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RESPONSE TO CEC STAFF DATA REQUEST SET 1 (1-33)

Gilroy Backup Generating Facility (20-SPPE-03)

SUBMITTED TO: CALIFORNIA ENERGY COMMISSION
SUBMITTED BY: **Amazon Data Services, Inc.**

February 25, 2020

DAYZEN LLC

INTRODUCTION

Attached are Amazon Data Services, Inc. (ADS) responses to California Energy Commission (CEC) Staff Data Request Set No. 1 (1-33) for the Gilroy Backup Generation Facility (GBGF) Application for Small Power Plant Exemption (SPPE) (20-SPPE-03). Staff issued Data Request Set No. 1 on January 28, 2021.

The Data Responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as Staff presented them and are keyed to the Data Request numbers (1-33). Additional tables, figures, or documents submitted in response to a data request (e.g., supporting data, stand-alone documents such as plans, folding graphics, etc.) are found in Attachments at the end of the document and labeled with the Data Request Number for ease of reference.

For context the text of the Background and Data Request precede each Data Response.

GENERAL OBJECTIONS

ADS objects to all data requests that require analysis beyond which is necessary to comply with the California Environmental Quality Act (CEQA) or which require ADS to provide data that is in the control of third parties and not reasonably available to ADS. Notwithstanding this objection, ADS has worked diligently to provide these responses swiftly to allow the CEC Staff to prepare the Initial Study/Mitigated Negative Declaration (IS/MND).

AIR QUALITY AND PUBLIC HEALTH

BACKGROUND: AIR QUALITY DISTRICT APPLICATION

The proposed project would require a permit from the Bay Area Air Quality Management District (district or BAAQMD). For purposes of consistency, staff needs copies of all correspondence between the applicant and the district in a timely manner in order to stay up to date on any issues that arise prior to completion of the initial study.

DATA REQUEST

1. Please provide copies of all substantive district correspondence regarding the application to the district, including e-mails, within one week of submittal or receipt. This request is in effect until staff publishes the initial study or draft environmental impact report.

RESPONSE TO DATA REQUEST 1

ADS will provide the CEC Staff with copies of all BAAQMD correspondence, including emails, within one week of submittal/receipt. To date no submittals have been made.

BACKGROUND: CALEEMOD Modeling Files

The applicant used CalEEMod to estimate construction emissions (shown in Table 4.3-6 of the small power plant exemption (SPPE) application) and mobile and general building operational emissions (shown in Table 4.3-8). To validate the applicant's work, staff requests the CalEEMod input and output files that the applicant used to estimate emissions.

DATA REQUEST

2. Please provide the CalEEMod input and output files used to estimate construction emissions and mobile and general building operational emissions. If emissions are updated, please provide the CalEEMod files for the most updated emission estimates.

RESPONSE TO DATA REQUEST 2

The CalEEMod input and output files will be uploaded to a secure SharePoint set up by CEC Staff.

BACKGROUND: METEOROLOGICAL DATA AND BACKGROUND DATA USED IN MODELING

In the air dispersion modeling analysis, the applicant used the meteorological data for the calendar years 2013 through 2017. In the refined modeling analysis for the 1-hour nitrogen dioxide (NO_2) standards, the applicant used 2013-2017 hourly ozone data and 2015-2017 NO_2 data. However, more recent data from 2018 and 2019 have become available. For example, the BAAQMD provided meteorological data for 2018 and 2019 for another station for another project. The applicant should be able to get the updated meteorological data for the San Martin Airport from the BAAQMD. The ozone and NO_2 background data for 2018 and 2019 are readily available from the California Air Resources Board (CARB) or United States Environmental Protection Agency (US EPA). Staff needs modeling results for more recent years to make sure the most current and representative meteorological conditions and background data are considered in the impacts analysis of the project.

DATA REQUEST

3. Please update the air dispersion modeling analysis with the most recent years of available data (i.e. 2015-2019 for the meteorological data and hourly ozone data and 2017-2019 for the NO_2 data. If 2020 data are available, please use the meteorological data and hourly ozone data for 2016-2020 and NO_2 data for 2018-2020).

RESPONSE TO DATA REQUEST 3

It is important to note that since the original air quality modeling efforts was completed in late 2020, the BAAQMD issued a letter on December 21, 2020 purporting to declare that Tier 4 emissions limits were “achieved in practice” for large emergency diesel-fired generators and on that basis claimed that Tier 4 emission limits are therefore Best Available Control Technology (BACT). Without justification or regulatory support the BAAQMD declared that this purported BACT determination would be applied retroactively contrary to its past practice and its applicable rules. ADS does not agree (1) that Tier 4 emission limits have been achieved in practice or are BACT, (2) that BAAQMD’s actions are supported by applicable law or evidence, or (3) that BAAQMD can retroactively apply its purported achieved in practice/BACT determination to previously completed permit applications.

Without conceding that Tier 4 emission limits would be BACT for the GBGF , or that Tier 4 emissions limits have been achieved in practice, and for the sole purposes of proceeding expeditiously through the SPPE application review process with the

Commission, ADS has authorized its consultant team to revise the air quality and public health analyses assuming the use of Tier 4 compliant emergency backup generators. That analysis is currently underway and it is estimated that it will be submitted on or before March 26, 2020. In addition to the revised air quality and public health analysis, a revised project description will be submitted along with confirmation that the original noise analysis contained in the SPPE Application is applicable to the Tier 4 compliant generators.

At this time, ADS does not believe the modification to Tier 4 complaint generators would affect any of the other technical areas contained within the SPPE Application. Therefore, ADS requests the Commission Staff continue processing the SPPE Application by focusing on the technical areas unrelated to the Tier 4 compliant generators.

To that end, the revised modeling will seek to use the updated identified in this data request if available from the BAAQMD.

BACKGROUND: OZONE MONITORING STATIONS

The SPPE application lists three ambient monitoring stations: the Gilroy monitoring station (for ozone and PM2.5 data), the San Jose-Knox Avenue monitoring station (for NO_2 and CO data), and the San Jose-Jackson Street monitoring station (for SO_2 and PM10 data). However, staff noticed that ozone is also monitored at the San Martin monitoring station, which is about 4.8 miles north-northwest of the project. The San Martin monitoring station, located at 13030 Murphy Ave, San Martin, is about 0.3 mile from Highway 101. However, the Gilroy monitoring station (used by the applicant), located at 9th and Princevalle St, Gilroy, is about 1 mile from Highway and 1.2 miles southwest of the project. Given the project's proximity to Highway 101, staff believes the San Martin monitoring station represents the ambient air quality conditions at the project site better than the Gilroy monitoring station, even though the Gilroy monitoring station is closer to the project. The applicant needs to revise the NO_2 modeling analysis with the ozone data from the San Martin monitoring station, unless it can demonstrate that using the ozone data from the Gilroy monitoring station would result in more conservative NO_2 impacts.

DATA REQUEST

4. Please revise the NO_2 modeling analysis with the ozone data from the San Martin monitoring station or demonstrate that using the ozone data from the Gilroy monitoring station would result in more conservative NO_2 impacts.

RESPONSE TO DATA REQUEST 4

Please see Response to Data Request 3 above. ADS will either use the ozone data from the San Martin monitoring station or will demonstrate that using the ozone data from the Gilroy monitoring station would result in more conservative NO_2 impacts.

BACKGROUND: SENSITIVE RECEPTORS

On page 58 of the application (Table 4.3-5), the applicant provided a list of sensitive receptors near the project site. On Table 4.3-12 of the application, the applicant listed Health Risk Assessment (HRA) Results for four receptors: PMI – Point of maximum impact, MEIR – Maximum exposed individual residential receptor, MEIW – Maximum exposed individual worker receptor and MEISR – Maximum exposed individual sensitive receptor. Staff needs more information to check the validity of the HRA.

DATA REQUESTS

5. Please provide the following information for PMI, MEIR, MIEW, MEIS and all the sensitive receptors on Table 4.3-5.
   a) Their HARP receptor numbers.
   b) Their latitude and longitude along with UTM coordinates. Staff needs this information for the cumulative HRA.

RESPONSE TO DATA REQUEST 5

Please see Response to Data Request 3 above. The requested information will be provided for the revised modeling and docketed along with the revised air quality and public health analyses.

BIOLOGICAL RESOURCES

BACKGROUND: Arborist Report

An Arborist Report (Appendix E, TN #236014) was provided as part of the SPPE application. This report provided some evaluation of 18 trees on and adjacent to the proposed project site. Page 2 of the arborist report includes the Gilroy City Code 30.38.270 Protect Tree Removal (d) application submittal details required, but deemed some items not relevant to all trees and therefore left some information out of the report. The information left out of the report is required for CEQA review, which includes the Gilroy City Code 30.38.270 for protected tree removal.

DATA REQUEST

6. Please provide an updated arborist report that includes the following:
   a) circumference values for all trees,
   b) a site plan of the existing trees over an aerial photograph with the identification of each tree,
   c) details and information for items 1, 5, 7, 9, 10, 11, and 12 of the Gilroy City Code 30.38.270 Protected Tree Removal (d) application, and
   d) a tree replacement table that includes the size (in circumference) and species of each tree to be removed and what size and species will replace it.

RESPONSE TO DATA REQUEST 6

The arborist report has been revised and is included in Attachment BIO DR-6. Please see below for responses regarding each item requested to be included in the updated arborist report.

a) The circumference values for all trees are included in the attached updated arborist report.

b) A site plan showing the location of the existing trees is included in the attached updated arborist report.

c) The section of the Gilroy City Code referenced in the data request details the City's requirements for an application to remove protected trees. This section of the City Code is not applicable to the project because the project does not propose to remove any protected trees, as defined in

Gilroy City Code 30.38.270 (b) (3 and 4):

"(3) Indigenous Tree. A tree which is native to the Gilroy region, including oaks (all types), California bay (Umbellularia californica), big leaf maple (Acer macrophyllum), madrone (Arbutus menziesii), California sycamore (Platanus racemosa), California buckeye (Aesculus californica) and alder (Alnus glutinosa).

(4) Protected Tree. Any indigenous tree characterized by having a single trunk of thirty-eight (38) inches in circumference or more at a point four and one-half (4-1/2) feet above the ground. Nonindigenous tree species and orchards (including individual fruit and nut trees) are exempt from this definition for the purpose of this section."

The trees to be removed by the project do not include any of the species listed above and are therefore not protected under the City Code. Although the attached arborist report identifies some trees as "protected", the arborist confirmed that they are labeled this way because all public street trees are considered "protected" in the sense that they require a City permit to remove. However, these trees are not subject to the requirements of City Code 30.38.270 (d).

d) Because the trees to be removed by the project are not considered protected trees under the City Code, there is no requirement for a specific amount, size, or species for replacement trees. Nevertheless, a table showing trees to be removed, including size and species, is included in the attached updated arborist report. Although replacement trees are not required, the project proposes to plant new trees throughout the site, as shown on sheets L100 and L101 of Appendix A of the SPPE Application.

BACKGROUND: Nitrogen Deposition Modeling

Impacts of excessive nitrogen deposition to plant communities include direct toxicity and changes in species composition among native species such as enhancement of non-native invasive species. The increased dominance and growth of invasive annual grasses is especially prevalent in low-bio-mass vegetation communities that are naturally nitrogen limited such as serpentine habitats. Although the Gilroy Backup Generator Facility (GBGF) site does not contain suitable habitat for listed species, there is critical habitat for Bay checkerspot butterfly (federally endangered) within 6 miles of the project site.

Although air emissions including nitrogen oxides (NOx) were discussed in the SPPE application (TN 236004), no model or data to determine the total nitrogen deposition rate as well as the extent of the plume from the testing and maintenance of the proposed project's backup generators were provided. Nitrogen deposition resulting from NOx emissions during the testing and maintenance of the backup generators of the proposed project would have potentially significant impacts on sensitive habitats (including critical habitat) and species nearby if the nitrogen deposition plume covers these areas.

While the proposed project is a "covered project" under the Santa Clara Valley Habitat Plan, the fees imposed are related to mobile emission sources only. Therefore, a separate evaluation of nitrogen deposition must be made for the backup generators, which contribute as a point source for NOx emissions and hence nitrogen deposition.

DATA REQUESTS

7. Please use AERMOD or an equivalent model to provide an analysis of impacts due to total annual nitrogen deposition from the testing and maintenance of the backup generators. The analysis should specify the amount of total annual nitrogen deposition in kg/ha/yr at the designated critical habitat for Bay checkerspot butterfly. Please provide complete citation for references used in determining this number.

RESPONSE TO DATA REQUEST 7

This effort is currently underway and will be provided under separate cover as a Supplemental Response to this data request.

8. Please provide an isopleths graphic over the most recent aerial photographs (or equally detailed maps) of the direct total annual nitrogen deposition rates caused by the backup generators. This will be a graphical depiction of the project's nitrogen deposition contribution. Include on the aerial the location of the proposed project and the Bay checkerspot butterfly critical habitat.

RESPONSE TO DATA REQUEST 8

This effort is currently underway and will be provided under separate cover as a Supplemental Response to this data request.

CULTURAL/TRIBAL CULTURAL RESOURCES

BACKGROUND

Assessment of potential impacts on cultural and tribal cultural resources hinges in part on knowing the extent and character of ground-disturbing activities associated with a project. The SPPE application does not appear to identify whether major foundations (supporting generators, data center buildings, electrical substation, and the security building) would be solely on concrete slab foundations or concrete foundations on a deep pile system (see TNs 236004, 236015). Additionally, the application depicts four poles to carry an overhead electrical transmission line, although it does not disclose the diameter or depth of excavation required to install the poles (TN 236007).

DATA REQUESTS

9. How deep would the contractor have to excavate to build foundations for the backup generators, data center buildings, security building, and substation?
    a. Please identify what type of foundation would be employed for each structure.
    b. If identifying a single type of foundation is currently premature, please state the types of foundations under consideration.
    c. Please provide depths of excavation for foundations in inches or feet from the top of the new grade, responsive to data requests a and b above.

RESPONSE TO DATA REQUEST 9

The portions of the site that will support structures will undergo a subsurface ground improvement program that will involve the use of Rammed Aggregate Piers (RAP). The RAP subsurface ground improvement system comprises a series of piers constructed of uniformly graded aggregate (or stone) installed using specialized equipment. The piers are installed vertically in the ground in either a triangular or square grid. Depths for the piers will be approximately 15 feet below grade. After the RAP system is installed, the top soil will be treated with lime prior to the placement of fill material. The site will then be raised using the onsite soil stockpile (approximately 75,000 cubic yards), the reuse of excess soil from installation of the RAP system, and imported fill non-expansive soil material obtained from a permitted local quarry. The fill material will be compacted to design specifications prior to the installation of foundations. All foundations will then be shallow either concrete mat or spread footings. None of the shallow foundations will be installed deeper than the RAP system and therefore will be installed in either compacted

fill material or in soil previously disturbed by the RAP improvement activities.

The depths of excavation for each planned structure are provided below:

- Final Soil Grading to bottom of footings
- Building Foundation = 197 to 196 = Approximately 3 feet depth
- Bio-retention basin = Approximately 15 feet deep
- Generator foundation = Approximately 3 feet deep
- Security building = Approximately 3 feet deep
- Utility Trenches = 191 to 168.5 = gradual slope 2% for site sewer (deepest site utility = approximately 22.5 feet)

10. Please describe the typical excavation required for the installation of the tubular steel poles in terms of diameter and depth below the new grade.

RESPONSE TO DATA REQUEST 10

ADS has requested information from PG&E responsive to this request and will docket it as a Supplemental Response to this Data Request when received.

BACKGROUND

The applicant plans to import 210,000 cubic yards of fill soil to raise the project site's elevation (TN 236004, p.19). The application does not identify the source(s) of imported fill. Acquisition of soils from off-site sources could cause impacts to cultural or tribal cultural resources through equipment traffic and excavation at the source(s).

DATA REQUEST

11. Please describe the locations from which the applicant expects to obtain fill for construction of the proposed project.
    a. Include the name(s) and location(s) of the fill source(s).
    b. If the applicant has not yet identified the specific fill source(s), please describe their type (such as construction site, other property owned by the applicant, or commercial soil supplier).

RESPONSE TO DATA REQUEST 11

Please see Response to Data Request 9 above.

BACKGROUND

The proposed project might require interim electrical service from Pacific Gas and Electric Company's (PG&E's) Llagas Substation. The applicant expects that PG&E would use existing underground substructures wherever possible in routing the interim electrical supply from Llagas Substation 1.5 miles to the project site. (TN 236004, p.23.)

DATA REQUEST

12. Please identify the likely route or routes of the interim electrical line on a street map and U.S. Geological Survey topographic quadrangle.

RESPONSE TO DATA REQUEST 12

ADS has requested information from PG&E responsive to this request and will docket it as a Supplemental Response to this Data Request when received.

BACKGROUND

Appendix D to the application mentions a "future water treatment system" (TN 236014, Appendix D, p.2).

DATA REQUEST

13. Would the proposed project include a water treatment system?
    a. If the project would include such a facility, please describe it and characterize the scale of excavation (particularly depth) required to construct it.

RESPONSE TO DATA REQUEST 13

The SPPE Application inaccurately mentioned a future water treatment system. ADS briefly considered a water treatment system early in its design process for the GDC. However, such a system has been rejected and is no longer a potential design option and was inadvertently mentioned in the SPPE Application. Therefore, there is no need for the Commission to evaluate a potential future water treatment system.

HAZARDS AND HAZARDOUS MATERIALS

BACKGROUND: Fuel Tank Replenishment Strategies
The project design calls for a separate diesel fuel tank for each emergency generator. Each diesel engine would be readiness tested on a regular schedule, consuming a portion of its fuel.

DATA REQUEST

14. Please provide the fuel tank replenishment strategy and frequency, and the estimated frequency of fuel trucks needing to visit the facility for refueling.

RESPONSE TO DATA REQUEST 14

Each generator size has a fuel tank with a capacity of approximately 5000 gallons. Based on the maintenance and testing schedule anticipated, the average Fuel consumption for each generator per month would be approximately 174 gallons. It is anticipated that every 3 months, ADS will schedule fuel replenishment of approximately one fuel truck to "top off" the generator fuel tanks. ADS anticipates approximately 4 deliveries per year.

BACKGROUND: Diesel Fuel Degradation Precautions
Stored diesel fuel is subject to degradation over time, which can render it unsuitable for use and potentially requiring it to be changed-out for fresh fuel.

DATA REQUEST

15. Please describe what measures are planned to maintain adequate quality of the stored fuel. Is the generator equipped with a fuel filtration system? How often might the stored fuel need to be changed-out for new? If needed, how would this be accomplished? How many fuel truck visits would be required?

RESPONSE TO DATA REQUEST 15

ADS will test the fuel twice annually for moisture content and bacteria growth in the fuel tank by taking fuel sample and sending to the lab. Once the Lab determines the need for polishing, ADS will do fuel polishing in house to remove the water content in the fuel and bacteria.

So far, ADS does not foresee the need to replace the fuel with a since the polishing process seems to be effective and the generators will operate every month with refueling quarterly. However, in the rare event that there was the need to replace fuel, ADS would contact the fuel filling company and contract for the old fuel to be siphoned from the tank and replaced with new fuel.

HYDROLOGY AND WATER QUALITY

BACKGROUND

The proposed project would import 210,000 cubic yards of soil to raise the site grade and attempt to reclassify the flood zone designation for a portion of the site. The application indicates that site grading and construction would alter the characteristics of the existing floodplain and could impede or redirect flood flows.

DATA REQUESTS

16. Please describe how long it is expected to take to receive approval from the Federal Emergency Management Agency (FEMA) for the proposed Conditional Letter of Map Revision-Fill (CLOMR-F), after the application has been filed with FEMA.

RESPONSE TO DATA REQUEST 16

The City of Gilroy flood plain administrator would review floodplain package as part of the final design drawings. ADS estimates that it would take approximately 1 month for City of Gilroy review and 90 days for FEMA, unless either agency requires additional information. ADS estimates that it will receive a Conditional Letter of approval in approximately 4 months from final submittal. ADS will submit CLOMR request approximately 6 months prior to application for grading permit.

With the information provided in the Response to Data Request 17 and in Attachment HYD DR-20, completion of the CLOMR process is not necessary for the CEC to make a determination of the project's impact under CEQA. Please see Response to Data Request 17 and 20.

17. Please map the expected extent of the changes in flood stage as a result of the proposed placement of fill.

RESPONSE TO DATA REQUEST 17

Changes in flood stage that would result from the proposed placement of fill are provided in the figure below. The maximum projected increase in 100-year water surface elevation is 0.1 foot, which according to the Attachment HYD DR-20, has been established as below the threshold of significance for CEQA work in Santa Clara County and the City of Gilroy.

With this information, and the information contained in Attachment HYD DR-20, the CEC can make a determination of the project's impact under CEQA prior to completion of the CLOMR process.

BACKGROUND

Modifications to the floodplain have the potential to impact neighboring properties or community floodplain management. Hence, FEMA requires a Community Acknowledgement form to accompany a CLOMR request.

DATA REQUESTS

18. Please provide feedback from the community floodplain manager that indicates acceptance of the proposed change to the floodplain and willingness to sign the Community Acknowledgement form.

RESPONSE TO DATA REQUEST 18

Please see to Response to DR 16 and 17 for evaluation of potential impacts under CEQA. The CLOMR is not needed until grading permit.

19. Please provide a contact name, phone number, and email of the community floodplain manager.

RESPONSE TO DATA REQUEST 19

The community floodplain manager is a rotating position within the City of Gilroy Planning Department. The two senior planners that usually fill this position are Cindy McCormick and Kraig Tamborini. Contact information is provided below.

408-846-0440
Kraig.Tambornini@cityofgilroy.org
Cindy.McCormick@cityofgilroy.org

BACKGROUND

As stated in the application for exemption, the proposed fill has the potential to,"alter the characteristics of the existing floodplain and could impede or redirect flood flows."

DATA REQUEST

20. Please describe any project design elements that might be necessary to mitigate for potential exacerbating flooding impacts at neighboring properties.

RESPONSE TO DATA REQUEST 20

As discussed in Response to Data Request 17, ADS has designed the mitigation in place through its grading plan. The grading plan itself mitigates against increases in water surface elevation by maintaining a through path for the flow of water, noting that fill is being placed at a relatively shallow edge of the 100-year floodplain. Two-dimensional modeling demonstrates the net effect of this, as shown in the figure provided in the Response to Data Request 17 above. Please see Attachment HYD DR-20 which includes a Memorandum evaluating the potential flooding impacts for development at the GDC site.

POPULATION AND HOUSING

BACKGROUND: PROJECT CONSTRUCTION

Staff needs to know more about the construction of the Gilroy Data Center (GDC) and Gilroy Backup Generator Facility (GBGF), collectively "the project." The SPPE application notes on page 17 that construction of GBGF is expected to take 6 months and require 10-15 construction workers including one crane operator. For the construction of GDC, the SPPE application notes "Phase I, construction activities would last approximately 11 months. Phase II construction is estimated to be completed in approximately 10 months" and "average construction workforce is estimated to be 75 with a peak estimated to be 110 for each phase section" (pages 19 and 23). Staff has the following associated questions and requests:

DATA REQUEST

21. Please provide the estimated number of workers in the construction workforce by month and classification for Phase 1 and Phase 2 of the project.

RESPONSE TO DATA REQUEST 21

See Attachment POP DR-21.

BACKGROUND: PROJECT CONSTRUCTION AND OPERATION WORKFORCE

Staff needs to know about the assumptions used for the construction and operations workforce for the project. No assumptions were discussed in the SPPE application.

DATA REQUESTS

22. Where would the project construction and operation workforce be derived from? Would the project construction and operation workforce be local or non-local (beyond a two-hour commute of the project site)?

RESPONSE TO DATA REQUEST 22

Construction workers are expected to be provided by local union halls within the Bay Area

23. What portion of the construction and operation workforce does the applicant anticipate would be local and what portion would be non-local?

RESPONSE TO DATA REQUEST 23

ADS estimates that all of the construction workforce would be local to the Bay Area. ADS estimates that all of the operation workforce would also be local to the Bay Area, with the operations workforce being largely closer to or within the City of Gilroy.

TRANSMISSION AND INTERCONNECTION

BACKGROUND

The Gilroy Backup Generating Facility (GBGF) application Section 3.3 indicates that the Gilroy Data Center (GDC) would be supported from the new onsite substation to accommodate electricity to be delivered from Pacific Gas and Electric (PG&E). Staff requires a complete description of the both the GDC interconnection to the PG&E transmission grid and the reliability of the PG&E grid in order to understand the potential operation of the back-up generators.

DATA REQUESTS

24. Please provide a complete one-line diagram for the new onsite substation. Show all equipment ratings, including bay arrangement of the breakers, disconnect switches, buses, redundant transformers or equipment, etc. that would be required for interconnection of the GDC project.

RESPONSE TO DATA REQUEST 24

ADS has requested information from PG&E responsive to this request and will docket it as a Supplemental Response to this Data Request when received.

25. Please provide a detailed description and a one-line diagram showing how the GDC would be connected to the onsite substation. Please label the name and voltage of the lines and feeders that connect to the substation and the GDC.

RESPONSE TO DATA REQUEST 25

ADS has requested information from PG&E responsive to this request and will docket it as a Supplemental Response to this Data Request when received.

26. Please provide the conductor name, type, current carrying capacity, and conductor size for the 115 kV transmission lines which connect the existing PG&E 115 kV Morgan Hill-Llagas line to the onsite substation. Please provide a map showing the route for this 115 kV overhead line.

RESPONSE TO DATA REQUEST 26

ADS has requested information from PG&E responsive to this request and will docket it as a Supplemental Response to this Data Request when received.

27. Please provide a route map and description showing how the 21 kV underground cable would be connected to the GDC.

RESPONSE TO DATA REQUEST 27

ADS has requested information from PG&E responsive to this request and will docket it as a Supplemental Response to this Data Request when received.

28. Please provide the 21 kV underground supply line cable name, type, current carrying capacity, configurations and measurements.

RESPONSE TO DATA REQUEST 28

ADS has requested information from PG&E responsive to this request and will docket it as a Supplemental Response to this Data Request when received.

29. Please provide information that reviews the frequency and duration of historic outages of the Morgan Hill-Llagas 115 kV line and related facilities that would likely trigger the loss of electric service to the proposed onsite substation and could lead to the emergency operations of the diesel-powered generators. This response should identify the reliability of service historically provided by PG&E to similar customers in this part of its service territory.

RESPONSE TO DATA REQUEST 29

ADS has requested information from PG&E responsive to this request and will docket it as a Supplemental Response to this Data Request when received.

30. Please explain whether adding the GDC would cause and overload to the PG&E transmission system which would require upgrades to the existing system.

RESPONSE TO DATA REQUEST 30

ADS has requested information from PG&E responsive to this request and will docket it as a Supplemental Response to this Data Request when received.

31. Please provide the following in regards to Public Safety Power Shutoff events:
    a. Would historical Public Safety Power Shutoff events have resulted in the emergency operations at the proposed Gilroy Data Center?
    b. Have there been changes to the PG&E system around the GDC that would affect the likelihood that future Public Safety Power Shutoff events would result in the operation of emergency generators at the proposed GDC?

RESPONSE TO DATA REQUEST 31

ADS has requested information from PG&E responsive to this request and will docket it as a Supplemental Response to this Data Request when received.

TRANSPORTATION

BACKGROUND: PUBLIC ROADWAYS AND INTERSECTIONS
The project would be connected to a variety of municipal services, such as water and transmission lines, which may require construction activities located within the public right-of-way.

DATA REQUEST

32. Other than the planned driveways located at the termini of Camino Arroyo at the northern and southern borders of the site, would project construction (onsite and offsite) or operations temporarily or permanently alter any public roadways or intersections? If so, please identify which roadway and/or intersection would be affected, describe the alteration, and provide the duration of activities on the affected roadway and/or intersection.

RESPONSE TO DATA REQUEST 32

The City of Gilroy public works department has requested that the project install permanent traffic calming measures adjacent to the southern project entrance on Arroyo Circle. ADS has proposed a mountable curb median and microsurface treatment (asphalt topcoat) as shown in Attachment TRANS DR-32.

BACKGROUND: Project Vehicle Miles Travelled (VMT) Analysis
Page 183, section 4.17.2 Checklist and Discussion of the SPPE application states, "A VMT analysis is currently being prepared by a transportation consultant and will be provided to the California Energy Commission in a subsequent submittal." The application states that the applicant's conclusion whether the project would conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) is "to be determined".

DATA REQUEST

33. Please provide an analysis that evaluates the project's potential impacts related to VMT. Include applicable thresholds of significance, methodologies (such as a VMT Evaluation Tool), VMT heat maps, and transportation demand management plans or any other document supporting the project's consistency with CEQA Guidelines Section 15064.3, subdivision (b).

RESPONSE TO DATA REQUEST 33

The analysis is underway and will be submitted under separate cover.

ATTACHMENT BIO DR-6

Revised Arborist Report

"Hands On Tree Care"
ANDERSON'S
Tree Care
Specialists, Inc.
P.O. Box 2B • San Jose, CA 95109-0002
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1/27/2021

Miles Johnson, P.E.
Kimley-Horn
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Re: Tree Protection for Proposed Data Center on Camino Arroyo in Gilroy (AWS SFO069)

Dear Miles,

At your request, I have visited the property referenced above to evaluate the trees present with respect to the proposed construction project. The report below contains my analysis.

Summary:

There are 18 trees present on and adjacent to the property: five private non-protected trees on this property; six street trees adjacent to this property; one street tree adjacent to a neighboring property; and six trees overhanging from adjacent properties.

Nine trees are recommended for removal, as they conflict with project features: four private non-protected trees on this property; and five street trees adjacent to this property.

The other nine trees are in good condition and should be retained and protected as detailed in the Recommendations, below. With proper protection, all are expected to survive and thrive during and after construction.

Assignment:

We have been asked to write a report detailing impacts to trees from construction of the proposed data center at this property.

Introduction:

In the City of Gilroy, trees are protected based on size and ownership. All street trees are protected, as are all trees on neighboring properties. Private trees are protected based on trunk

diameter. The following guidance document was provided to us by our client, who obtained it from City of Gilroy staff:

City of Gilroy

COMMUNITY DEVELOPMENT DEPARTMENT/PLANNING DIVISION
7351 Rosanna Street, Gilroy CA 95020
(408) 846-0440, main • (408) 846-0429, fax
www.cityofgilroy.org/planning

APPLICATION SUBMITTAL DETAILS

The following list contains clarification and city expectations for Planning Division application submittal checklist items that are listed in an alphabetical order

☐ ARBORIST REPORT

Gilroy City Code section 30.38.40(d) Protected Trees requires preparation of an arborist report for any development project for which the project site includes existing Protected Trees, as defined in section 30.28.270(b). The report must be completed by a certified arborist registered with the International Society of Arboriculture (ISA). The report must include the following information listed below, as required by section 30.38.270(d). Reports that do not include all the information below will not be accepted by staff.

Basic Information

-Prepared by: -Phone Number:
-Company Name: -Consultants Name and ISA Certification:
-Address: -Report Date:

Site and Tree Assessment Information

- Site plan showing location of the tree (include buildings, driveways, etc.)
- Clear pictures of the tree indicating location, details, signs of failure or disease
- Description of species of the tree
- Circumference or diameter at breast height of tree
- Estimated height of tree
- Discussion of general health of the tree
- Discussion of tree's risk
- Discussion of target management
- Discussion of risk management pruning
- Discussion of installation of structural support system
- Discussion of improving site conditions / cultural conditions
- Discussion of implementing integrated pest management programs
- Discussion of why tree cannot be saved (cabling, treatment, other)
- Description of the method to be used for removal of the tree
- Reason for removal
- Proposed replacement tree(s) (species, size, location)

Per our reading of this document, not all items are relevant to all trees, and only those items deemed relevant by the project arborist have been included in this report.

Limits of the Assignment:

All observations were made from the ground with basic equipment. No root collar excavations or aerial inspections were performed. No project features had been staked at the time of my site visit.

Purpose & Use of the Report:

This report is intended to inform tree management decisions for this project, and to provide recommendations to maximize the likelihood of survival for the trees which may reasonably be retained.

Observations:

Trees

There are 18 trees present on and adjacent to the property: five private non-protected trees on this property; six street trees adjacent to this property; one street tree adjacent to a neighboring property; and six trees overhanging from adjacent properties (**Images 1-10**). Six are liquidambars (*Liquidambar styraciflua*), four are London planes (*Platanus* x *acerifolia*), three are California black walnut (*Juglans hindsii*), two are eucalyptus (*Eucalyptus* sp.), one is an almond (*Prunus dulcis*), and one is a coast live oak (*Quercus agrifolia*).

Project Features

Two data center buildings are proposed in the center of the property: one in phase 1 of the project, and one in phase 2. A substation is proposed to the southwest. Two new driveways are proposed: one to the northwest, and one to the southeast. Paved or gravel vehicle access is proposed throughout the property, with parking spaces in several locations. A security fence will be present around the property perimeter. The proposed stormwater retention on the southeast side of the property will require substantial grading.

Tree Conflicts

Tree #1 – the proposed driveway to the northwest, and worker access thereto, lie within a small portion of this tree's tree protection zone (TPZ).[1]

Trees #2-4, 15, and 16 – the proposed driveways and associated hardscape lie within a substantial portion of these trees' TPZ's.

Trees #5-7, 10, and 11– no project features lie within these trees' TPZ's.

Trees #12-14 – the proposed stormwater retention area encompasses all three of these trees' TPZ's.

Trees #8, 9 – the proposed gravel vehicle access route lies within a small portion of these trees' TPZ's.

[1] Defined in the Discussion section, below.

Tree #17 – worker access to the proposed gravel vehicle access route lies within a very small portion of this tree's TPZ.

Tree #18 – the proposed gravel vehicle access route lies within a substantial portion of this tree's TPZ.

Testing & Analysis:

Tree DBHs were taken using a diameter tape measure if trunks were accessible. The DBHs of trees with non-accessible trunks were estimated visually. All trees over 6 inches in DBH were inventoried.

Vigor ratings are based on tree appearance and experiential knowledge of each species.

Tree location data was collected using a GPS smartphone application and processed in GIS software to create the maps included in this report. Due to the error inherent in GPS data collection, and due also to slight differences between GPS data and CAD drawings, tree locations shown on the map below are approximate.

I visited the site three times, on 8/12/2020, 8/14/2020, and 8/17/2020. All observations and photographs in this report were taken at those site visits.

This report is based on the one-page document titled "Preliminary Site Plan," dated 7/17/2020, provided to me electronically by the client.

Discussion:

Tree Protection Zone (TPZ)

Tree roots grow where conditions are favorable, and their spatial arrangement is therefore unpredictable. Favorable conditions vary among species, but generally include the presence of moisture, and soft soil texture with low compaction.

Contrary to popular belief, roots of all tree species grow primarily in the top two feet of soil, with a small number of roots sometimes occurring at greater depths. Some species have taproots when young, but these almost universally disappear with age. At maturity, a tree's root system may extend out from the trunk farther than the tree is tall.

The optimal size of the area around a tree which should be protected from disturbance depends on the tree's size, species, and vigor, as shown in the following table (adapted from *Trees & Construction*, Matheny and Clark, 1998):

Species tolerance	Tree vigor	Distance from trunk (feet per inch trunk diameter)
Good	High	0.5
	Moderate	0.75
	Low	1
Moderate	High	0.75
	Moderate	1
	Low	1.25
Poor	High	1
	Moderate	1.25
	Low	1.5

It is important to note that some roots will almost certainly be present outside the TPZ; however, root loss outside the TPZ is unlikely to cause tree decline.

Conclusions:

Tree #1 – minor impacts from driveway installation are likely.

Trees #2-4, 15, and 16 – trees #2, 4, 15, and 16 are incompatible with the proposed driveways. Major impacts are likely to tree #3 from the proposed driveways, such that retention is infeasible.

Trees #5-7, 10-11 – notable impacts to these trees are unlikely from the project as proposed.

Trees #8, 9, 17 – minor impacts from gravel vehicle access route installation are likely.

Trees #12-14 – these trees are incompatible with the proposed stormwater retention area.

Tree #18 – this tree is incompatible with the proposed gravel vehicle access route.

Recommendations:

Demolition phase

1. Remove trees #2-4, 12-16, and 18, upon receipt of approval by the City of Gilroy.

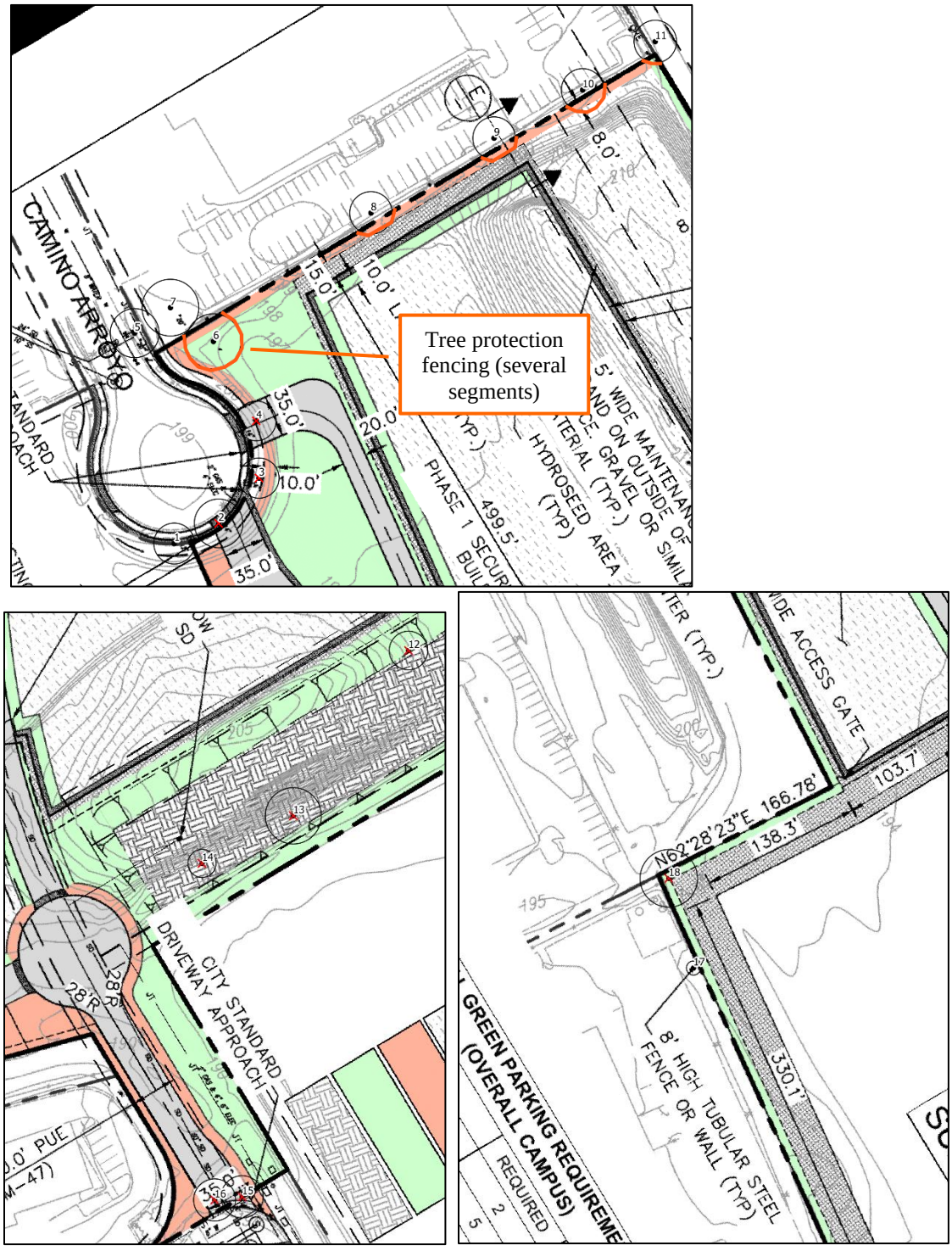
Preconstruction phase

1. Install tree protection fencing for trees #6 and 8-11, approximately as shown on the Tree Map, below.

Construction phase

2. Maintain all tree protection measures throughout construction.
3. Exclude all personnel, vehicles, and materials from TPZ's.
4. If any areas within or at the edge of TPZ's must be excavated (open pits or trenches):
    a. Excavate with pneumatic air or water, or gently with hand tools.
    b. Do not use excavators or other equipment which could pull on roots. If excavating by hand, take care not to shatter or pull on roots with shovels.
    c. Retain as many roots as practical intact, and route conduit under and around roots if feasible.
    d. If tree roots 2-inches or larger must be removed for conduit installation, they must be cleanly cut back to a sound wood lateral root. The end of the root shall be covered with either a plastic bag and secured with tape or rubber band, or be coated with latex paint. All exposed root areas within the TPZ shall be backfilled or covered within one hour. Exposed roots may be kept from drying out by temporarily covering the roots and draping layered burlap or carpeting over the upper 3-feet of trench walls. The materials must be kept wet until backfilled to reduce evaporation from the trench walls.
    e. If many roots must be removed from a single tree, stop work around that tree before removing any roots and contact the project arborist to determine whether the tree can safely remain.
5. All tree protection fencing is to be installed prior to any equipment coming onsite, and is to remain in place through the duration of construction.
6. Grading: minimize grading near trees. Ensure that fill soil used near trees is landscape quality. Do not add more than 6 inches of soil within the TPZ of any tree.

Tree Map


Tree protection fencing (several segments)
CAMINO ARROYO
35.0'
10.0'
20.0'
15.0'
8.0'
5' WIDE MAINTENANCE ROAD ON OUTSIDE OF HYDROSEED AREA (TYP)
PHASE 1 SECURITY BUILDING
499.5'
CITY STANDARD DRIVEWAY APPROACH
28'R
8' HIGH TUBULAR STEEL FENCE OR WALL (TYP)
330.1'
138.3'
166.78'
103.7'
ACCESS GATE
GREEN PARKING REQUIREMENTS (OVERALL CAMPUS)

Tree Inventory Table

Tree #	Common Name	Species	DBH (inches)	Height (estimated visually)	Protected tree?	Vitality (0 = dead, 3 = healthy)	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; feet)	Project Impacts	Disposition	Notes
1	Liquidambar	Liquidambar styraciflua	17.3	35	Y	3	1	17.3	Minor - driveway installation	Retain	Neighbor street tree. Two stems.
2	Liquidambar	Liquidambar styraciflua	16.5	35	Y	2	1	20.6	Major - conflicts with driveway	REMOVE	Street tree.
3	Liquidambar	Liquidambar styraciflua	17.0	35	Y	3	1	17.0	Major - conflicts with driveway	REMOVE	Street tree.
4	Liquidambar	Liquidambar styraciflua	16.8	35	Y	3	1	16.8	Major - conflicts with driveway	REMOVE	Street tree.
5	Liquidambar	Liquidambar styraciflua	20.7	35	Y	3	1	20.7	Negligible	Retain	Neighbor street tree.
6	Eucalyptus	Eucalyptus sp.	23.3	40	N	2	2	23.3	Negligible	Retain	Three main leaders. Many unusual leaders resting on ground. Only upright, large trunks were measured.
7	London plane	Platanus x acerifolia	24.0	55	N	3	1	24.0	Negligible	Retain	Neighbor tree. DBH estimated.
8	London plane	Platanus x acerifolia	18.0	40	N	3	1	18.0	Minor - gravel vehicle route	Retain	Neighbor tree. DBH estimated.
9	London plane	Platanus x acerifolia	18.0	45	N	3	1	18.0	Minor - gravel vehicle route	Retain	Neighbor tree. DBH estimated.

Tree #	Common Name	Species	DBH (inches)	Height (estimated visually)	Protected tree?	Vitality (0 = dead, 3 = healthy)	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; feet)	Project Impacts	Disposition	Notes
10	Eucalyptus	Eucalyptus sp.	18.0	35	N	2	2	18.0	Negligible	Retain	Neighbor tree. DBH estimated.
11	London plane	Platanus x acerifolia	18.0	25	N	3	1	18.0	Negligible	Retain	Unclear whether trunk is on this property or neighboring property, as dense ivy is present around the tree. Pruned for overheard utility clearance.
12	Almond	Prunus dulcis	22.0	15	N	3	2	16.5	Major - conflicts with stormwater retention area	REMOVE	Old orchard tree. Two leaders.
13	California black walnut	Juglans hindsii	24.0	35	N	3	1	24.0	Major - conflicts with stormwater retention area	REMOVE	DBH estimated. Significant grade change at edge of property.
14	California black walnut	Juglans hindsii	12.0	15	N	3	1	12.0	Major - conflicts with stormwater retention area	REMOVE	DBH estimated. Significant grade change at edge of property.
15	Liquidambar	Liquidambar styraciflua	18.0	50	Y	3	1	18.0	Major - conflicts with driveway	REMOVE	Street tree. DBH estimated.
16	Liquidambar	Liquidambar styraciflua	18.0	45	Y	3	1	18.0	Major - conflicts with driveway	REMOVE	Street tree. DBH estimated.
17	Coast live oak	Quercus agrifolia	12.0	25	Y	3	3	6.0	Minor - gravel vehicle route	Retain	Neighbor tree. DBH estimated. Some brown

Tree #	Common Name	Species	DBH (inches)	Height (estimated visually)	Protected tree?	Vitality (0 = dead, 3 = healthy)	Species Construction Tolerance (1 = poor, 3 = good)	TPZ radius (ideal; feet)	Project Impacts	Disposition	Notes
											foliage existing in lower right canopy, viewed from this property.
18	California black walnut	Juglans hindsii	24.4	30	N	3	1	24.4	Major - conflicts with gravel vehicle route	REMOVE	Measured at about 18 inches above grade due to presence of low branches and ivy.

Supporting Photographs:

Image 1: liquidambars #1-4 (right to left)

Image 2: liquidambar #5 (left), eucalyptus #6 (right), and London plane #7 (middle)

Image 3: London planes #8 (left foreground) and 9 (right background)

Image 4: eucalyptus #10

Image 5: London plane #11

Image 6: almond #12

Image 7: California black walnuts #13 (right) and 14

Image 8: liquidambars #15 (right) and 16; note broken, hanging branch in tree #15 (lower right and lower center) and large trunk wound in tree #16 (lower left)

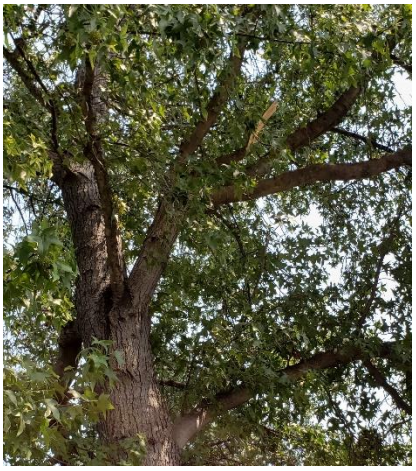


Image 9: coast live oak #17

Image 10: California walnut #18

ASSUMPTIONS AND LIMITING CONDITIONS

1. Any legal description provided to the consultant/appraiser is assumed to be correct. Any titles and ownerships to any property are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.

2. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes, or other government regulations.

3. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible; however the consultant/appraiser can neither guarantee nor be responsible for the accuracy of information provided by others.

4. The consultant/appraiser shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule and contract of engagement.

5. Loss, alteration, or reproduction of any part of this report invalidates the entire report.

6. Possession of this report or a copy thereof does not imply right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior expressed written or verbal consent of the consultant/appraiser.

7. Neither all nor any part of this report, nor any copy thereof, shall be conveyed by anyone, including the client, to the public through advertising, public relations, news, sales or other media, without the prior expressed written or verbal consent of the consultant/appraiser particularly as to value conclusions, identity of the consultant/appraiser, or any reference to any professional society or initialed designation conferred upon the consultant/appraiser as stated in his qualification.

8. This report and the values expressed herein represent the opinion of the consult/appraiser, and the consult/appraiser's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.

9. Sketches, diagrams, graphs, and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys.

10. Unless expressed otherwise: 1) information in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in future.

Respectfully submitted,

Katherine Naegele
Consulting Arborist
Anderson's Tree Care Specialists, Inc.
A TCIA Accredited Company
Master of Forestry, UC Berkeley
ISA Certified Arborist #WE-9658A
ISA Tree Risk Assessment Qualified
American Society of Consulting Arborists, Member
Office: 408 226-8733
Cell: 650 209-0631

www.andersonstreecare.com

ATTACHMENT HYD DR-20

Flood Impacts Technical Analysis

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
1171 Homestead Road, Suite 255
Santa Clara, California 95050
408-246-4848

February 9, 2021

Ms. Arminta Jensen, PE, PLS, LEED AP
Executive Vice President
Ruggeri-Jensen-Azar
8055 Camino Arroyo
Gilroy, California 95020

Subject: Impact of Proposed Site Fill on Regulatory Flood Hazards at SouthPoint in Gilroy

Dear Arminta:

This letter documents our evaluation of existing regulatory flood hazards in the vicinity of the SouthPoint area in Gilroy, loosely bound by Leavesley Road to the north, Llagas Creek to the east, Gilman Road to the south, and U.S. Highway 101 to the west. We have also performed an impact analysis for the placement of fill to construct improvements at the development site (Site), based on a Site plan further developed by Kimley-Horn. I am under contract to you, however, so this letter is addressed to you.

The City of Gilroy serves as the Floodplain Administrator and would typically administer the regulatory floodplain based on the Flood Insurance Rate Map (FIRM) for Santa Clara County, California effective May 18, 2009. The effective FIRM shows that part of the Site is located within a Special Flood Hazard Area, Zone AE with 100-year Base Flood Elevations (BFEs) that range from 192 feet NAVD to 197 feet NAVD. There is an adjacent Floodway, but this is to the east of the Site property line.

Figure 1 shows the effective FIRM in the vicinity of SouthPoint, with site boundaries superimposed. The analyses that produced this effective mapping date to the 1970s, however, and no longer represent the best available flood hazard mapping.

Schaaf & Wheeler, under my responsible charge, completed a comprehensive flood risk study for the Santa Clara Valley Water District (Valley Water) as part of its Upper Llagas Flood Protection Project, which is currently under construction. This study evaluated both existing and post-project 100-year flood hazards throughout the entire Llagas Creek watershed, including tributaries, from the watershed divides (e.g. Cochrane Road in Morgan Hill), to the Pacheco Pass bridge (California Highway 152). These flood studies, which include the area of interest, were completed in concert with Valley Water and have been reviewed and accepted by the Federal Emergency Management Agency (FEMA), which issued a Conditional Letter of Map Revision (CLOMR) for the entire study area on October 19, 2016.

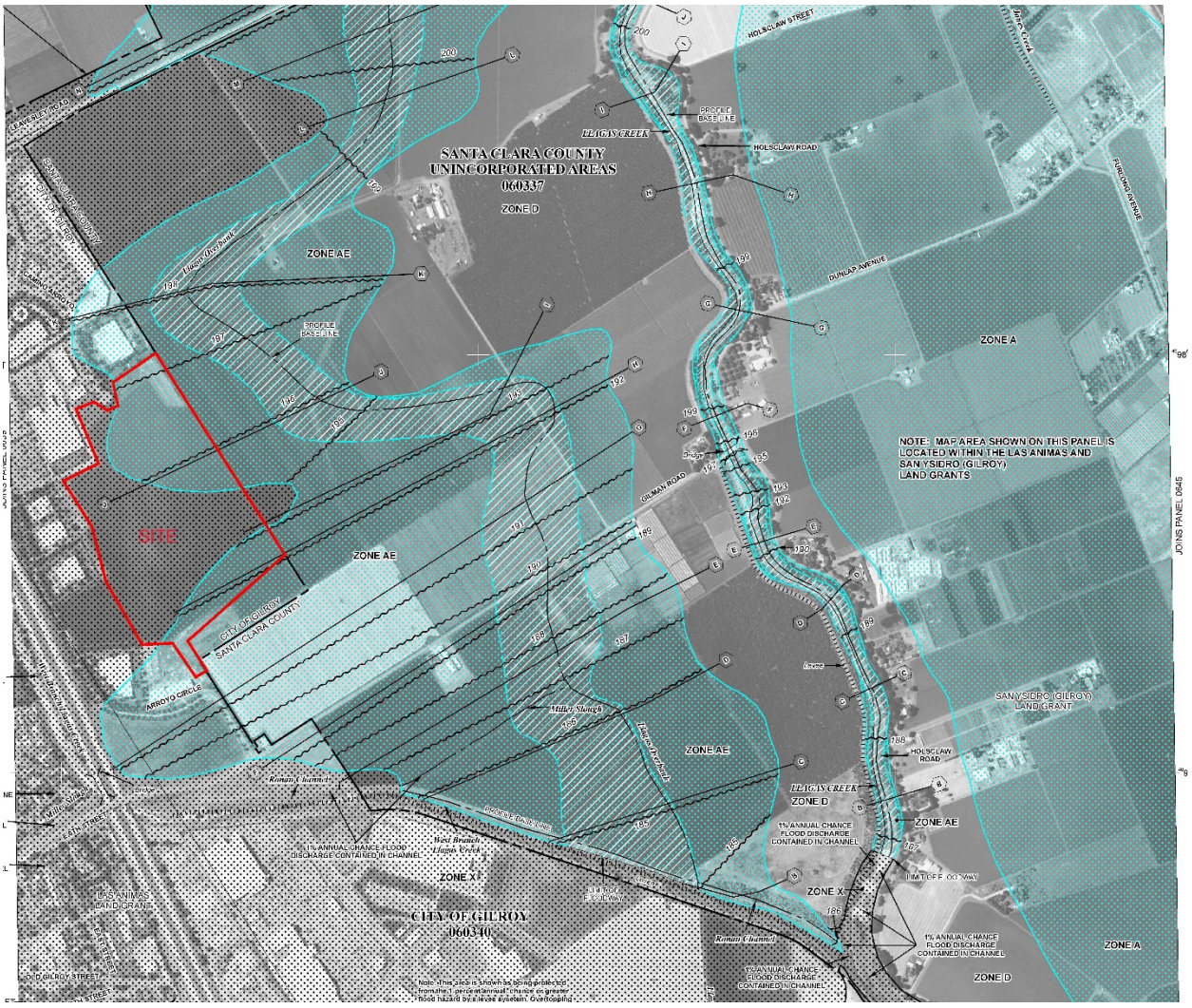


Figure 1: Effective Flood Insurance Rate Map for Site

Mapping changes shown on the CLOMR are tied to project completion, which remains uncertain. Phase 1 of the project is under construction, and Phase 2 design is nearing completion, but I am not aware of the funding status. Pre-project (existing) regulatory flood hazards have also changed compared to the effective Flood Insurance Rate Map (FIRM) for Santa Clara County, due to improvements in analytic methods, better topographic information than previously available, and a longer period of hydrologic record. However, Valley Water has no plans to pursue a Physical Map Revision (PMR) that would show the best available flood hazard information through FEMA, partly due to a lack of FEMA funding for such a map change while a significant flood control project is under construction that would further change the mapping.

Nonetheless, this effort represents the best information available to floodplain administrators and provides a realistic flood hazard appraisal that the effective FIRM does not, with the basis for much of the FIRM dating to work done in the late 1970s.

Best Available 100-year Flood Hazards in Southpoint Area

Based on the referenced work completed in 2016, the Southpoint area should be mapped as within a moderate flood hazard area, labeled Zone X (shaded), rather than in a Special Flood Hazard Area. This means the depth of 100-year (one percent annual chance) flooding is less than one foot on average. Figure 2 shows approximate site boundaries superimposed on the CLOMR work map, noting that project completion (Llagas Road in Morgan Hill to Buena Vista Avenue north of Gilroy will not change flood hazards in this area.

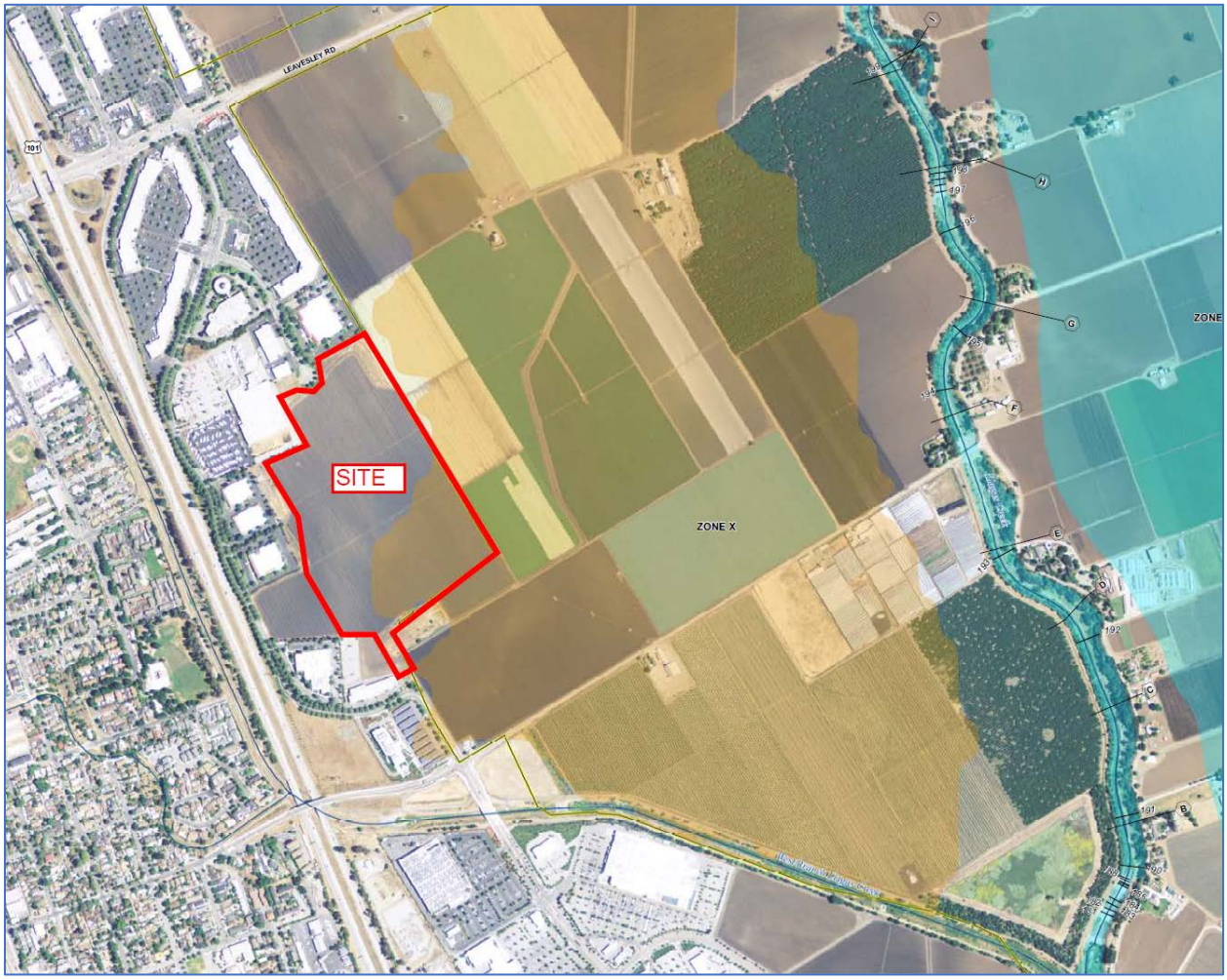


Figure 2: Best Available Flood Hazard Mapping

More recent analyses indicate that the depth and extent of flooding near the Site are generally less than as shown on the effective FIRM. Furthermore, the hydrologic and hydraulic models used to produce the results shown in Figure 2 can also be used to evaluate the potential impact of placing fill within those areas of the Site shown as within a moderate flood hazard area.

Basis of Flood Impact Analysis

While moderate, the remaining flood hazards can be fully mitigated by placing fill within the site as needed to raise improvements above the 100-year floodplain. The basis of evaluating grading impacts to the existing floodplain shown in Figure 2 is a detailed study completed by Schaaf & Wheeler for Valley Water.

Flood discharges are based on work completed by the United States Army Corps of Engineers. Base flood elevations are determined using a combination of detailed HEC-RAS hydraulic models for creeks and tributaries, and a two-dimensional floodplain analysis for overbank flows using FLO-2D.

Figure 3 shows the detailed results of the pre-project (existing conditions) floodplain analysis near the area of interest. Flood depths on the site range from zero to one foot in the 100-year runoff event. Gray shading represents depths to one-half foot; orange from one-half to less than one foot. As an existing condition, this mapping is not contingent upon project construction.

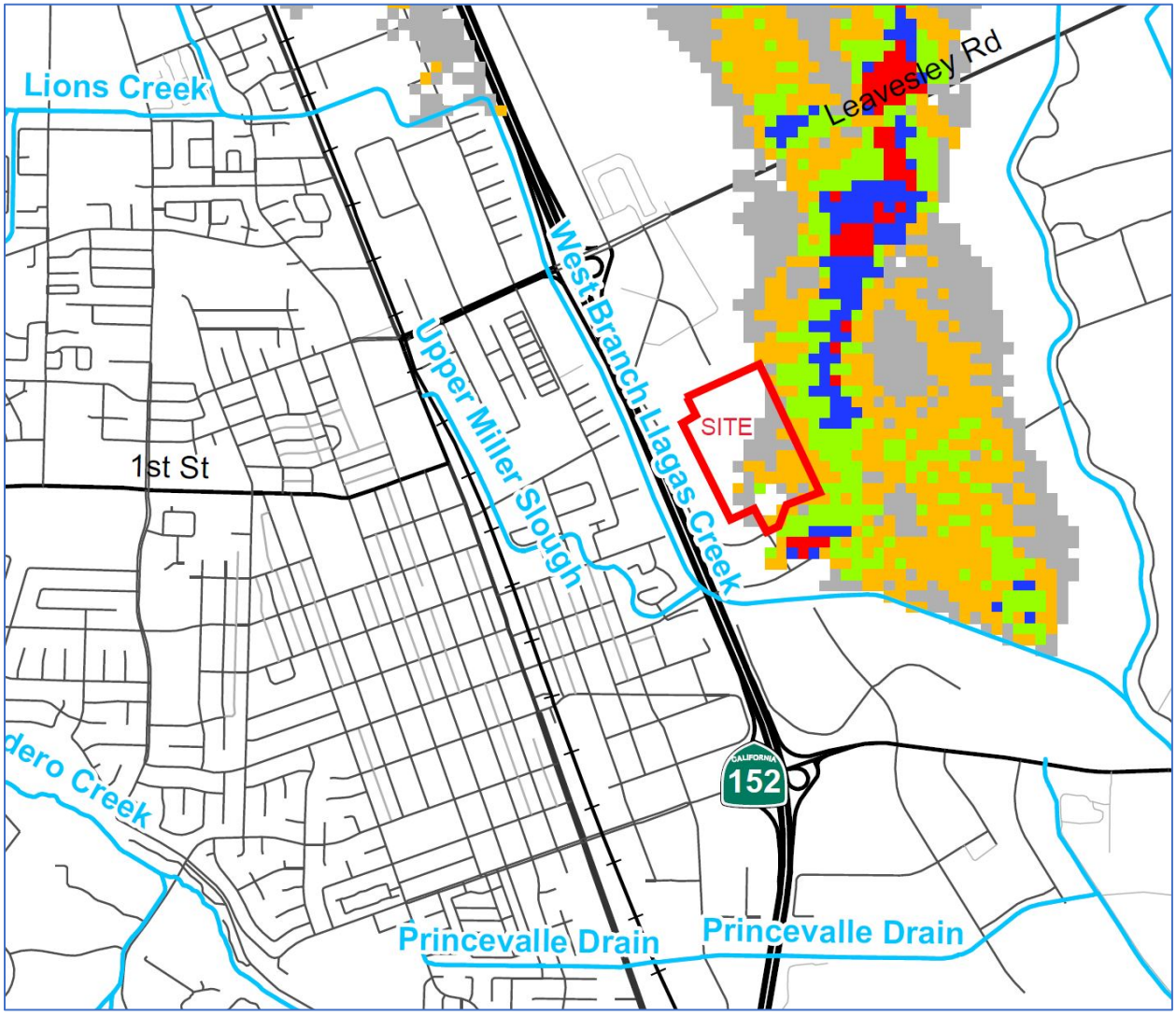


Figure 3: Overbank Model Results for Existing Conditions in Site Vicinity

The basic methodology for flood impact analysis is to quantify the existing floodplain using the model shown in Figure 3. Based on those modeled base flood elevations, Site grading is proposed to elevate improvements above the base flood elevations. Proposed improvements are then modeled, changing no other hydraulic parameters. The difference between the proposed water surface elevations and existing condition water surface elevations is the floodplain impact.

Existing Condition Floodplain

A further modeling step is taken to replace the Santa Clara County LiDAR topography used to generate model results shown in Figure 3 with the detailed survey data gathered by RJA in the vicinity of the Site, georeferenced the topography, and repeat the modeling. This step provides a direct basis for comparison after Site improvements are completed, to properly assess floodplain impact. These results are presented in Figure 4 (100-year flood depths) and Figure 5 (Base Flood Elevations).

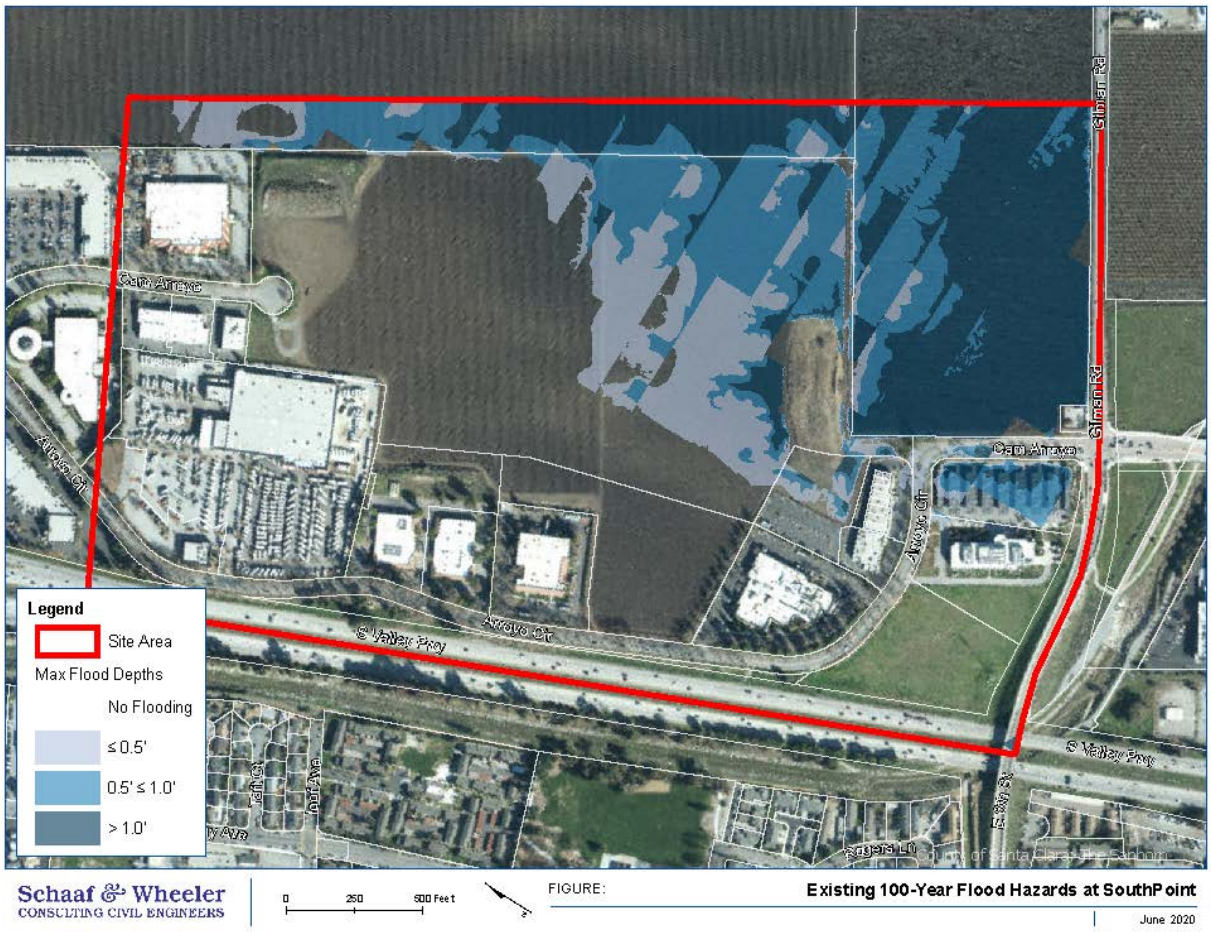


Figure 4: Existing 100-year Flood Depths at Site

Flood depths (Figure 4) generally increase to the east and south of the site, due primarily to existing site topography. Base flood elevations in the vicinity are largely controlled by flow over Gilman Road, which acts somewhat as a hydraulic control. There appears to be a slight topographic depression immediately north of Gilman Road, which results in locally deeper flooding at the southeast corner of the Site.

Base flood elevations (Figure 5) are not that different from those shown on the effective FIRM, ranging from 191 feet to 197 feet NAVD compared to 192 feet to 197 feet NAVD.

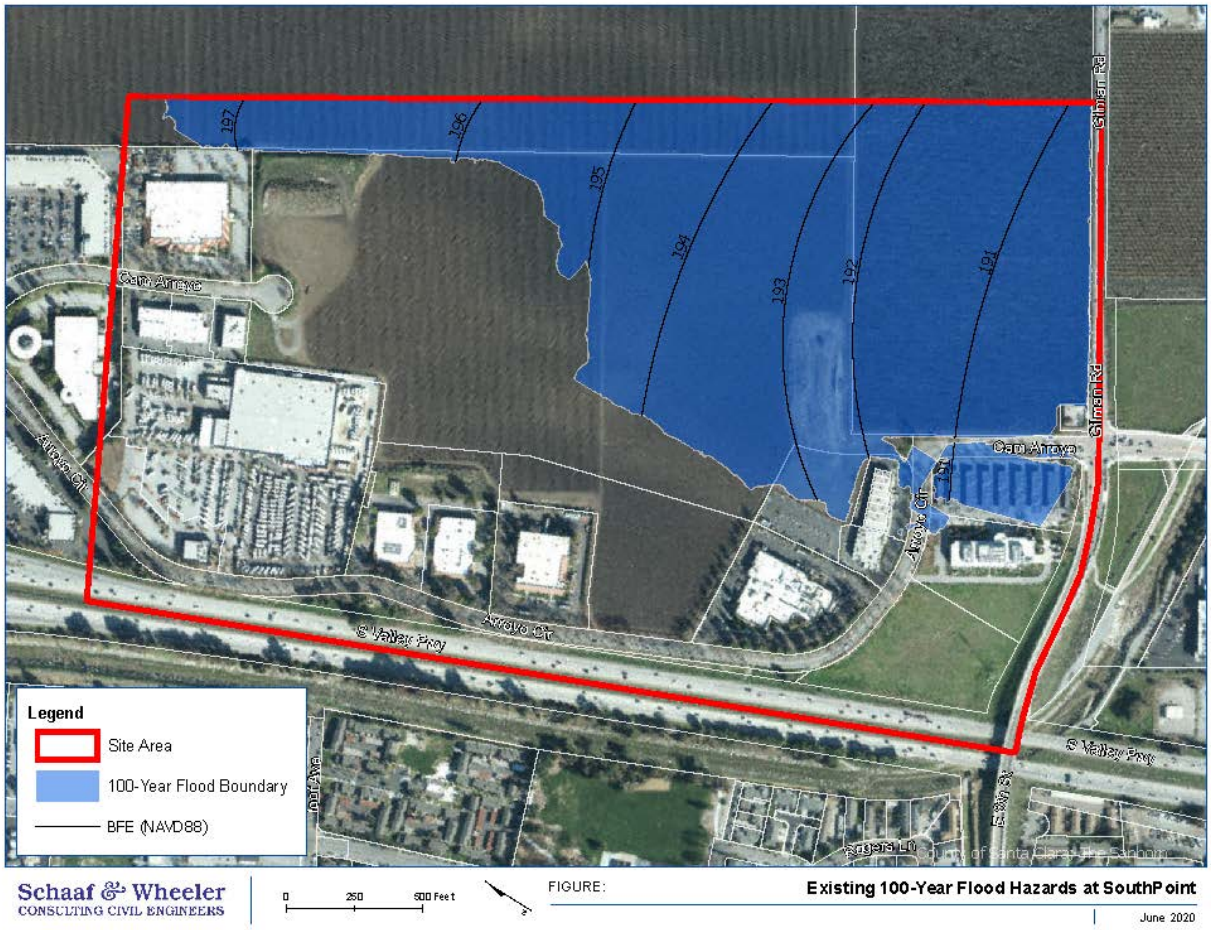


Figure 5: Existing Base Flood Elevations at Site

Site Improvements and Floodplain Impacts

A high-level site plan is shown as Figure 6. Kimley-Horn provided Schaaf & Wheeler with a more detailed grading plan for evaluation. The major buildings and other improvements within the grading plan are labeled as the "Development Footprint." The working assumption for impact analysis is that within the Development Footprint, flood flows are completely blocked. This is a conservative assumption that effectively means vertical "glass walls" could be constructed at Development Footprint, and anything can be done inside the Development Footprint without affecting the results shown.

Figure 7 shows 100-year flood depths with the Site blockage described. Figure 8 shows post-fill base flood elevations. Comparisons of post-fill 100-year flood depths to existing flood depths can be confusing, noting that the creation of storage features increases depth while the placement of fill decreases depth. More importantly, Figure 9 compares post-fill 100-year water surface elevations to existing condition water surface elevations, representing the impact of conceptual fill placement on the adjacent floodplain.

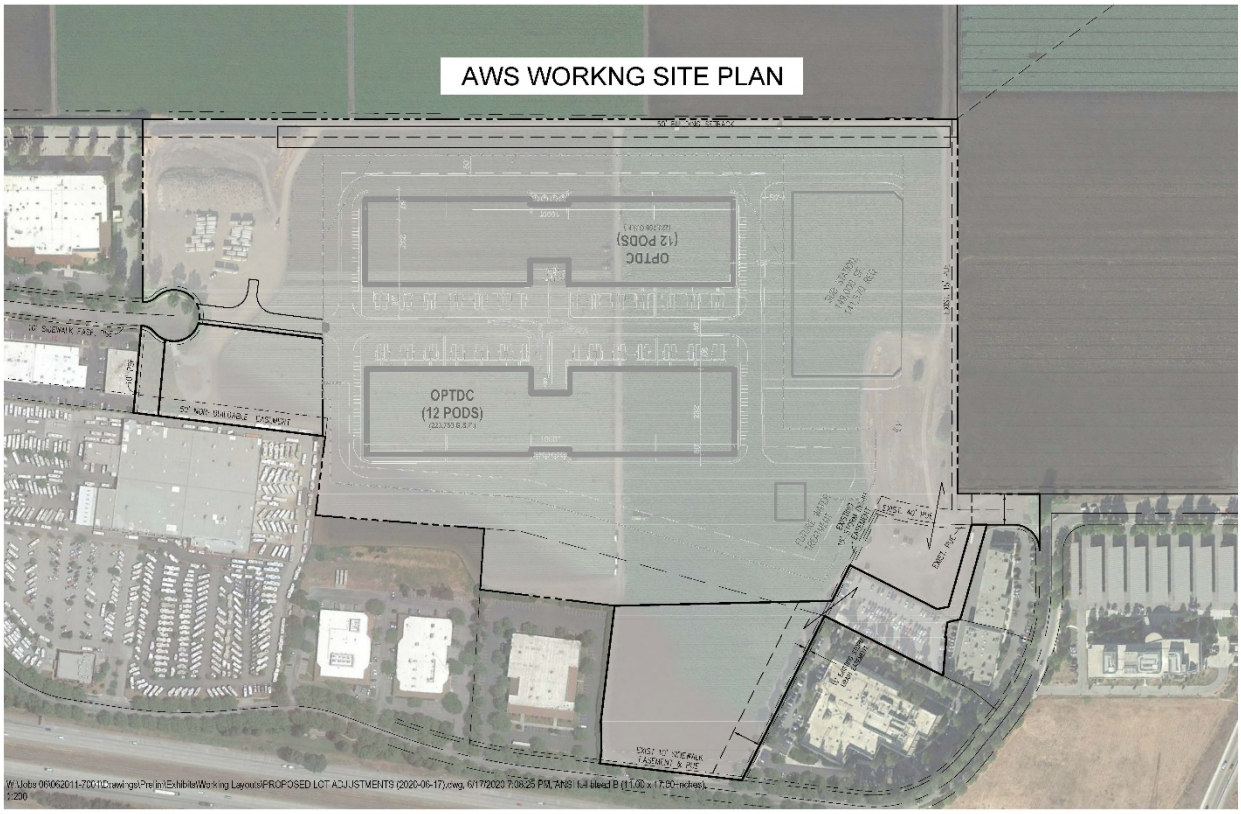


Figure 6: Conceptual Site Plan

Figure 7: Post-Fill Flood Depths at Site

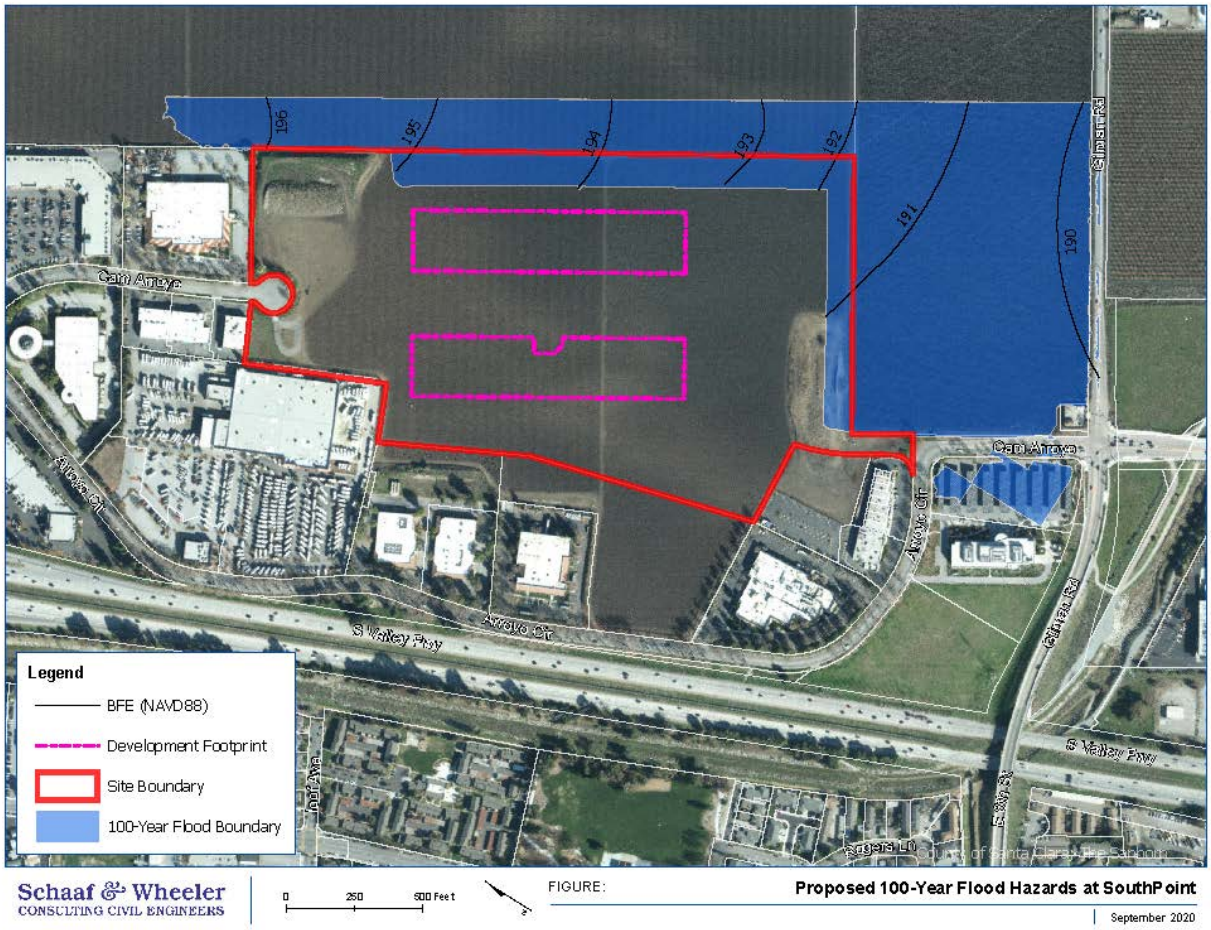


Figure 8: Post-Fill Base Flood Elevations at Site

Figure 9: Floodplain Impacts with Fill Placement

Fill placement decreases flood depths within the Development Footprint itself by default and casts a small "hydraulic shadow" to the south since the limited flood flows at the fringe of the floodplain are blocked. Increases in base flood elevations are limited to 0.1 foot just east of the Development Footprint. This increase meets the 0.1-foot threshold that has been established by the City of Gilroy, County of Santa Clara, and Santa Clara Valley Water District as a significant increase, but its extent off the Site is very limited.

I trust this information proves useful. Please feel free to call me with specific questions.

Sincerely,
Schaaf & Wheeler

Charles D. Anderson, PE
President

ATTACHMENT POP DR-21

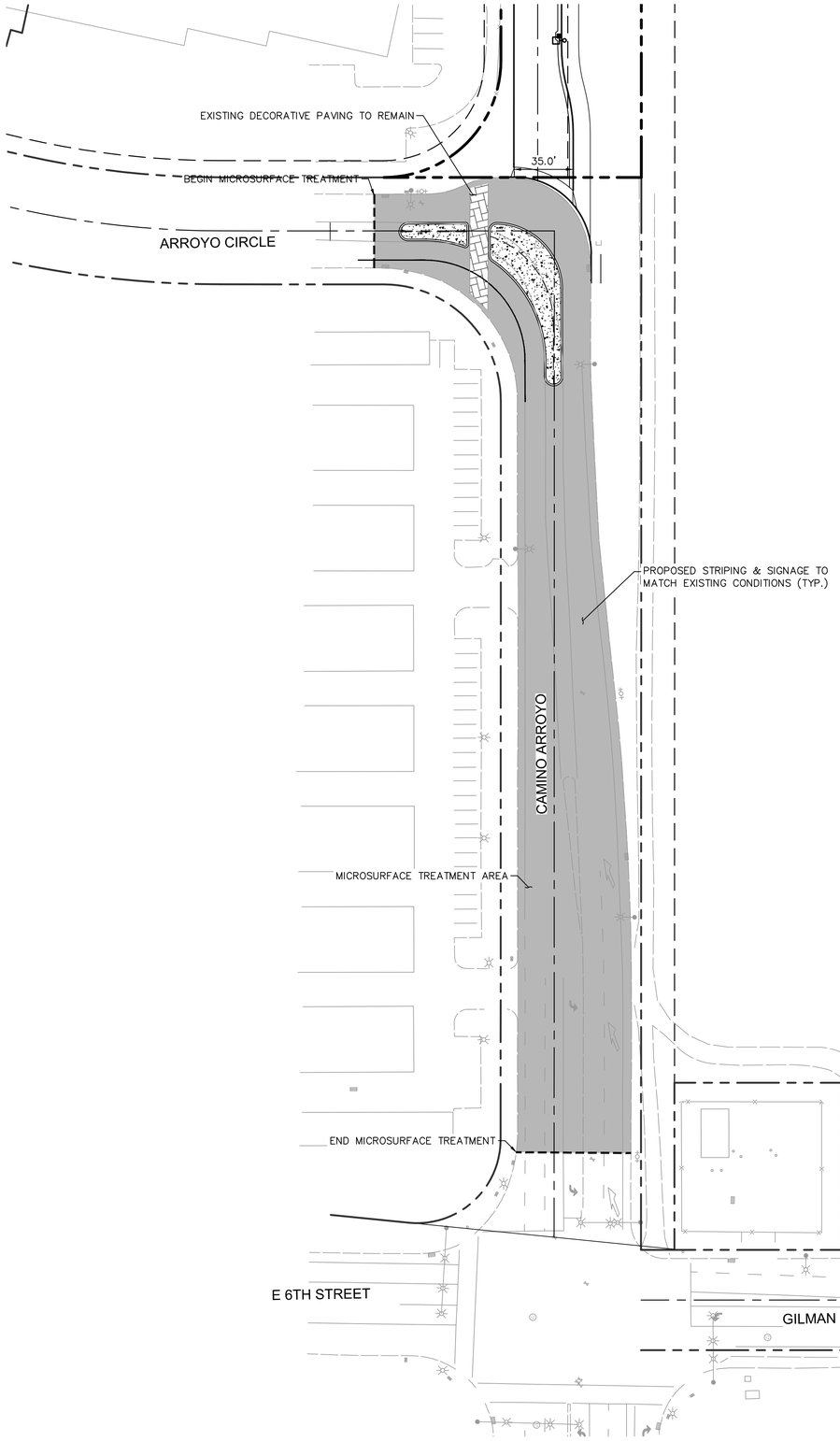
Estimated Construction Workforce

POP DR-21 Response Table

Man Loader Category	Avg. Ph1	Avg. Ph2	Phase 1											Phase 2									
			M01	M02	M03	M04	M05	M06	M07	M08	M09	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21
A. Direct Scope (Construction Workers)	75	55	17	36	63	85	99	115	134	127	52	34	65	85	26	48	85	52	34	65	85	26	48
B. Project Management & Site Requirement	11	8	6	10	10	12	12	14	14	14	11	7	8	8	6	8	8	8	7	8	8	6	8
C. Monitoring & Inspections	6	4	4	7	8	8	8	5	5	8	7	4	3	4	4	4	3	4	4	3	4	4	4
D. Owner Management	3	3	2	2	2	2	2	2	2	3	3	2	3	3	3	2	3	3	3	3	3	3	2
Total Project Head Count Onsite	94	69	29	55	83	107	121	136	155	125	73	46	78	100	38	62	99	66	46	78	100	38	62

ATTACHMENT TRANS DR-32

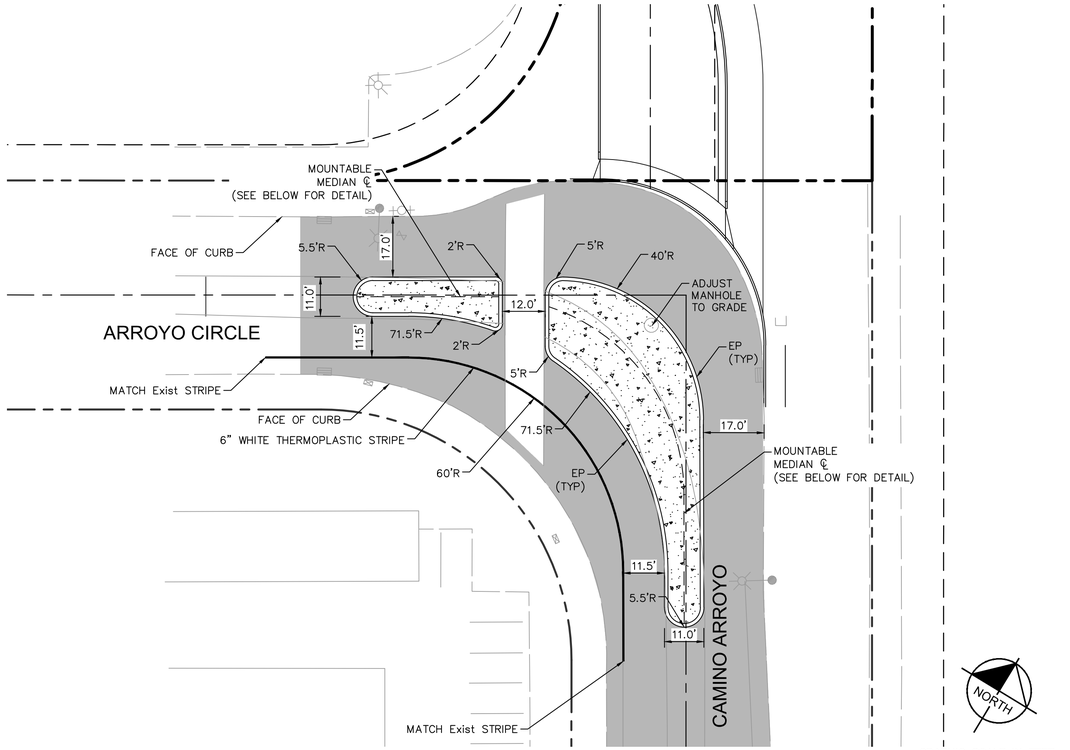
Preliminary Offsite Traffic Calming Measures



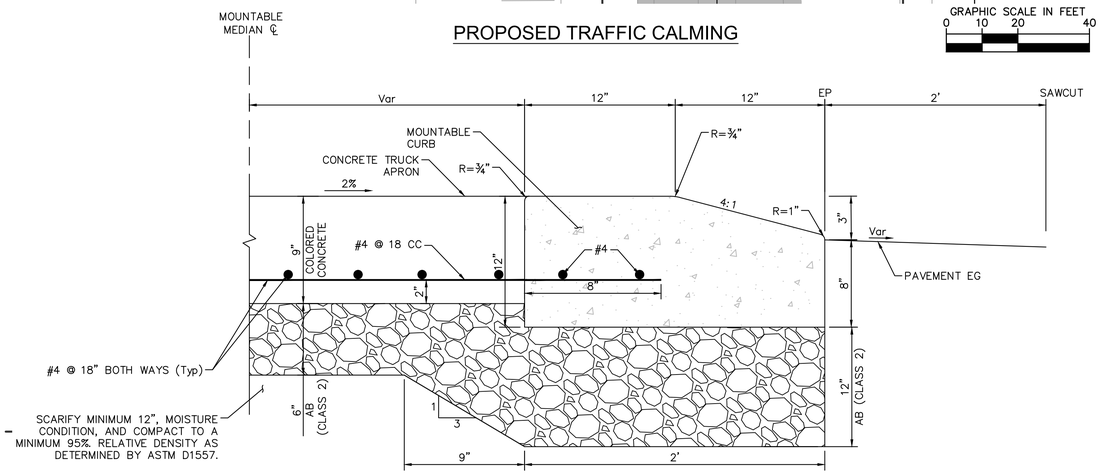
PROPOSED LIMITS OF MICROSURFACE TREATMENT

LEGEND

- PROPERTY LINE
- CENTERLINE
- EXISTING DECORATIVE PAVEMENT TO REMAIN
- HEAVY DUTY CONCRETE
- MICROSURFACE TREATMENT AREA



PROPOSED TRAFFIC CALMING



MOUNTABLE CURB MEDIAN DETAIL
NTS

PROJECT ADDRESS

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PROJECT DELIVERY PACKAGE

PLANNING/ENTITLE.

PROJECT:
CAMINO ARROYO - BUILDING 1

SHEET TITLE:
PRELIMINARY OFFSITE IMPROVEMENT PLAN

CONFIDENTIAL

REVISIONS

MARK	DATE	DESCRIPTION
	30OCT2020	PLANNING & ENTITLEMENT #1
	15JAN2021	3RD PARTY REVIEW
	26JAN2021	3RD PARTY REVIEW #2
	28JAN2021	3RD PARTY REVIEW #3
	02FEB2021	PLANNING & ENTITLEMENT #2

SEAL/SIGNATURE

REGISTERED PROFESSIONAL ENGINEER
MILES R. JOHNSON
RCE NO. 84307
CIVIL
STATE OF CALIFORNIA

The licensed professional seal affixed to this sheet applies only to the material and items shown on this sheet. All drawings, instruments or other documents not exhibiting this seal shall not be considered prepared by this professional, and this professional expressly disclaims any and all responsibility for such plan, drawings or documents not exhibiting this seal.

ISSUE DATE: 12FEB2021 | **KH PROJECT NO:**197315002
DESIGNED: JAK | **ENGINEER:** MRJ
DRAWING NUMBER: **C201**

PDF PRINT DATE: 02/12/2021