Redwood Landfill, located near Novato in Marin County. Dan worked closely with County Environmental Health Services and Community Development Agency staff to develop an alternative to the project that refocuses the facility on materials and energy recovery, rather than landfill disposal, and that limits the size of the expansion and daily waste intake to levels commensurate with the County's needs. Ultimately, the County approved the alternative, after certifying the EIR in 2008. Subsequently, Dan worked with the County on preparation of Supplemental

Environmental Review leading to an Addendum to the EIR, examining a materials recovery facility and expansion of the existing composting operation.

Other EIRs

While at ESA, Dan managed through to certification the following Environmental Impact Reports (lead agency and date of certification provided; asterisk (*) indicates that the EIR withstood legal challenge):

Cold Creek Compost Facility EIR, Mendocino County (1998)*

Blue Line Transfer Station/Materials Recovery Facility EIR, South San Francisco (1999)

Ostrom Road Landfill Expansion, Yuba County (1999)*

Yolo County Central Landfill EIR, Yolo County (2005)

Redwood Landfill EIR, Marin County (2008)*

Shasta and Scott River Watershed-wide Permitting Programs EIRs, CA Depart. of Fish and Wildlife (2009)

San Rafael Rock Quarry Expansion and Reclamation Plan EIR, Marin County (2009)

San Francisco Bay and Delta Sand Mining EIR, California State Lands Commission (2012)*

Pilarcitos Quarry Expansion and Reclamation Plan EIR, San Mateo County (2012)

Sonoma County Compost Facility EIR, Sonoma County Waste Management Authority (2013)

Landbank Central and Wolfe Campus EIR, City of Sunnyvale (2014)

Roblar Road Quarry Supplemental EIR (as a Subcontractor to ESA), Sonoma County (2019)

Watershed, River Restoration, Forestry, and Wetland Project Experience

City of Santa Cruz Watershed Lands Opportunities and Constraints Report, Santa Cruz, CA ***Project Manager, Co-Author.*** With Dr. Christopher Keyes, Dan prepared a report examining potential strategies for managing the 4,000 acres of forested watershed lands owned by the City of Santa Cruz, to protect and enhance water quality, improve forest health, and generate an economic return for the City's Water Department. The report's recommendation to manage a portion of the watershed lands for sustainable timber management, and other portions for restoration of later seral forest conditions, was accepted by the City's water commission and is currently in the early stages of implementation.

La Honda Forest Management Plan, La Honda, CA. ***Project Manager, Co-Author*****.** In collaboration with Dr. Christopher Keyes and Buena Vista Forest Resources group, Dan is working with the Midpeninsula Regional Open Space District to prepare a management plan for the forested areas of the La Honda Creek

Open Space Preserve. The preserve includes about 1,400 acres of second-growth redwood forest. Dan and his team conducted a forest inventory to characterize current conditions and developed a model of forest condition classes to serve as a basis for planning silvicultural treatments to restore old growth character and ecological function.

San Vicente Redwoods Conservation Plan, Davenport, CA. ***Project Manager.*** In 2011, four conservation organizations (Peninsula Open Space Trust, Sempervirens Fund, Save the Redwoods League, and the Land Trust of Santa Cruz County) formed a partnership to purchase and conserve the 8,500-acre San Vicente Redwoods property located near Davenport, Santa Cruz County. Dan managed the preparation of a Conservation Plan to identify and delineate those areas of the property with the highest conservation values, and thus the greatest suitability for management as conservation reserves, and also to delineate those areas of the property most suitable for management for sustainable timber production. The planning effort used a comparative, watershed-based approach, and relied heavily on GIS analysis and collaboration with the Conservation Partners. The Conservation Plan was finalized in early 2013, and was subsequently used as a basis for a conservation easement for the property.

San Vicente Redwoods Management Plan, Davenport, CA. ***Project Manager.*** After completion of the Conservation Plan, Dan worked with the Conservation Partners to prepare a Management Plan for the San Vicente Redwoods property. The Management Plan focuses on forest management, specifically silvicultural prescriptions for restoration of forest stands within the "conservation reserves" delineated in the Conservation Plan, and sustainable management of the remainder of the property (some 3,500 acres) as "working forest." The working forest is to be managed primarily for timber production, but also for conservation and protection of sensitive habitat and features. In 2017 and 2018, Dan assisted the Conservation Partners with planning, permitting, and implementation of the Deadman Gulch Restoration Project, including preparation of detailed restoration prescriptions and design of a specialized pre-treatment forest inventory. Dan continues to assist with assessment of restoration work and planning additional phases of treatment.

Sempervirens 236 Old Growth Redwood Restoration Plan, Santa Cruz, CA. ***Deputy Project Manager.*** Working with a team of foresters, biologists, hydrologists, and geologists, Dan prepared this plan for Sempervirens Fund's 106-acre property at the intersection of Highways 9 and 236 in Santa Cruz County. The primary goal was "…to identify, based on a thorough analysis of existing conditions, constraints, and opportunities, the specific actions Sempervirens can take now to improve habitat and biodiversity, and accelerate the transition of this property from a working forest to a forest preserve that will better encourage the development of characteristics and processes typical of old growth forests."

Sempervirens 236 Southern Conifer Flats Old Growth Redwood Restoration Project, Santa Cruz, CA. ***Project Manager.*** Following completion of the Sempervirens 236 plan, Dan managed the implementation of the Sempervirens 236 Plan. This project involved application of silvicultural treatments to an 18-acre redwood stand at the southern end of the property, with the intent of speeding the forest's acquisition of old growth characteristics. The project was set-up with paired treatment and non-treatment plots, extensive pre-treatment surveys to characterize baseline conditions, and post-treatment reporting of results. The project was completed in December, 2012. In 2017, Dan, working with the foresters and biologists, completed a 5-year monitoring study to assess the changes in forest conditions that can be attributed to the restoration treatments.

Forest Manager, Pacific Forest Trust, San Francisco, CA. Dan managed three working conservation forests in Northern California and Oregon totaling over 11,000 acres. These private forests are managed under the strict terms of conservation easements which enable timber harvest to support the property and the property owner, while protecting and enhancing the conservation values of the property. Dan prepared management plans for two of the forests, worked with local foresters to plan and oversee timber harvest operations, established a soil disturbance monitoring program, addressed trespassing, neighbor

encroachment, and public access issues, and obtained grant funding for restoration work focusing on road and culvert upgrades to protect aquatic resources.

Pescadero-Butano Watershed Assessment and Stewardship Plan, Pescadero Cruz, CA. ***Project Manager.*** The project, sponsored by the Monterey Bay National Marine Sanctuary Foundation, included extensive community outreach and involvement to focus the project scope and to build stakeholder support. The Assessment itself included a detailed study of past and present land uses and their effects on watershed stability and water quality, with the goal of identifying limiting factors to the native steelhead and coho salmon fisheries. Major features of the assessment were a land use history, hydrologic analysis, construction of a sediment budget, and analysis of the current state of the salmonid fishery. Dan coordinated field research and was the principal author of the Plan. The final report was completed in 2004.

South Bay Aqueduct Watershed Protection Program Plan, Livermore, CA. ***Project Manager.*** Dan worked with the Alameda County Water District, Zone 7 Water Agency, and the Santa Clara Valley Water District to prepare a Watershed Protection Program Plan and related educational materials for the watershed areas of the South Bay Aqueduct (SBA). The SBA is a branch of the State Water Project that delivers a portion of the drinking water supply for large portions of Alameda and Santa Clara Counties. The project involved stormwater sampling from streams flowing into two SBA reservoirs, identification of possible contaminating activities in the largely rural and unpopulated watersheds of the reservoirs, and development of best management practices (BMPs) to reduce the risk of contaminants entering the water supply, particularly from ranching and low-density rural residential development. Development of the Plan was overseen by a stakeholder group. The project included an educational component to raise public awareness about the source of drinking water, and to promote use of the recommended BMPs.

Coast Dairies Long-Term Resource Protection and Use Plan, Davenport, CA. ***Deputy Project Manager.*** The 7,000-acre Coast Dairies property stretches for seven miles along the coastline of northern Santa Cruz County. The property was purchased by the Trust for Public Land to remove it from the path of development. Dan coordinated an assessment of the hydrology and aquatic resources in each of the property's six watersheds, focusing on salmonid habitat quality, water quality and flow, erosion potential, and identification of human-induced erosion sources. The planning effort included development of a road and trails program to enable public access while protecting aquatic and terrestrial resources, and development of a program to perfect water rights to allow continued grazing and agricultural uses, while enhancing habitat for listed aquatic species, including steelhead, coho salmon, and California red-legged frog.

Navarro Watershed Restoration Plan, Mendocino County, CA. ***Project Coordinator.*** Working with the Anderson Valley Land Trust, Mendocino County Water Agency, and California State Coastal Conservancy, Dan staffed and facilitated meetings of the project's Community Advisory Group, acted as the project's principal contact with local, state, and federal agencies and with local landowners, worked with scientific and planning consultants, coordinated community education and volunteer efforts, and prepared written and oral project reports. The plan establishes a scientific basis and a comprehensive approach to conserving and restoring the steelhead trout and coho salmon fisheries in the Navarro River and its tributaries through voluntary and cooperative efforts. The final plan was completed in October 1998. Subsequent to completion of the plan, Dan worked with the Mendocino County Resource Conservation District, landowners, consultants, and equipment operators to implement key provisions of the plan in selected sub-watersheds, primarily with funding from the California Department of Fish and Wildlife's Fisheries Restoration Grant Program.

San Leandro Marsh Enhancement Project Assessment, San Leandro, CA. ***Deputy Project Manager.*** Dan conducted post-restoration studies of a San Francisco Bay tidal marsh, including assessment of the effectiveness in restoring tidal action on the Marsh's biological productivity, slough channel morphology, and hydrology.

California Department of Parks and Recreation Pescadero Marsh Restoration Assessment, Pescadero, CA. ***Project Manager.*** Dan worked with fisheries biologists, botanists, and hydrologists to design and conduct technical studies of this large Central California salt marsh to assess physical and biological changes attributable to a series of restoration actions intended to restore the Marsh's natural hydrology and biological productivity. The project final report included recommendations for additional restoration work and an adaptive management program for future Marsh stewardship, with an emphasis on protection and enhancement of habitat for listed species.

California Department of Fish and Wildlife Shasta and Scott Watersheds Permitting Programs EIRs. ***Project Manager.*** Dan managed the preparation of two separate EIRs for permitting programs aimed at reducing the impacts of farming and ranching activities on coho salmon in two major Klamath River tributaries within California: The Scott River and the Shasta River. The aim of the programs was to reduce individual and cumulative effects of water diversions, grazing, and crop production on water quantity, watery quality, fish passage, and spawning and rearing habitat, through the issuance of heavily-conditioned incidental take permits and streambed alteration agreements to farmers and ranchers in the two valleys. The EIRs included quantification of GHG emissions and sequestration from program activities, including riparian forest restoration. Both EIRs were certified in October, 2009.

PETER HUDSON PG, CEG

Principal/Senior Geologist

Pete Hudson has over 30 years of broad-based experience in engineering geology, hydrogeology, environmental assessment, geotechnical and surface water. He is a professional geologist and certified engineering geologist in the state of California, a registered geologist/engineering geologist in the state of Washington, and a Qualified SWPPP Practitioner (QSP), as required under California's Construction General Permit. His general roles and responsibilities include providing geological, engineering geology, geotechnical, geophysical, and hydrogeological technical support in land development projects, water quality assessments, water resource and geological studies for planning, permit assistance, environmental impact assessments with emphasis on hydrological and geologic issues, soils investigations and erosion/geomorphic investigations, planning/policy assessments, and mitigation planning and monitoring. Pete has managed numerous field site assessment efforts and authored numerous geoscience and hydrology-related technical reports and technical sections under CEQA and NEPA. Pete provides technical input and senior review for completion of work products including EIRs and EISs, and EAs. In addition, Pete contributes his technical expertise to resource management plans, reclamation/restoration plans, erosion control plans, draft permits (e.g., NPDES), land development environmental feasibility analyses, and site selection/constraints studies.

Education

BA, Geology, San Francisco State University
Engineering. University of San Francisco
Seismicity and Geotechnical Earthquake Engineering, UC Berkeley, 2003
Earthquake Regulations Laws, and Policies, UC Berkeley, 2002
Evaluation and Mitigation of Seismic Hazards, UC Berkeley, 2000
Seismic Hazards Analysis, Association of Engineering Geologists, 1997
Site Assessment and Remediation Certification Program, UC Berkeley, 1996
Groundwater Associates of Princeton Groundwater Pollution and Hydrology, 1991
Hazardous Materials Health and Safety Training – 29 CFR 1910.120 (40 hours), 1988

Certifications

Professional Geologist, California (Registration No. 6730)
Certified Engineering Geologist, California (Registration No. 2348)
Professional Geologist/Engineering Geologist, State of Washington (Registration No. 2048)
Qualified SWPPP Practitioner QSP (Certificate No. 21673)

Employment History

Sutro Science, LLC. Sausalito, CA. 2016 - Present Co-Founder/Principal.
Environmental Science Associates (ESA). San Francisco, CA. 1998 – 2016 Senior Technical Manager
Fugro West/ENSR. San Francisco, CA. 1995 – 1998 Project Geologist/Project Manager
Cascade Earth Sciences. Spokane, WA. 1994 – 1995 Project Geologist/Project Manager
Hart Crowser Inc. San Francisco, CA. 1991 – 1994 Senior Staff Geologist/Project Manager
Kaldveer Associates. Oakland CA. 1987 – 1991 Staff Geologist

PETER HUDSON PG, CEG

Principal/Senior Geologist

RELEVANT PROJECT EXPERIENCE

Leona Quarry Residential Project, Alameda County, CA. Analysis of geologic and hydrologic impacts associated with the conversion of a former quarry to a residential development. Issues included bedrock slope stability, analysis of potential shear zones, post-project surface water management, seismic ground shaking and occurrence of shallow groundwater.

Roblar Road Quarry, Sonoma County, CA. Analysis for a new aggregate quarry in Sonoma County, adjacent to a closed, unlined landfill. Analysis addressed potential impacts associated with soil and bedrock slope stability, groundwater migration (from the adjacent landfill), alteration of surface water flow, and impacts from reclamation.

Monte Bello Ridge Open Space Preserve Land Exchange, Santa Clara County, CA. Analysis addressed the potential for erosion during construction and operation of public trails and vineyards, potential slope failure on soil and bedrock slopes, and potential impacts to water quality and biological resources.

Pacifica Quarry Reclamation Evaluation, Pacifica, CA. Geotechnical/geological feasibility study for proposed industrial complex within a former coastline limestone quarry. Issues included bedrock slope stability, depth of overburden, bedrock failure and jointing. Project culminated with report emphasizing mine reclamation and feasibility of construction within area of former excavation.

San Francisco Public Utilities Commission (SFPUC) Watershed Management Plan, San Francisco, San Mateo, and Alameda Counties. Impact analysis to address seismic issues, soil slope engineering, surface water, hydrogeologic evaluations and geologic. Emphasis in the Peninsula Watershed property included construction of hiking trails and the impact of the proposed trails on erosion, landsliding and sedimentation.

Canyon Rock Quarry Expansion Project, Sonoma County, CA. Related issues included slope stability and surface water runoff impacts to adjacent creek, water quality impacts due to surface erosion, and groundwater extraction.

RMC Pacific Vernalis Quarry, Vernalis, CA. Analysis of impacts to groundwater supply, surface water quality, and mining slope stability. Provided technical peer review on groundwater demand study and a recent slope stability study that identified during the early stages of the EIR analysis.

Landslide Hazard Evaluation. Main Post Office, Danville, CA. Conducted geologic/landslide evaluation to assess nearby offset slope failure and to evaluate whether current off-site slope instability threatens soil stability at the USPS facility.

Earthquake Fault Hazard Studies – Antioch and Oakland, CA. Geologic mapping and fault rupture hazard study for the Antioch Junior High School and an active Oakland Safeway, completed in accordance with the Alquist-Priolo Earthquake Fault Zones Act.

Furnace Creek Water Management Plan. Senior technical review of the hydrologic and geologic impacts associated with the Furnace Creek Water Management Plan in Death Valley National Park. Analysis of seismic hazards, slope stability, and fluvial processes.

PETER HUDSON PG, CEG

Principal/Senior Geologist

Jamestown Avenue Residential Development, San Francisco, CA. Analysis involving site geology, seismic conditions, landslide susceptibility, landslide mapping and analysis, and hydrologic hazards necessary to complete Mitigated Negative Declaration for this controversial residential development project on Candlestick Hill.

Alta Street Apartments, San Francisco, CA. Geologic and seismic analysis of EIR for proposed residential development on the cliffs of Telegraph Hill. Work included review of available geotechnical reports, over-sight of geotechnical consultants, and review of third-party technical reports addressing bedrock slope stability.

Fairfield-Suisun Sewer District (FSSD) Outfall Study, System and Treatment Master Plan, Fairfield, CA. Geologic and hydrology analyses, and preparation of chapters for the EIR. Issues including the project proximity to active faults, structural integrity of levees, performance of outfall structures, and competence of engineered fills.

Merced Wild and Scenic River Comprehensive Management Plan in Yosemite National Park, CA. Analysis of geologic and geologic hazards along the Merced River corridor associated with the Merced River Plan. Analyzed impacts related to rockfall landslides, earthquakes, soil resources, floodplains, and channel dynamics for five project alternatives

Alta Way Extension Initial Study, Mill Valley CA. Sutro assisted Sicular Environmental Consultants with the CEQA Initial Study for this Mill Valley subdivision. Primary geologic and geotechnical issues involved foundation placement and grading on slopes composed of sheared and fractured mélange of the Franciscan Complex.

San Geronimo Golf Course Constraints Analysis, Marin County, CA. Sutro assisted with Sicular Environmental Consulting to conduct a constraints analysis of the site, analyzing constraints in the areas of geology, surface water hydrology, groundwater hydrology, water quality, and hazardous materials.

San Rafael Rock Quarry Amended Reclamation Plan and Amended Quarry Permit EIR, Marin County, CA. (2009). Analysis of issues pertaining to geology/seismicity and hydrology chapters of the EIR. Main technical issues involved fugitive dust emissions and crystalline silica, erosion and storm water, and post-reclamation conversion to a marina.

San Rafael Rock Quarry Supplemental EIR, Marin County Public Works Department, Marin, CA. Project included analysis of geology, soils, and geotechnical issues, (e.g., slope stability) for the proposed amendment. The analysis considered changes to baseline conditions, new applicable laws and regulations, and Quarry operations that affect reclamation that may have changed since publication of the 2009 FEIR.

Redwood Landfill Solid Waste Facilities Permit Revision, Marin County, CA. Primary technical issues involved the landfill cover, slope analysis, the Leachate Collection and Recovery System (LCRS) operations analysis and levee stability. Bay mud presented challenging geotechnical stability and groundwater/leachate management issues.

Napa Canyon Vineyards Erosion Control Plan, Napa County, CA. Primary technical issues include increased slope stability, offsite drainage, sediment transport and delivery to American Canyon Creek, and offsite flooding potential. Evaluated the effectiveness of erosion control features and provided mitigation for those determined unable to adequately control wintertime storm flows.

JUSTIN TAPLIN, M.S.

Principal/Senior Environmental Scientist

A skilled and effective scientist, technical manager, and strategic thinker, Justin brings more than 15 years of California based consulting experience to the environmental review and compliance process. He applies expertise in the arenas hydrology, water quality, fisheries science, and water resource regulation with a discerning eye to produce comprehensive and defensible environmental assessments and mitigation strategies. He acts as technical manager, senior reviewer, and lead author for large-scale, often contentious, complex program- and project-level Environmental Impact Reports, Environmental Impact Statements, and other documents pursuant to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). As technical manager, he routinely coordinates with engineering and technical sub-consultants with expertise in a variety of fields such as stormwater retention and conveyance, stormwater treatment, hydromodification, and water quality. Prior to co-founding Sutro Science LLC, Justin worked at Environmental Science Associates from 2007 to 2015 as a technical manager contributing to a wide range of development, water supply, habitat restoration, flood improvement, energy, and infrastructure projects.

Education and Certifications

M.S. Environmental Management. University of San Francisco, California. Research Thesis: "*California Steelhead (Oncorhynchus mykiss) populations at the southern margin of the species range: the role of coastal lagoon habitat.*"

B.S. (Hons) Biological Sciences. University of Westminster, UK.

Certified Fisheries Professional (#3146, 2010-2020, renewal in process), American Fisheries Society
Advanced CEQA Workshop. AEP, 2015.
CEQA Case Law Updates, Issues, Trends. Sohagi Law Group, 2010.
Stormwater Regulations in CA. NWET, September 2009.
Management of Water in CA. UC Berkeley Extension, 2008.

Employment History

Co-Founder/Principal. Sutro Science, LLC. Sausalito, CA. 2015-Present

Technical Manager (Hydrology and Water Quality). Environmental Science Associates. San Francisco, CA. 2011-2015

Senior Associate. Environmental Science Associates. San Francisco, CA. 2007-2011

Research Associate/Fisheries Biologist. Hanson Environmental, Inc. Walnut Creek, California. 2003-2007

Outreach Consultant, Center for Environmental Safety and Management for Business, Middlesex University, UK. 2002-2003

Research Assistant, Flood Hazard Research Center, Middlesex University, UK. 2000-2002

JUSTIN TAPLIN, M.S.
Principal/Senior Environmental Scientist

Selected Peer Reviewed Publications and Presentations

Taplin, J. & B. van Wesemael. 2000. *Impacts of spatial variation of soil properties on hydrology of semiarid hillslopes*. Published in: Enne G., Zanolla C., Peter D., 2000. "Desertification in Europe: mitigation strategies, land-use planning". Proceedings of the Advanced Study Course, Alghero, 1999. European Commission. EUR 19390. European Commission Environment and Climate Program.

Roberts, J. W., J. Taplin, E. Zigas. 2017. *Disposal of Seawater Desalination Brines and the CEQA/NEPA Process*. American Society of Civil Engineers (ASCE): World Environmental and Water Resources Congress, May 1, 2017. Available at: https://ascelibrary.org/doi/abs/10.1061/9780784480632.021

Taplin, J. 2018. *Analyzing Environmental Impacts of Seawater Desalination in California, a case study for analyzing water quality impacts under CEQA*. Invited Guest Lecture as part of Sustainable Environmental Design major, College of Environmental Design, UC Berkeley.

Clark, K. W., M. D. Bowen, R. B. Mayfield, K. P. Zehfuss, J. D. Taplin, C. H. Hanson. 2009. *Quantification of Pre-Screen Loss of Juvenile Steelhead in Clifton Court Forebay*. California Department of Water Resources, Division of Environmental Services. March 2009.

RELEVANT PROJECT EXPERIENCE

34th America's Cup and Cruise Terminal EIR, San Francisco, CA. ***Hydrology and Water Quality.*** Environmental review for two projects was completed through a single EIR: 1) the 34th America's Cup sailing events; and 2) a new Cruise Terminal located along the San Francisco Bay shoreline. The America's Cup Event Authority proposed a variety of temporary coastal and offshore facilities. The Cruise Terminal involved in-water work along the Bay shoreline. Justin managed all tasks related to the hydrologic and water quality impacts analysis for the EIR and coordination of engineering and technical sub-consultants, hydrologists, and coastal process engineers. Justin evaluated the project components, which posed several unique hydrologic and water quality impacts along the Bay margin. Key issues included use of temporary project facilities, such as wave attenuators, in-water construction impacts, and temporary land use changes.

Vista Grande Drainage Basin Improvement Project EIR/EIS, Daly City, CA. ***Technical Manager: Hydrology and Water Quality*****.** Justin worked with Daly City and San Francisco Public Utilities to provide CEQA/NEPA documentation, and hydrologic and water quality technical support for a project that proposes to address storm-related residential flooding in the basin while beneficially re-using storm water for management of Lake Merced. Justin designed and implemented water quality investigations (including a water quality sampling program) related to Basin Plan, 303d, and NPDES issues and was lead author and analyst for the hydrology and water quality section of the EIR/EIS. Key issues include stormwater re-use impacts to lake water quality and stratification dynamics, fisheries habitat, coastal erosion impacts from and sea level rise resilience of outfall structures, Operation and management of stormwater treatment wetlands.

Landbank Central Sunnyvale Campus EIR, City of Sunnyvale, CA. ***Hydrology and Water Quality*****.** Justin was responsible for all aspects of hydrology and water quality analyses, with an emphasis on stormwater, for a proposed campus-style office/R&D facility located in Central Sunnyvale. He authored a section that was geared toward the new project components within the context of regional stormwater management regulations. Key issues included assessing proposed stormwater management solutions aimed at reducing pervious surfaces on-site to aid in long-term stormwater runoff and water quality control.

JUSTIN TAPLIN, M.S.
Principal/Senior Environmental Scientist

Alta Way Extension IS/MND, Marin County Public Works Department, Marin, CA. *Hydrologist.* Marin County is conducting environmental review for a grading permit application to allow the extension of Alta Way, an existing residential street in unincorporated Mill Valley. The extension of Alta Way would provide access and utility extensions for six to ten undeveloped legal lots of record. Because approval of the grading permit would allow access to undeveloped lots, the analysis of impacts included the proposed extension of Alta Way and the future development of up to ten lots. Justin was responsible for all aspects of hydrology and water quality analysis for the future development of the ten new residential lots, located on steep slopes within the Coyote Creek watershed. Justin's analysis of impacts considered public scoping comments related to concerns that existing stormwater infrastructure is insufficient to accommodate stormwater from the project and that increased runoff from the site could increase flooding, erosion, and sediment transport downgradient for roads, creeks, and residential properties.

Alpine Road Trail Improvement Project. San Mateo County Department of Public Works, CA. *Hydrologist*. Justin was senior reviewer and lead author for hydrology, water quality, and fisheries environmental impact assessments under CEQA for proposed work to restore a 1.84-mile segment of the Lower Alpine Road Trail, which included bank stabilization at three sites along the adjacent Los Trancos Creek, within unincorporated San Mateo County. Justin was responsible for all aspects of the impact analyses and worked with a team of engineers and geomorphologists to assess hydromodification impacts in Los Trancos Creek related to proposed bank armoring strategies for stabilization. Justin worked with local stakeholders, including Stanford University, to develop alternatives and mitigation plans to address stakeholder concerns regarding urbanization and armoring of the creek channel and fisheries habitat impacts.

Monterey Peninsula Water Supply Project (MPWSP) EIR/EIS, Monterey, CA. *Technical Manager: Hydrology and Water Quality*. The MPWSP includes a seawater intake system comprised of coastal subsurface slant wells and a desalination plant. The project has been subject to high profile and complex technical and legal hurdles. Justin was technical manager and lead author supporting preparation of the EIR/EIS. Justin evaluated all water quality impacts related to construction and operation, with a focus on the discharge of desalination brine within the Monterey Bay National Marine Sanctuary, and the development of feasible and defensible mitigation strategies. Justin collaborated closely with Professor Phil Roberts of Georgia Tech., a leading expert in desalination regulation and discharge plume model analysis and coordinated with experts in marine resources at Applied Marine Sciences regarding salinity impacts to benthic species. Key issues included water quality impacts related to the discharge of desalination brine and subsequent impacts to water quality and marine organisms.

Sonoma County Water Agency, Russian River Estuary Management Plan EIR, Jenner, CA. *Technical Manager: Fisheries / Water Quality.* The Sonoma County Water Agency proposed adaptive management of the Russian River Estuary to comply with a 2008 NMFS Biological Opinion. NMFS concluded that the practice of artificial lagoon breaching at the mouth of the Russian River resulted in significant adverse effects on the estuarine rearing habitat for juvenile salmonids. The proposed project included the dual objectives of enhancing rearing habitat for juvenile salmonids and managing water levels to minimize flood hazards. The project proposed to adaptively manage the lagoon outlet channel with the intent of achieving a sustained "perched lagoon". As Technical Manager, Justin was responsible for assessing impacts to water quality and aquatic species, including listed salmonids. A key component to assessing impacts involved investigating the conversion of natural and managed coastal estuaries to freshwater lagoons during summer months and the associated effects of water quality changes on both short- and long-term productivity and salmonid survival.

PRUNUSKE CHATHAM, INC.

Jennifer Michaud
Senior Wildlife Biologist

Jennifer Michaud is a senior wildlife biologist with nearly 20 years' experience in wildlife and fisheries research and management in California with a strong focus on local riparian communities and endangered species issues. At PCI, Jennifer oversees all aspects of wildlife-related work. She holds federal and state permits for select special-status species and has received repeated approvals to serve as a qualified biologist for project specific relocations for listed salmonids and a number of wildlife species. Jennifer is also trained in U.S. Army Corps of Engineers jurisdictional wetland delineations.

Selected Professional Experience

Senior Wildlife Biologist, *Prunuske Chatham Inc., 2001 to present*

- Fitch Mountain Park and Open Space Preserve Management Plan and CEQA Compliance for City of Healdsburg. Project manager and lead biologist for management plan development including public access improvements, public outreach and meetings, and CEQA compliance. Primary purpose of project is to prepare a management plan and guide public access improvements prior to the transfer of the Preserve to the City of Healdsburg. 2016 to 2018.
- Pine Gulch Creek Watershed Enhancement Project for Marin Resource Conservation District. Lead biologist for regulatory compliance and oversight for construction and monitoring of off-channel ponds in Pine Gulch Creek, Bolinas, Marin County. Work includes relocations and on-going monitoring of California red-legged frog and other wildlife species. 2015 to 2017.
- Healdsburg Ridge Open Space Preserve Management Plan and CEQA Compliance for Sonoma County Agricultural Preservation and Open Space District. Project manager and lead biologist for management plan update, public outreach, and CEQA compliance. Primary purpose of project is to update an existing management plan prior to the transfer of the Preserve to the City of Healdsburg. 2013 to 2015.
- Taylor Mountain Natural Resources Management for Sonoma County Agricultural Preservation and Open Space District. Project manager and lead biologist for Ecological Resources Report and Resource Management Plan chapters. Primary purpose of plan is to balance management and enhancement of wildland resources with recreational use. 2011 to 2012.
- Bournemouth Site Biological Resource Assessment, Wetland Delineation, and Mitigation Planning for Lake Berryessa Resort Improvement District. Project manager and lead biologist for assessment, mapping, and impact analysis of natural resources to support CEQA compliance for 80-acre parcel proposed for expansion of wastewater treatment and disposal facilities. 2011 to 2015.
- On-site biological resources assessments and reporting for resource management plans, ecological restoration projects, state park coastal projects, private residences, and small-scale developments. Assessments include evaluation of aquatic biological resources, terrestrial wildlife (e.g., amphibians, reptiles, and birds), special-status species, and sensitive terrestrial and aquatic communities including wetlands and other waters.
- Surveys and regulatory compliance for fish, endangered California freshwater shrimp, birds, amphibians, reptiles, and mammals.
- Lead on-site biologist for dewatering and aquatic species relocation activities (e.g., salmonids and other native fish, frogs, freshwater shrimp, pond turtles, etc.).

Education and Honors

- M.A., Biology, Sonoma State University.
- B.A., Biology (zoology), Sonoma State University, *magna cum laude*
- A.S., Santa Rosa Junior College

PRUNUSKE CHATHAM, INC.

Joan Schwan
Principal Ecologist

Joan Schwan has over 20 years of experience in vegetation research, conservation, restoration, and monitoring programs. Her work focuses on natural resource assessment and planning for parks and preserves, and planning and implementation of habitat restoration projects. Joan also leads the science team at PCI, providing project oversight and guidance for other staff members. She has worked in settings ranging from the dunes of the Sonoma County coast to vernal pools, oak woodlands, redwood forests and riparian habitats of the greater Bay Area, Central Valley riparian habitats and forests of the lower Sierra. Joan brings a broad ecological perspective to her work, and a commitment to helping people enjoy and engage with the natural world while sustaining natural systems and functions.

Selected Professional Experience

Vegetation Ecologist, *Prunuske Chatham Inc., 2008 to present*, ***Principal,*** *2016 to present*

- Sonoma Developmental Center, Existing Conditions, Opportunities and Constraints Study, for California Department of Developmental Services as a subcontractor to Wallace Roberts and Todd. Lead ecologist and project manager for assessment of natural resource conditions on 900-acre site proposed for redevelopment. Developed recommendations for protecting and enhancing resources, with input from community stakeholders and experts. (2017-ongoing)
- Vital Lands Initiative Writing Assistance, Sonoma County Agricultural Preservation and Open Space District (Ag + Open Space). Prepared natural resource sections of strategic planning document and consulted on vegetation goals. (2017)
- Sonoma Valley Regional Park Expansion Master Plan and CEQA, Sonoma County Regional Parks. Project manager, lead author for natural resource components, technical review and editing for plan as a whole. Oversaw preparation of IS/MND. (2016-2017)
- Open Space Preserve Management Plans for Ag + Open Space and for the City of Healdsburg. Lead ecologist for development of multiple management plans for properties including Fitch Mountain, Taylor Mountain, Poff Ranch, North Slope Sonoma Mountain, and Healdsburg Ridge. Each of these entails identifying natural resources present, determining recreational uses compatible with resource protection, and providing guidance for ongoing maintenance and restoration needs. (ongoing)
- Sonoma County Vegetation Mapping Program, Ag + Open Space. Lead ecologist for team led by Tukman Geospatial to develop county-wide vegetation classification and detailed vegetation mapping. Provided guidance on approach, coordinated site access, facilitated ecological/botanical expert advisory group, and did detailed editing/review of high-priority wetland and riparian mapping. (2012-2017)
- Revegetation planning, management and monitoring:
    - PG&E Riparian Mitigation, Fresno region. Project manager and lead ecologist for two sites along the San Joaquin and Kings River. Project includes design, implementation, permitting through the Central Valley Flood Protection Board, community engagement, and monitoring. (ongoing)
    - PG&E Crane Valley Dam retrofit project, including planning and coordination of restoration of pine forest habitat to 40 acres of quarry and other impacted areas on USFS lands. (2012-2018)
    - PG&E Pit River hydroelectric facility relicensing, including project management of spoils piles revegetation effort and development of seed collection plan, monitoring plans, and roadside revegetation plan for coniferous forest, riparian, and oak woodland settings. (ongoing)
- Laguna Wetlands Preserve Restoration and Management Plan, City of Sebastopol. Project manager and vegetation ecologist for plan development, public workshops, implementation cost estimation, and guidance for improved Preserve public access and maintenance as well as ecological restoration. 2015.

Education

- M.S. Biology, Sonoma State University, 2006. Thesis: Effects of Livestock Grazing on Native and Exotic Vegetation in Vernal Pools.
- B.A. Human Biology, Stanford University, 1992