File: PLN17-10080  
Concurrent Land Use Permit for a Building Site Approval, Grading Approval, Design Review, and Open Space Compatible Use Determination for a New Single-Family Residence.

Summary: Consider recommendation of a concurrent land use permit for a Building Site Approval, Grading Approval, Design Review, and Open Space Easement Compatible Use Determination for an 8,647 square-foot single-family residence with a 1,373 detached garage, and a 1,198 square-foot detached accessory dwelling unit on a 27.1 acre lot. Associated improvements include a driveway, retaining walls, and proposed landscaping. Grading consists of 1,216 cubic yards of cut and 1,977 cubic yards of fill.

Owner: Martin & Rosario Gutierrez  
Applicant: Hanna-Brunetti/D&Z Designs  
Lot Size: 27.1 acres  
APN: 728-24-008  
Supervisorial District: 1

Gen. Plan Designation: Agriculture Medium Scale  
Zoning: A-20Ac-d1  
Address: 2245 Liberata Drive, Morgan Hill  
Present Land Use: Vacant  
HCP: Area 1 (Covered Project)

RECOMMENDED ACTIONS
A. Accept Categorical Exemptions, under Section 15303(a) of the CEQA Guidelines, Attachment A.
B. Grant a concurrent land use permit for a Building Site Approval, Grading Approval, Design Review, and Open Space Easement Compatible Use Determination, subject to Conditions of Approval outlined in Attachment B.

ATTACHMENTS INCLUDED
Attachment A – Proposed CEQA Determination  
Attachment B – Proposed Conditions of Approval  
Attachment C – Location & Vicinity Map  
Attachment D – Proposed Plans (with Light Reflective Value/LRV Color)  
Attachment E – Alternative Site Analysis Map and Viewshed Map
Attachment H – Public Comments

PROJECT DESCRIPTION

The proposed project is for a concurrent land use permit to approve a Building Site Approval, Grading Approval, Design Review and Open Space Compatible Use Determination (CUD) for a new 8,647 square foot single-family residence, with a 1,373 detached garage and a 1,198 square foot detached accessory dwelling unit (ADU) on a 27.1-acre lot. The CUD is required to develop on land restricted by an Open Space Easement. The proposed development includes improvements to the access the driveway from Barnard Road, retaining walls in the rear of the property (with a 5 ft. maximum height), and a new septic system and leach field. The new single-family residence and ADU will be clustered in the southeastern portion of the lot to retain the open space quality of the site and minimize any visibility of the development to the valley floor. Proposed grading consists of 1,213 cubic yards of cut and 1,977 cubic yards of fill with a maximum vertical depth of 11 feet. The project will not require any removal of trees or demolition of any existing structures as the site is currently vacant.

The property is currently under an existing Open Space Easement (OSE) contract (2007.006) that allows for single-family residential uses (and its improvements) but limits the development to a maximum of 5% of total coverage and requires 95% of the land to remain as open space.

Setting/Location Information

The subject property is a 27.1 gross-acre parcel located at the end of Barnard Road and Liberata Drive in Morgan Hill, near the intersection of Hall Avenue and Cochrane Road, in the unincorporated area of Santa Clara County. The property abuts the City of Morgan Hill to the east, along the side property line, however, it is not located within the Urban Service Area (USA) of the City of Morgan Hill. Additionally, the property is 0.28 miles from Anderson Lake. The site is a vacant lot surrounded by many low-density single-family residences that were built in the late 1980s and early 1990s, with a few homes built in the early 2000. The neighborhood character consists of ranch style estate homes ranging in size from approximately 3,000 sq. ft. to 8,000 sq. ft., on minimum 4 acres properties. The property will have a new septic system and is serviced by an onsite well.

The site is located within the Santa Clara Valley Habitat Plan (HCP) Area 1 and is considered a covered project. The proposed development is located within the following landcovers: California Annual Grassland, Serpentine Bunchgrass Grassland, Urban – Suburban, Mixed Serpentine Chaparral, and Valley Oak Woodland. The proposed development area will not have any impacts to serpentine outcrop or Serpentine Chaparral as the areas are located southwest on the property. Although the site is located within a Bay Checkerspot Butterfly area, the survey report from Live Oak Associates, Inc., dated October 24, 2019 (Attachment G), did not find any evidence of Bay Checkerspot Butterfly on five (5) survey visits, and concluded that the existing property does not have any Bay Checkerspot Butterfly. The proposed project will not be in proximity to any creeks/watercourses or any riparian sensitive land covers. Based on County GIS data, the slope of the property is 23%.
REASONS FOR RECOMMENDATIONS

A. Environmental Review and Determination (CEQA)

The proposed project qualifies for a Categorical Exemption under Section 15303(a) of a new single-family residence. As such, an Initial Study and further analysis under the CEQA was not required.

B. Compatible Use Determination and Enhanced Design Review Findings for Open Space Easement Contracts: Pursuant to County Ordinance Code Section C13-40, for any development or use on restricted land, the land owner must apply for and obtain a Compatible Use Determination (CUD) from the County. Planning Staff will determine whether the proposed use or development is compatible with the contract/agreement for the property and any adopted guidelines. The purpose of the CUD and enhanced design review findings are to allow uses that would continue to maintain the open space quality and intention of the Open Space Easement (OSE) contract while encouraging quality design to mitigate any visual impacts of development. In the following discussion, the scope of review findings are listed in bold, and an explanation of how the project meets the required standard is in plain text below.

1. Effectively preserves the natural or scenic character of the land;

   The proposed development is clustered to the southeast portion of the lot with the residential house, accessory dwelling unit (ADU), and proposed water tanks. Less than 1% of property will be developed, therefore, preserving most of the property in its natural and scenic character. The proposed development is not located on the ridgeline, but rather, behind the ridgeline in an area that is buffered by a natural knoll to the north of the proposed location. The proposed development is not within any endangered wildlife area such as Bay Checker Butterfly (see Attachment G) or located adjacent to any creeks or watercourses. Therefore, as stated in the reasons above, this finding can be made.

2. Does not significantly impair the open space character of the land;

   The property is currently under an existing Open Space Easement (OSE) contract (2007.006) that allows for single-family residential uses (and its improvements) but limits the development to a maximum of 5% of total coverage and requires 95% of the land to remain as open space. The proposed residential development is less than 1% of the total lot coverage and is clustered at the southeast portion of the property to maximize the open space quality of the lot, and therefore, is consistent to the limitation of development of OSE contracted lands. Additionally, the proposed development is limited to a specific southeastern portion on the lot where the topography is more stable for residential use as the property is comprised of many geological hazard zones and landslide areas. Therefore, as stated in the reasons above, this finding can be made.
3. **Maintains open space in large, contiguous, and clustering development;**

As previously mentioned, the proposed development is less than 1% of the total lot coverage and is clustered to the southeast portion of the property. Aside from the residence, ADU, and water tanks, the majority of the 27-acre parcel will remain open space and the land will continue to retain its natural and scenic character without additional development on the property. As such, this finding can be made.

4. **Avoids noteworthy and valuable features of the land, such as rock outcappings, significant stands of mature trees and riparian areas;**

The proposed development is not proposing any tree removals or located near any mature oak trees. The development will not impact any riparian habitat or oak woodland, nor will it impact any Bay Checker Butterfly as the Biology Report and Surveys conducted by Live Oak Associates (Attachment G) did not find any evidence of the species on the property. As such, this finding can be made.

5. **Considers the topography, visual impacts, and conservation of natural resources in citing the proposed development;**

The proposed grading has been designed to contour to the natural topography to the maximum extent possible and the overall design of the residence is sited in an area to minimize disturbance to the natural landscape as much as possible. Retaining walls proposed to the rear limit the grading and disturbance as much as feasible due to the lot’s natural topography, which descends near side area of the lot. The proposed development is utilizing an existing dirt road and is only making improvements to the existing dirt road for access and Fire/Life safety and requirements. The grading proposed is primarily for improvement of the driveway and follows natural contours. The development will not impact any riparian habitat or oak woodland, nor will it impact any Bay Checker Butterfly as the Biology Report and Surveys conducted by Live Oak Associates (Attachment G) did not find any evidence of the species. For these reasons, this finding can be made.

6. **Minimizes grading;**

The project’s grading quantities are 1,213 cubic yards of cut and 1,977 cubic yards of fill. The proposed grading is necessary to establish the building pads for the residence, attached garage, ADU, retaining walls, and improvement to the driveway. These are allowable primary uses for the zoning district. An Alternative Site Analysis (Attachment E) was conducted for the property where the applicant provided alternative sites that are closer to Liberata Drive and Barnard Road for Planning Staff to analyze the competing factors of grading, siting (visibility), and geological hazards and landslides areas throughout the property. A more detailed analysis regarding grading is identified in the Grading Findings of the Staff Report, however, by siting the proposed development as currently proposed, the applicant avoids areas of geological landslides areas that would require unnecessary disturbance to the natural
environment. All new grading will utilize temporary erosion control measures during construction that will be replace with long-term permanent erosion control measures in the form of natural landscaping. As such, the above finding can be made. For the reasons mentioned above, this finding can be made.

7. **Maintaining the open space in large, continuous areas capable of serving the various purposes of such open space, including but not limited to recreation and trails, agriculture, viewshed protection, habitat preservation and wildlife corridors;**

The proposed development is less than 1% of the total lot coverage and is clustered to the southeast portion of the property. Aside from the residence, ADU, and water tanks, the majority of the 27-acre parcel will remain open space and the land will continue to retain its natural and scenic character without additional development on the property. The development is designed to minimize any viewshed impact by locating the residence behind a ridgeline and behind a natural knoll located to the northern portion of the property. Additionally, the proposed residence has a maximum height of 25 feet, with one (1) story, and will not create additional visual impact, as there are multiple rooflines as opposed to one large singularly tall building. Therefore, this finding can be made.

8. **Avoiding those noteworthy and most valuable natural features of the land, such as rock outcroppings, historic or archeological sites, significant stands of mature trees and riparian areas;**

As previously mentioned, the proposed development is not proposing any tree removals or located near any mature oak trees. The development will not impact any riparian habitat or oak woodland, nor will it impact any Bay Checker Butterfly as the Biology Report and Surveys conducted by Live Oak Associates (Attachment G) did not find any evidence of the species on the property. As such, this finding can be made.

9. **Being located based on the consideration and balancing of factors as topography, visual impacts and conservation of natural resources and landscape features, while also minimizing the need for grading and earthwork to the maximum extent possible;**

The proposed grading is necessary to establish the building pads for the residence, attached garage, ADU, retaining walls, and improvement to the driveway. These are allowable primary uses for the zoning district. An Alternative Site Analysis (Attachment E) was conducted for the property where the applicant provided alternative sites that are closer to Liberata Drive and Barnard Road for Planning Staff to analyze the competing factors of grading, siting (visibility), and geological hazards and landslides areas throughout the property. Although Option A would be a bit closer to Barnard Road, the proposed development would generate a significant amount of grading (4,906 cubic yards of cut and 3,190 cubic yards of fill) than the
current site proposed, not to mention Option A would be located in a highly visible area to the valley floor. Although Option B in the Alternative Site Analysis Map (Attachment E) would be in a less visible area (“medium visibility”) than Option A, however, Option B is in a landslide area with slope easements restrictions from Liberata Drive and would require significant grading in the amounts of 2,248 cubic yards of fill and 3,619 cubic yards of fill is required for development in that area.

After analyzing the Alternative Site Analysis Map (Attachment E) and the Geotechnical and Geological Hazard Evaluation by Earth Systems Pacific (Attachment F), and conducting a site and neighborhood field study, Staff determined that the single-family residence as proposed in the southeastern portion of the property will not create significant visual impact to the valley floor as it is located in a medium visibility area and the development area slopes downward which provides a natural screening of the residence from the valley floor. Additionally, the proposed landscaping for the retaining walls in the rear will screen and soften any visual impacts from neighbors. Grading for the proposed residence and ADU is minimized to 1,213 cubic yards of cut and 1,977 cubic yards of fill, which is significantly less than Option A and Option B in the Alternative Site Analysis Map.

Consequently, the amount, design, location and the nature of the proposed grading is necessary and appropriate to establish the single-family residential use, which is a permissible use in the A-20Ac-d1 zoning district. As such, this finding can be made.

10. Being clustered on the property to the maximum extent possible;

Planning Staff worked with the applicant after many resubmittals to cluster the proposed development to the maximum extent possible while balancing competing factors such as various landslide areas, steep terrain, and high visibility areas throughout the property. The proposed development is clustered to the southeast portion of the property and majority of the 27-acre property will remain open space and the land will continue to retain its natural and scenic character. Therefore, this finding can be made.

C. Project/Proposal

1. General Plan: Agriculture Medium Scale

2. Approval Building Site: Per County Ordinance Code Section C12-307, Building Site Approval (BSA) is required for new single-family or two-family dwellings, including any property within the A-20Ac-d1 zoning district that is not a designated lot within an approved Parcel Map or Tract Map. The proposed project meets all development standards for a primary residence (minimum of 30 ft. from the front property line/right-of-way, minimum of 30 feet to side and rear, and a maximum height of 35 feet tall). Application for BSA was applied for on November 28, 2017 and will be approved simultaneously with the CUD, Grading Approval and Design Review.
3. **Zoning Standards**: The Zoning Ordinance specifies the required development standards for A-20Ac-d1 Zoning District, as summarized below, followed by Table A, noting the project’s conformance with Section 3.20.040 “-d1” Combing District:

- **Main Residence**
  - **Setbacks (A-20Ac):** 30-feet from all property lines and/or rights-of-way (ROW)
  - **Height:** 35-feet maximum
  - **Stories:** 2-stories maximum

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*See a detailed discussion of these development standards within the body of the Design Review Findings in Section C below

D. **Design Review Findings:**

Pursuant to Section §5.50.040 of the County Zoning Ordinance, all Design Review applications are subject to the stated scope of review. The overall purpose of Design Review is to encourage quality design and mitigate potential adverse visual impacts of development. In the following discussion, the scope of review findings is listed in **bold**, and an explanation of how the project meets the required standard is in plain text below.

1. **Mitigation of any adverse visual impacts from proposed structures, grading, vegetation removal and landscaping:**

   According to the County’s GIS data on visibility of properties as seen from the valley floor, the subject property is located in a “highly visible” to “medium visible” areas with only small portions of the lot that are not visible to the valley floor (primarily in the geo hazard and landslide areas). As detailed in CUD Finding No. 9 above, an Alternative Site Analysis (Attachment E) was conducted for the property where the applicant provided alternative sites that are closer to Liberata Drive and Barnard Road for Planning Staff to analyze the competing factors of grading, siting (visibility), and geological hazards and landslides areas throughout the property. Although Option A would be a bit closer to Barnard Road, the proposed development would generate a significant amount of grading (4,906 cubic yards of cut and 3,190 cubic yards of fill) than the current site proposed not to mention Option A would be located in a highly visible area to the valley floor. Although Option B in the Alternative Site Analysis
Map (Attachment E) would be in a less visible area ("medium visibility") than Option A, however, Option B is in a landslide area with slope easements restrictions from Liberata Drive not to mention significant grading in the amounts of 2,248 cubic yards of cut and 3,619 cubic yards of fill is required for development in that area.

After analyzing the Alternative Site Analysis Map (Attachment E) and the Geotechnical and Geological Hazard Evaluation by Earth Systems Pacific (Attachment F), and conducting a site and neighborhood field study, Staff determined that the single-family residence as proposed in the southeastern portion of the property will not create significant visual impact to the valley floor as it is located in a medium visibility area and the development area slopes downward which provides a natural screening of the residence from the valley floor. Additionally, the proposed landscaping for the retaining walls in the rear will screen and reduce any visual impacts to the neighbors with shrubs and vines. Grading for the proposed residence and ADU is minimized to 1,213 cubic yards of cut and 1,977 cubic yards of fill, which is significantly less than Option A and Option B in the Alternative Site Analysis Map.

The proposed project includes construction of a one-story residence, with a maximum height of 24 feet, which is well below the maximum allowable height limitation of 35 feet in height. The proposed ADU has a maximum height of 16 feet which is consistent to the required height for ADU with the County of Santa Clara. The applicant is incorporating earth toned colors that are not more than 35 LRV, which is below the LRV requirement of single-family residence within a -d1 (Design Review) district but is consistent to the requirements for the visibility coloring for properties within Open Space Easement contracts.

The proposed development will not be removing any trees and all existing trees located near Barnard Road will be protected during construction. A landscaping plan was submitted along with the plan set (Attachment D) that included shrubs along the proposed retaining walls in the rear of the residence. Additional conditions for trees and shrubs are incorporated in the preliminary Conditions of Approval to help further screen and soften the retaining walls and mitigate any potential visual impacts to the side neighbors. As sited and designed, the project minimized visual impacts toward the valley floor or neighboring properties, and the grading quantities are minimized to the extent possible for establishment of a single-family residence on the existing property. As such, the above finding can be made.

2. **Compatibility with the natural environment;**

   The project includes the construction of a new single-family residence with an attached garage and ADU. The proposed development is utilizing an existing dirt road and is only making improvements to the existing dirt road for access and Fire/Life safety and requirements. The grading proposed is primarily for improvement of the existing driveway and follows natural contours. The development will not impact any riparian habitat or oak woodland, nor will it impact any Bay
Checker Butterfly as the Biology Report and Surveys conducted by Live Oak Associates (Attachment G) did not find any evidence of the species on the property. Although the proposed development area is adjacent to serpentine soil, the biology report from Live Oak Associates did identify the presence of the smooth lessingia but not other plants that are associated with serpentine soil. Smooth lessingia is a covered plant under the Santa Clara Valley Habitat Plan, and therefore, the mitigation and conditions of smooth lessingia is incorporated as part of the conditions of approval for the project under the Santa Clara Valley Habitat Plan. By siting the proposed development as currently proposed, the applicant avoids areas of geological hazards and landslides that would require unnecessary disturbance to the natural environment.

As the property is under a current OSE contract, the single-family residence, ADU, and overall development is less than 1% of the total lot coverage and is clustered to maximize the open space quality of the lot, and therefore, is consistent to the limitation of development of OSE contracted lands and CUD findings. As such, the proposed project is designed to be compatible with the natural and existing environment and is utilizing existing natural terrain for the construction of the buildings. For the above reasons, this finding can be made.

3. Conformance with the “Design Review Guidelines,” adopted by the Board of Supervisors;

The proposed project conforms to the County’s Board-adopted Design Review Guidelines. The siting of the proposed residence utilizes a pad in a flat area of the parcel and requires minimal site improvements and grading. The necessary grading is primarily for the improvement of the existing driveway for Fire/Life safety access. The proposed residence is not surrounded by many trees and the ones that are existing will be maintained and protected during construction. Additional landscaping has been added as part of the project conditions, in Attachment B of the Staff Report. Impacts on privacy and views of neighboring properties are minimal as the project is sited in an area that has a slope that provides a natural screening to the residence from the valley floor. Additionally, landscaping plans with the inclusion of trees and shrubs will mitigate any impacts to adjacent neighbors. The proposed residence has a maximum height of 25 feet, with one (1) story, and will not create additional visual impact, as there are multiple rooflines, as recommended in the Design Review Guidelines. The development is also not located on or above any ridgeline.

The architectural design of the proposed residence avoids excessive bulk and mass by incorporating undulating facades and varied roof planes. Exterior colors for the house façade, trim, and roof materials all have a Light Reflective Value (LRV) of 35 or less, as shown as part of the plan set (Attachment D). As part of the requirement for Design Review (Tier 2), the applicant is required to erect story poles prior to the Zoning Administration Hearing and will be inspected by Staff January 25, 2021 to ensure compliance to Section 3.20.040 (A)(2)(c). After inspecting the required story poles, no new impacts were observed by Staff. For these reasons, the above finding can be made.
4. **Compatibility with the neighborhood and adjacent development;**

As noted in the *Project Description* section of the report, the neighboring properties are developed with single-family residences that are both one (1) to two (2) stories, a majority of which were built between the 1980s, 1990s, and 2000s. The proposed residence is keeping with the characteristics of the surrounding neighborhood in that the proposed size, number of stories, and architectural design are compatible to adjacent developments. The project will not be obtrusive compared to the other developed parcels in the vicinity, due to the similarities in size, overall design, and color. As such, this finding can be made.

5. **Compliance with applicable zoning district regulations; and**

As summarized in Section B(3) and Table A of this Staff Report, residential use is an allowed use in the A-20Ac-d1 Agriculture Zoning District, and the project complies with the A-20Ac -d1 zoning regulations and development standards. The proposed residence meets the required setbacks (30-feet front, 30-feet side, and 30 feet rear) and height at 25 feet (maximum of 35-feet). Furthermore, the proposed design is also in keeping with the -d1 design guideline standards and building massing standards in that the structure incorporates varied roof heights and uses architectural elements, such as windows and cornices, to produce patterns of light and shade. Exterior colors are proposed and conditioned to be less than 35 in LRV. For these reasons, Staff has determined that the project follows the applicable zoning district regulations, and this finding can be made.

6. **Conformance with the general plan, any applicable specific plan, other applicable guidelines.**


General Plan Policy R-LU15 states that properties identified in the General Plan as “Agriculture-Medium Scale,” minimum parcel sizes shall be not less than 20 acres. The existing property is at 27 acres, which is consistent to the lot size requirement in the General Plan for “Agriculture-Medium Scale.” The project conforms to R-GD22 and R-GD24 as the proposed development is minimizing the grading as much as possible with most of the grading is used for improvement to the existing driveway. As previously discussed, Planning Staff analyzed alternative sites (Option A and Option B) on the property and had to balance between competing factors such as visibility, grading, and geological hazards and landslides that are present on the lot. In conclusion Planning Staff determined that the current proposed site is consistent to the County’s General Plan (R-GD22, R-GD24) as it minimizes grading to achieve a
single-family residence while avoiding visibility and geologic impacts on the property.

The proposed development is consistent to the County’s Board-adopted Design Guidelines as it is sited on a flat pad, with tiered rooflines and does not have any massive and/or bulky facades. The exterior color and materials are muted and to have an LRV of 35 or less to ensure compatibility with the surrounding environment. Existing trees on the property are to be protected during construction and a landscaping plan will provide additional screening and privacy to the neighboring properties. The project is also consistent to the Siting Criteria for Development of Limited Uses for Open Space Easement (OSE) Compatible Use Determination (CUD) as the development is less than 1% of the total lot coverage and is clustered to maximize the open space quality of the lot, and therefore, is consistent to the limitation of development of OSE contracted lands. Additionally, the project maintains more than 95% of property as vacant land to preserve the open space quality of the lot and is situated in an area that would not impact natural features such as historic/archaeological sites, mature trees, and/or riparian areas. For the above reasons, the finding can be made.

E. Grading Approval: Pursuant to Section C12-433 of the County Ordinance Code, all Grading Approvals are subject to specific findings. In the following discussion, the scope of review findings are listed in **bold**, and an explanation of how the project meets the required standard is in plain text below.

1. **The amount, design, location, and the nature of any proposed grading is necessary to establish or maintain a use presently permitted by law on the property.**

The project’s grading quantities are 1,213 cubic yards of cut and 1,977 cubic yards of fill. The proposed grading is necessary to establish the building pads for the residence, attached garage, ADU, retaining walls, and improvement to the driveway. These are allowable primary uses for the zoning district. An Alternative Site Analysis (Attachment E) was conducted for the property where the applicant provided alternative sites that are closer to Liberata Drive and Barnard Road for Planning Staff to analyze the competing factors of grading, siting (visibility), and geological hazards and landslides areas throughout the property. Although Option A would be a bit closer to Barnard Road, the proposed development would generate a significant amount of grading (4,906 cubic yards of cut and 3,190 cubic yards of fill) than the current site proposed not to mention Option A would be located in a highly visible area to the valley floor. Although Option B in the Alternative Site Analysis Map (Attachment E) would be in a less visible area (“medium visibility”) than Option A, however, Option B is in a landslide area with slope easements restrictions from Liberata Drive not to mention significant grading in the amounts of 2,248 cubic yards of fill and 3,619 cubic yards of fill is required for development in that area.

After analyzing the Alternative Site Analysis Map (Attachment E) and the Geotechnical and Geological Hazard Evaluation by Earth Systems Pacific (Attachment F), and
conducting a site and neighborhood field study, Staff determined that the single-family residence as proposed in the southeastern portion of the property will not create significant visual impact to the valley floor as it is located in a medium visibility area and the development area slopes downward which provides a natural screening of the residence from the valley floor. Additionally, the proposed landscaping for the retaining walls in the rear will screen and soften any visual impacts from neighbors. Grading for the proposed residence and ADU is minimized to 1,213 cubic yards of cut and 1,977 cubic yards of fill, which is significantly less than Option A and Option B in the Alternative Site Analysis Map.

Consequently, the amount, design, location and the nature of the proposed grading is necessary and appropriate to establish the single-family residential use, which is a permissible use in the A-20Ac-d1 zoning district. As such, this finding can be made.

2. **The grading will not endanger public and/or private property, endanger public health and safety, will not result in excessive deposition of debris or soil sediments on any public right-of-way, or impair any spring or existing watercourse.**

   The proposed grading will not endanger public or private property. The grading is minimized to establish a single-family residential use on the property that will provide a safe and stable foundation for the house, attached garage, and ADU. All export will be deposited at an approved site. The Conditions of Approval of final grading plans will ensure that grading around the building pads and driveway will not result in slope instability or erosion. Land Development Engineering has specific erosion control standards to be implemented as part of the driveway and grading design. As such, this finding can be made.

3. **Grading will minimize impacts to the natural landscape, scenic, biological and aquatic resources, and minimize erosion impacts.**

   The proposed grading has been designed to contour to the natural topography to the maximum extent possible and the overall design the residence is tiered and stepped to minimize disturbance to the natural landscape. Retaining walls proposed to the rear is to limit the grading and disturbance as much as feasible due to the lot’s natural topography, which descends near side area of the lot. The proposed development is utilizing an existing dirt road and is only making improvements to the existing dirt road for access and Fire/Life safety and requirements. The grading proposed is primarily for improvement of the driveway and follows natural contours. The development will not impact any riparian habitat or oak woodland, nor will it impact any Bay Checker Butterfly as the Biology Report and Surveys conducted by Live Oak Associates (Attachment G) did not find any evidence of the species. Although the proposed development area is adjacent to serpentine soil, the biology report from Live Oak Associates did identify the presence of the smooth lessingia but not other plants that are associated with serpentine soil. Smooth lessingia is a covered plant under the Santa Clara Valley Habitat Plan, and therefore, the mitigation and conditions of smooth lessingia is incorporated as part of the conditions of approval for the project under the
Santa Clara Valley Habitat Plan. By siting the proposed development as currently proposed, the applicant avoids areas of geological hazards and landslides that would require unnecessary disturbance to the natural environment. All new grading will utilize temporary erosion control measures during construction that will be replaced with long-term permanent erosion control measures in the form of natural landscaping. As such, the above finding can be made.

4. **For grading associated with a new building or development site, the subject site shall be one that minimizes grading in comparison with other available development sites, taking into consideration other development constraints and regulations applicable to the project.**

The proposed location is suitable for a building site, as it is clustered towards the southeastern portion of the property that utilizes the existing flat area of the lot. The project conforms to R-GD22 and R-GD24 as the proposed development is minimizing the grading as much as possible with most of the grading is used for improvement to the existing driveway. As previously discussed, Planning Staff analyzed alternative sites (Option A and Option B) on the property and had to balance between competing factors such as visibility, grading, and geological hazards and landslides that are present on the lot. In conclusion Planning Staff determined that the current proposed site is consistent to the County’s General Plan (R-GD22, R-GD24) as it minimizes grading to achieve a single-family residence while avoiding visibility and geologic impacts on the property. As such, this finding can be made.

5. **Grading and associated improvements will conform with the natural terrain and existing topography of the site as much as possible, and should not create a significant visual scar.**

The majority of the grading is necessary to establish the single-family residential use and improvement for a driveway for access from Barnard Road. Grading is minimized and limited to the establishment the primary use (residential) of the lot, and will not disturb any ridgeline or create any visual scar. Additionally, the project is using an existing flat area of the property and is conforming to the natural terrain by locating the house behind the existing natural slope of the lot at 26%. As such, this finding can be made.

6. **Grading conforms with any applicable general plan or specific plan; and**

The proposed grading is in conformance with specific findings and policies identified in the County General Plan. For example, the total grading quantities have been minimized by utilizing part of the existing building pad and the overall design of the residence is tiered and stepped to reduce bulk and massing that is consistent with the County’s General Plan R-GD22 and R-GD24 (see Finding 4 above), which encourages only the minimal grading necessary to establish a single-family residence. As such, this finding can be made.
7. Grading substantially conforms with the adopted "Guidelines for Grading and Hillside Development" and other applicable guidelines adopted by the County.

The proposed grading is in conformance with the adopted “Guidelines for Grading and Hillside Development,” in particular, the specific guidelines for siting, building form, and design. The access driveway for the proposed residence is not required as the residence is utilizing Hillslope Place, which is an existing County maintained road. A driveway to access a detached garage is needed for vehicular accessibility. Additionally, the residence tiered with undulating facades to blend in with the natural terrain. The property is not visible from the valley floor, however, the owner is incorporating neutral colors and earth tones as part of the conformity to the natural landscape and neighborhood. Erosion control is conditioned with the County requirements of Land Development Engineering with final erosion control plans to be implemented with the final grading permit.

The project is also consistent to the Siting Criteria for Development of Limited Uses for Open Space Easement (OSE) Compatible Use Determination (CUD) as the development is less than 1% of the total lot coverage and is clustered to maximize the open space quality of the lot, and therefore, is consistent to the limitation of development of OSE contracted lands. Additionally, the project maintains more than 95% of property as vacant land to preserve the open space quality of the lot and is situated in an area that would not impact natural features such as historic/archaeological sites, mature trees, and/or riparian areas. For the above reasons, the finding can be made. As such, this finding can be made.

In conclusion, Staff recommends the Zoning Administration Hearing Officer to approve the concurrent land use entitlements for a Building Site Approval, Grading Approval, and Design Review. Pursuant to County Ordinance Section C12-307, Building Site Approval is required for new single-family or two-family dwellings, including any property within the A-40AC-d1 zoning district that is not a lot within a Parcel Map or a numbered lot subdivision. As noted throughout the Staff Report, the proposed project meets all development standards for the primary residence (minimum of 30 ft. to the front, minimum of 30 feet to side and rear, and a maximum height of 35 feet) and all the findings for Open Space Easement Compatible Use Determination, Grading Approval and Design Review.

**ADDITIONAL INFORMATION**

**Public Comment**

As a result of the public notice, Staff received public comments letters from a neighbor adjacent to the property. The neighbor has concerns with the overall location/siting, grading, and scale of the project. As noted in the analysis/body of the report and as analyzed in the findings, Staff determined that the single-family residence as proposed in the southeastern portion of the property will not create significant visual impact to the valley floor as it is located in a medium visibility area and the development area slopes downward which provides a natural screening of the residence from the valley floor. Additionally, the proposed landscaping for the retaining
walls in the rear will screen and reduce any visual impacts to the neighbors with shrubs and vines. Grading for the proposed residence and ADU is minimized to 1,213 cubic yards of cut and 1,977 cubic yards of fill, which is significantly less than Option A and Option B in the Alternative Site Analysis Map.

The proposed project includes construction of a one-story residence, with a maximum height of 24 feet, which is well below the maximum allowable height limitation of 35 feet in height. The proposed ADU has a maximum height of 16 feet which is consistent to the required height for ADU with the County of Santa Clara. The applicant is incorporating earth toned colors that are not more than 35 LRV, which is below the LRV requirement of single-family residence within a -d1 (Design Review) district but is consistent to the requirements for the visibility coloring for properties within Open Space Easement contracts.

The proposed development will not be removing any trees and all existing trees located near Barnard Road will be protected during construction. A landscaping plan was submitted along with the plan set (Attachment D) that included shrubs along the proposed retaining walls in the rear of the residence. Additional conditions for trees and shrubs are incorporated in the preliminary conditions of approval to help further screen and soften the retaining walls and mitigate any potential visual impacts to the side neighbors. As sited and designed, the project minimized visual impacts toward the valley floor or neighboring properties, and the grading quantities are minimized to the extent possible for establishment of a single-family residence on the existing property.

Story Poles
On January 15, 2021, the applicant installed the required story poles at the development site as part of the requirements for Design Review Zoning Administration Hearing items. Staff verified and confirmed the story poles were erected on January 25th. Planning Staff visited the site and neighborhood again on January 29th, 2021 and can confirm the story poles are still standing.

BACKGROUND
On August 26, 2015, the current owners, Martin and Rosario Gutierrez, originally applied for Building Site Approval, Grading Approval, Design Review, and Open Space Easement (OSE) Compatible Use Determination (CUD). Unfortunately, the application subsequently expired as the owners were not able to address and resubmit within one (1) year from the date of the original submittal. On November 28, 2017, the owners returned and submitted for a new application of Building Site Approval, Grading Approval, Design Review, and Open Space Easement (OSE) Compatible Use Determination (CUD). The application was deemed incomplete on December 28, 2017 as staff had numerous comments and issues related to the project, primarily concerning location (siting), proposed grading, Habitat Plan Coverage and any impacts to serpentine soil and/or Bay Checkers Butterfly. The owners did not resubmit until July 23, 2018, where biological geologic reports were provided in addition to plans revisions. The application was deemed incomplete as the owners did not address the primary issues and concerns regarding visibility, siting, and grading along with items from other referral agencies.

Staff met with the owners’ consultants from Hanna-Brunetti and D&Z Designs in the months following the second incomplete letter to work with the applicant on siting the project and
addressing any outstanding issues and concerns. After multiple resubmittals, the project was deemed complete on December 8, 2020.

On August 16, 2018, a development sign was installed at the property and August 29, 2018, the project was noticed within a 300-foot radius as part of the requirement for Early Public Outreach.

The owner installed the required story poles by January 15th at the development site as part of the requirements for Design Review Zoning Administration Hearing items (7 days prior to the hearing). A public notice was mailed to all property owners within a 300-foot radius of the project on January 20, 2021 and was also published in the Post Records on January 20, 2021 for the Zoning Administration Hearing date.

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**STAFF REPORT REVIEW**

Prepared by:  Lara Tran, Associate Planner
Reviewed by:  Leza Mikhail, Zoning Administrator/Principal Planner
ATTACHMENT A
Proposed CEQA Determination
# ATTACHMENT A

## STATEMENT OF EXEMPTION
from the California Environmental Quality Act (CEQA)

<table>
<thead>
<tr>
<th>FILE NUMBER</th>
<th>APN(S)</th>
<th>APPLICATION TYPE</th>
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<tbody>
<tr>
<td>PLN17-10080</td>
<td>728-24-008</td>
<td>Building Site Approval, Grading Approval, and Design Review</td>
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<table>
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<tr>
<th>PROJECT NAME</th>
<th>2245 Liberata Drive, Morgan Hill</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICATION TYPE</td>
<td>Building Site Approval, Grading Approval, and Design Review</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>OWNER</th>
<th>Hanna-Brunetti/ D&amp;Z Designs</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICANT</td>
<td>Martin &amp; Rosario Gutierrez</td>
</tr>
</tbody>
</table>

| PROJECT LOCATION | 2245 Liberata Drive, Morgan Hill |
| PROJECT DESCRIPTION                                                                 |

Building Site Approval, Grading Approval, and Design Review for an 8,647 square foot single-family residence with a 1,373 detached garage and a 1,198 square foot detached accessory dwelling unit (ADU) on a 27.1-acre lot. Associated improvements include access driveway, retaining walls, and proposed landscaping. Grading consists of 1,213 cubic yards of cut and 1,977 cubic yards of fill.

All discretionary development permits processed by the County Planning Office must be evaluated for compliance with the California Environmental Quality Act (CEQA) of 1970 (as amended). Projects which meet criteria listed under CEQA may be deemed exempt from environmental review. The project described above has been evaluated by Planning Staff under the provisions of CEQA and has been deemed to be exempt from further environmental review per the provision(s) listed below.

## CEQA (GUIDELINES) EXEMPTION SECTION
Categorically Exempt – Section 15303(a) of a new single-family residence with attached garage and detached accessory dwelling unit (ADU).

## COMMENTS
There is no proposal to remove any existing trees on the property. Proposed development is a covered project under the Santa Clara Valley Habitat Conservation Plan (HCP) for Area 1. The project is not located near any riparian or creeks. Biology Report and Surveys from Live Oak Associates did not find any presence of Bay Checkerspot Butterfly although there was evidence of smooth lessingia. Smooth lessingia is a covered plant under the Santa Clara Valley Habitat Plan, and therefore, the mitigation and conditions of smooth lessingia is incorporated as part of the conditions of approval for the project under the Santa Clara Valley Habitat Plan. A landscaping plan is required to screen the retaining wall in the rear of the residence for any visual impacts.

## APPROVED BY:

<table>
<thead>
<tr>
<th>Lara Tran, Associate Planner</th>
<th>1/29/2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature</td>
<td>Date</td>
</tr>
</tbody>
</table>

Approved by: 

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PLN17-10080  
2245 Liberata Drive, Morgan Hill  
Page 18  
Zoning Administration Meeting  
February 4, 2021  Item # 1
ATTACHMENT B
Proposed Conditions of Approval
ATTACHMENT B
PRELIMINARY CONDITIONS OF APPROVAL
BUILDING SITE APPROVAL AND DESIGN REVIEW

Date: February 4, 2021
Owner/Applicant: Martin & Rosario Gutierrez / Hanna-Brunetti and D&Z Design Associates Inc.
Location: 2245 Liberata Drive, Morgan Hill, CA (APN: 728-24-008)
File Number: PLN17-10080
CEQA: Categorically Exempt – Section 15303, Class 3(a).
Project Description: Concurrent land use permit for a Building Site Approval, Grading Approval, and Design Review for an 8,647 square foot single-family residence with a 1,373 detached garage and a 1,198 square foot detached accessory dwelling unit (ADU) on a 27.1-acre lot. Associated improvements include access driveway, retaining walls, and proposed landscaping. Grading consists of 1,213 cubic yards of cut and 1,977 cubic yards of fill. No trees are proposed for removal. Proposed development is a covered project under the Santa Clara Valley Habitat Conservation Plan (HCP).

For any question regarding the following preliminary conditions of approval, contact the person listed for that agency. S/he represents a specialty and can provide details about the conditions of approval.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Name</th>
<th>Phone</th>
<th>E-mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>Lara Tran</td>
<td>(408) 299-5759</td>
<td><a href="mailto:lara.tran@pln.sccgov.org">lara.tran@pln.sccgov.org</a></td>
</tr>
<tr>
<td>Land Development Engineering</td>
<td>Ed Duazo</td>
<td>(408) 299-5733</td>
<td><a href="mailto:ed.duazo@pln.sccgov.org">ed.duazo@pln.sccgov.org</a></td>
</tr>
<tr>
<td>Fire Marshal</td>
<td>Alex Goff</td>
<td>(408) 299-5763</td>
<td><a href="mailto:alex.goff@sccfd.org">alex.goff@sccfd.org</a></td>
</tr>
<tr>
<td>Environmental Health</td>
<td>Darrin Lee</td>
<td>(408) 299-5748</td>
<td><a href="mailto:darrin.lee@cep.sccgov.org">darrin.lee@cep.sccgov.org</a></td>
</tr>
<tr>
<td>Geology</td>
<td>Jim Baker</td>
<td>(408) 299-5774</td>
<td><a href="mailto:jim.baker@pln.sccgov.org">jim.baker@pln.sccgov.org</a></td>
</tr>
<tr>
<td>Roads and Airport</td>
<td>Leo Camacho</td>
<td>(408) 573-2464</td>
<td><a href="mailto:leo.camacho@rda.sccgov.org">leo.camacho@rda.sccgov.org</a></td>
</tr>
<tr>
<td>Building Inspection</td>
<td></td>
<td>(408) 299-5700</td>
<td></td>
</tr>
</tbody>
</table>

STANDARD CONDITIONS OF APPROVAL

Building Inspection
1. For detailed information about the requirements for a Building Permit, obtain a Building Permit Application Instruction handout from the Building Inspection Office or visit the website at www.sccbuilding.org.
Planning

2. Development must take place in substantial conformance with the approved civil plans, prepared by M.H. Engineering and architectural plans prepared by D&Z Designs, submitted on October 16, 2020 and the Conditions of Approval. Any changes to the proposed project may result in additional environmental review, pursuant to the California Environmental Quality Act, or additional Planning review and a public hearing.

3. Existing zoning is A-20Ac-dl. Maintain the following minimum residential setbacks:

<table>
<thead>
<tr>
<th>Setback</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front</td>
<td>30 feet</td>
</tr>
<tr>
<td>Sides</td>
<td>30 feet</td>
</tr>
<tr>
<td>Rear</td>
<td>30 feet</td>
</tr>
<tr>
<td>Height</td>
<td>35 feet (maximum)</td>
</tr>
<tr>
<td>Stories</td>
<td>2 (maximum)</td>
</tr>
</tbody>
</table>

4. Grading consists of 1,213 cubic yards of cut and 1,977 cubic yards of fill with a maximum vertical depth of 11 feet. Any significant increase in grading quantities, or modification to the grading design, is subject to further review and may require a modification to the Grading Approval and associated fees.

5. Two (2) off-street parking spaces are required for the residence where one (1) must be covered.

6. A detached accessory dwelling unit (ADU) shall have a maximum square footage of 1,200 s.f. and a maximum 400 s.f. attached garage per Section 4.10.015(D)(1) and Section 4.10.015(D)(4). Additionally, proposed ADU shall adhered to all requirements and regulations of Section 4.10.015.

7. Any detached accessory structures shall be in the rear half of the lot, or at least 75 ft. from the front property line or edge of right-of-way, per Sections 4.20.020(D). Rear yard coverage of cumulative detached accessory structures shall not be more than 30%, which excludes green houses or agricultural structures.

8. Any accessory structures shall not contain more than two (2) internal plumbing fixtures per Section 4.20.020(I)(1). Further review of a Special Permit and associated fees may be required if additional plumbing fixtures are proposed.

9. The exterior color surfaces (including walls, roof, window trim/accent, retaining walls, fences) of the structure must be of muted colors with light reflectivity value (LRV) of 35 or lower (as indicated on Sheet A3.1 of the approved plan set) and shall be in conformance with the color and materials approved by the Hearing Officer at the Zoning Administration hearing on February 4, 2021.

10. The property owner shall maintain the existing landscaping and provide tree protection for all exiting trees adjacent to the development area and/or driveway.
11. Incorporate native and non-native trees and shrubs to screen the retaining walls in the rear of the property in the landscaping plan.

12. Fences within an Open Space Easement shall be open and shall use welded wire mesh attached to wood posts or wood-rail type fences. Avoid solid and painted plank fencing, especially in an area that is highly visible to the public.

13. If archaeological resources or human skeletal remains are discovered during construction, work shall immediately stop, and the County Coroner’s Office notified. Upon determination that the remains are Native American, no further disturbance of the site may be made except as authorized by the County Coordinator of Indian Affairs, in accordance with state law and Chapter B6-18 of the County Ordinance Code.

Land Development Engineering
14. Property owner is responsible for the adequacy of any drainage facilities and for the continued maintenance thereof in a manner that will preclude any hazard to life, health or damage to adjoining property.

Environmental Health
15. All construction activities shall be in conformance with the Santa Clara County Noise Ordinance Section B11-154 and prohibited between the hours of 7:00 p.m. and 7:00 a.m. on weekdays and Saturdays, or at any time on Sundays for the duration of construction.

CONDITIONS OF APPROVAL TO BE COMPLETED PRIOR TO BUILDING AND/OR GRADING PERMIT ISSUANCE

Planning
16. Prior to issuance of any permits, the applicant shall pay all reasonable costs associated with the work by the Department of Planning and Development.

17. Prior to issuance of a building permit, and pursuant to Zoning Ordinance Section 5.20.125, record a Notice of Permit and Conditions with the County Office of Clerk-Recorder to ensure that successor property owners are aware that certain conditions of approval shall have enduring obligation. Evidence of such recordation shall be provided prior to building permit issuance.

18. Prior to issuance of a building permit, provide a landscaping plan for the proposed retaining walls in the rear of the residence. The landscaping plan shall provide the type and size of trees and plants to screen the retaining walls.

19. Prior to issuance of a building permit, submit final color samples for the house facade, trim and roof indicating the Light Reflectivity Value is less than or equal to 35, pursuant to the policy of the County’s Open Space Easement (OSE) Handbook, and consistent with approved project, color samples and plans approved at the February 4, 2021 Zoning Administration Hearing.
20. **Prior to issuance of a building permit**, including a lot area coverage calculation chart (as part of the plan set) signed and stamped by a licensed civil engineer or land surveyor to ensure the proposed development is less than 5% of the entire parcel for Open Space Easement contracts.

**Habitat Plan Application for Private Projects**

21. **Prior to issuance of any grading or building permit**, submit a completed Habitat Plan Application for Private Projects (“Application”) with all required submittal materials, including all exhibits (as described in the Application for Private Projects), and required staff review fee to the Planning Office for review and verification. See further details regarding site plans and land cover mapping as part of the application.

**Site Plan**

The required site plan shall show the project development, including a delineation of the permanent and temporary development buffer areas.

- **Permanent development area** is defined as all land that will have permanent improvements (driveways, water tanks, buildings/structures, septic system, landscaping, etc.), plus a 50-foot buffer surrounding these areas.

- **Temporary development area** is defined as land that will be temporarily affected during development (construction laydown areas, subsurface utilities/trenching, etc.) that will be restored within one year of completing construction, plus a 10-foot buffer surrounding these areas.

**Land Cover Mapping**

The required land cover mapping shall include the following:

- Land cover mapping that clearly delineates the verified land cover (as described in Chapter 3 of the Habitat Plan), proposed development (foot print of residence and improvements – i.e. driveway, septic system, landscaping, impervious surfaces, and area of temporary and permanent impacts (with applicable buffers).

- Area calculations of land cover permanently and temporarily impacted by the project, consistent with Table 1 in the Application for Private Projects.

**Fees**

22. **Prior to issuance of any grading or building permits**, all Santa Clara Valley Habitat Agency (SCVHA) fees must be paid. Land cover fees are paid based on the land cover (including Serpentine Fee Zone), and development area associated with the project. **Temporary development fees** are based on the amount of time the land is disturbed during construction, plus one year after completing construction, and cannot exceed a combined total of 2 years. **All temporary development that exceeds 2 years from the onset of construction will be subject to permanent impact fees.**
The project is subject to the following Habitat Plan fees based on HCP Geobrowser Mapping. Actual land cover fees will be verified upon receiving adequate land cover mapping with impervious surface calculations.

A. Land Cover Fee Zone B – Agricultural and Valley Floor Lands.
B. Serpentine Fee Zone (permanent fees shall apply to the total area of serpentine rock outcrop impacted).

Habitat Plan Conditions of Approval
23. Prior to issuance of grading/drainage or building permits, all future development is subject to the following Conditions of Approval and described in more detail within Chapter 6 of the Santa Clara Valley Habitat Plan.

- Condition 1: Avoid Direct Impacts on Legally Protected Plant and Wildlife Species.
- Condition 3: Maintain Hydrologic Conditions and Protect Water Quality.
- Condition 7: Rural Development.
- Condition 13: Serpentine and Associated Covered Species Avoidance and Minimization.
- Condition 14: Valley Oak and Blue Oak Woodland Avoidance and Minimization.
- Condition 19 & 20: Plant Salvage and Avoid and Minimize Impacts to Covered Plan Occurrences.

24. Prior to issuance of grading/drainage or building permits, incorporate the Habitat Plan Conditions of Approval (Exhibit A), and Table 1: Hydrology Condition 3 into the improvement/grading and building plans.

Geology
25. Prior to issuance of grading or building permits, submit a Geotechnical Engineer’s Plan Review Letter that confirms the plans conform with the recommendations presented in Earth Systems reports.

Land Development Engineering (LDE)
26. Prior to issuance of a building permit, obtain a grading permit from LDE (building and grading permits may be applied for concurrently). The process for obtaining a grading permit and the forms that are required can be found at the following web page: www.sccplanning.org > How to… > Submit a development Permit Application > Grading Permit

If the County Roads and Airports Department provides a condition of approval to obtain an encroachment permit, the grading and encroachment permits will be processed concurrently under one set of improvement (grading) plans. Please contact LDE at (408) 299-5734 for additional information and timelines.
27. Final plans shall include a single sheet which contains the County standard notes and certificates as shown on County Standard Cover Sheet. Plans shall be neatly and accurately drawn, at an appropriate scale that will enable ready identification and recognition of submitted information.

**Improvement Plans**

28. Final improvement plans shall be prepared by a licensed civil engineer for review and approval by LDE and the scope of work shall be in substantial conformance with the conditionally approved preliminary plans on file with the Planning Office. Include plan, profile, typical sections, contour grading for all street, road, driveway, structures, and other improvements as appropriate for construction. The final design shall be in conformance with all currently adopted standards and ordinances. The following standards are available on-line:


29. Survey monuments shall be shown on the improvement plan to provide sufficient information to locate the proposed improvements and the property lines. Existing monuments must be exposed, verified and noted on the grading plans. Where existing monuments are below grade, they shall be field verified by the surveyor and the grade shall be restored and a temporary stake shall be placed identifying the location of the found monument. If existing survey monuments are not found, temporary staking delineating the property line may be placed prior to construction and new monuments shall be set prior to final acceptance of the improvements. The permanent survey monuments shall be set pursuant to the State Land Surveyor’s Act. The Land Surveyor / Engineer in charge of the boundary survey shall file appropriate records pursuant to Business and Professions Code Section 8762 or 8771 of the Land Surveyors Act with the County Surveyor.

30. The improvement plans shall include an Erosion and Sediment Control Plan that outlines seasonally appropriate erosion and sediment controls during the construction period. Include the County’s Standard Best Management Practice Plan Sheets BMP-1 and BMP-2 with the Plan Set.

31. All applicable easements affecting the parcel(s) with benefactors and recording information shall be shown on the improvement plans.

**Drainage**

32. Provide a drainage analysis prepared by a licensed civil engineer in accordance with criteria as designated in the 2007 County Drainage Manual (see Section 6.3.3 and Appendix L for design requirements). The on-site drainage will be controlled in such a manner as to not increase the downstream peak flow for the 10-year and 100-year storm
event or cause a hazard or public nuisance. The mean annual precipitation is available on the on-line property profile.

33. All new on-site utilities, mains and services shall be placed underground and extended to serve the proposed development. All extensions shall be included in the improvement plans. Off-site work should be coordinated with any other undergrounding to serve other properties in the immediate area.

**Stormwater Treatment – San Francisco Bay & Central Coast**

34. Include one of the following site design measures in the project design: (a) direct hardscape and/or roof runoff onto vegetated areas, (b) collect roof runoff in cisterns or rain barrels for reuse, or (c) construct hardscape (driveway, walkways, patios, etc.) with permeable surfaces. Though only one site design measure is required, it is encouraged to include multiple site design measures in the project design. For additional information, please refer to the C.3 Stormwater Handbook (June 2016) available at the following website: [http://scvurppp.org/pdfs/1516/c3_handbook_2016/SCVURPPP_C.3_Technical_Guidance_Handbook_2016_Chapters.pdf](http://scvurppp.org/pdfs/1516/c3_handbook_2016/SCVURPPP_C.3_Technical_Guidance_Handbook_2016_Chapters.pdf). The project straddles the boundary between the San Francisco Bay Watershed and the Central Coast Watershed. If any run-off is released to the Central Coast Watershed, then include at least one site design measure for each watershed (i.e., one site design measure for run-off draining to the San Francisco Bay Watershed and one site design measure for run-off draining to the Central Coast Watershed).

35. Submit one (1) copy of the signed and stamped geotechnical report for the project.

36. Submit a plan review letter by the Project Geotechnical Engineer certifying that the geotechnical recommendation in the above geotechnical report have been incorporated into the improvement plan.

**Notice of Intent**

37. Indicate on the improvement plans the land area that will be disturbed. If one acre or more of land area will be disturbed, file a Notice of Intent (NOI) with the State Water Resources Control Board (SWRCB) for coverage under the State General Construction Permit. The SWRCB will issue a Waste Discharge Identification number (WDID). The WDID number shall be shown on the final improvement plans. The SWRCB website is at: [www.waterboards.ca.gov > Water Issues > Programs > Stormwater](http://www.waterboards.ca.gov)

**Environmental Health**

38. Sewage conditions have been determined at 337 plus 337 lineal feet of subsurface drainline using Quick 4 High Capacity chambers. The two drainline systems must be connected through a positive diversion valve. A 1500 gallons septic tank will be required. This system is adequate to serve a four-bedroom single family dwelling and one-bedroom accessory dwelling unit.

39. **At the time of application for a building permit**, provide a plot plan to scale (1” = 20’) on a grading and drainage plan showing the house, driveway, accessory structures, septic
tank and required drainlines to contour. Maintain all setbacks as outlined within County of Santa Clara Onsite Manual. The original plans must be submitted to the Department of Environmental Health prior to the issuance of the septic system permit and submitted as the final grading plan to Land Development Engineering when a grading permit is required.

40. **At the time of application of a building permit**, provide a final floor plan to Environmental Health to assist in the sizing of the proposed dwelling's dispersal field.

41. **Prior to issuance of a building permit**, contact the Department of Environmental Health at (408) 918-3492 (Nicole Jorgensen) for drinking water/well clearance. Domestic water shall be supplied by an approved water system installed to Environmental Health standards. The water clearance application must be approved **prior to obtaining a septic system or building permit**. A well log must be submitted which shows a 50-foot sanitary seal, and pump tests, bacterial and chemical testing must be completed.

**Fire Marshal’s Office**

42. **Prior to building permit issuance**, change the current address from Liberata Drive to Barnard Road to accurately reflect the access the property uses.

43. **Prior to approval of the foundation**, fire protection water system shall be installed, functioning, and inspected. System shall be maintained in good working order and accessible throughout construction. A stop work order may be placed on the project if the required hydrant systems are not installed, accessible, and/or functioning.

44. Where on-site storage tanks are required, details for fire protection water supply shall be included with the building permit set of drawings. Submittal shall include, but not be limited to, location of water supply, (e.g. onsite well, shared well; tank location and capacity, pipe size, wharf hydrant orifice size and location, domestic and fire protection water tanks and piping configuration).
   A. All installations shall include a primary aboveground storage tank with a capacity of not less than 3,000 gallons dedicated to domestic and fire sprinkler system demand. Storage capacity may be increased due to sprinkler design demand or additional domestic (including landscaping) required by the Environmental Health Department.
   B. Provide two 5,000-gallon (total of 10,000-gallon) secondary aboveground storage tanks dedicated to the wharf hydrant.
   C. Aboveground storage tanks shall be provided with automatic refill. Manual refilling of tanks is not acceptable.
   D. Installation of aboveground storage tanks less than 20 ft. to a structure requires tanks to be of noncombustible construction.
   E. Installation of the tank system shall comply with Fire Marshal Standard CFMO-W5.
   F. A copy of the Shared Well agreement shall be provided at the time of plan submittal for building permit.
45. One on-site wharf hydrant with 2-1/2-inch orifice is required to be installed when fire protection water is supplied by on-site aboveground storage tank(s). Installation of hydrants shall be in accordance with Fire Marshal Standard Detail CFMO-W4.
   A. Minimum distance to structure shall not be less than 55 ft. from the closest portion of the structure.
   B. Hydrant shall be installed within 8 ft. of driving surface in a location acceptable to the Fire Marshal's Office.
   C. Installation of a hydrant adjacent to a driveway (12 ft. wide) requires a turnout complying with SD-16 to allow additional emergency vehicles to pass.
   D. Hydrant shall have a positive flow by means of gravity feed or where that is not possible, from a reliable, listed automatic pump approved by the Fire Marshal. Elevation of hydrants and tanks in relation to each other shall be a major consideration. Note: Tank and hydrant elevations shall be noted on the site plan submitted for building permit.

46. Fire Department access are minimum Fire Marshal standards. Should the access standards conflict with any other local, State, or Federal requirements, the most restrictive shall apply.

47. Construction of access roads and driveways shall use good engineering practice.

48. All required access roads, driveways, turnarounds, and turnouts shall be installed, and serviceable prior to approval of the foundation, and shall be maintained throughout construction. A stop work order may be placed on the project if required driving surfaces are not installed, accessible, and/or always maintained.

49. Driveways (roads serving 2 or less lots) shall comply with the following when the distance between the centerline of the access road and any portion of the structure exceeds 150 ft. (measured along the path of travel).
   A. Width: Clear width of drivable surface of 12 ft.
   B. Vertical Clearance: Minimum vertical clearance of 15 ft. shall be maintained between the access road and the building site (trim or remove, tree limbs, electrical wires, structures, and similar improvements).
   C. Curve Radius: Inside turn radius for curves shall be a minimum of 50 ft.
   D. Grade: Maximum grade shall not exceed 16%.
   E. Surface: All driving surfaces shall be all-weather and capable of sustaining 75,000 pounds gross vehicle weight.
   F. Turnouts: Passing turnouts in compliance with SD-16 shall be provided at every 400 ft. and wherever hydrants are placed adjacent to a driveway.

50. The property is located within the State Response Area (served by Cal Fire) and in the Wildland/Urban Interface Fire Area. All the following conditions shall apply:
   A. A Class "A" roof assembly is required. Detail shall be included in plans submitted for building permit.
   B. Provide a ½ inch spark arrester for the chimney.
C. Remove significant combustible vegetation within 30 feet of the structure to minimize risk of wildfire casualty. Maintain appropriate separation of vegetative fuels in areas between 30 and 100 feet from the structure.

51. Fire protection water systems and equipment shall always be accessible and maintained in operable condition and shall be replaced or repaired where defective. Fire protection water shall be made available to the fire department.

52. Fire department access roads, driveways, turnouts, and turnarounds shall always be maintained free and clear and accessible for fire department use. Gates shall be maintained in good working order and shall always remain in compliance with Fire Marshal Standard CFMO-A3.

Roads and Airport
53. Prior to Building Permit issuance, obtain a Santa Clara County Roads and Airports Department (RAD) Encroachment Permit for the following required improvement:
   A. Installation of the driveway approach on Barnard Road to County Standard B/4.

54. The process for obtaining an Encroachment Permit and the forms that are required can be found at: www.countyroads.org > Services > Apply for Permits > Encroachment Permit.

55. Demonstrate that the post-development maximum flow rate into the County Road right-of-way is equal-to or less-than the pre-development corresponding storm event flow rate per the County Drainage Manual. Provide engineered plans and drainage calculations for any detention or retention system necessary to satisfy this requirement.

**CONDITIONS OF APPROVAL TO BE COMPLETED PRIOR TO OCCUPANCY OR ONE YEAR FROM THE DATE OF THE LAND DEVELOPMENT AGREEMENT, WHICHER COMES FIRST.**

Planning
56. Prior to final inspection, contact Lara Tran in the Planning Division, at least two (2) weeks in advance to schedule a site visit to verify the approved exterior colors have been installed as approved.

Geology
57. Submit a Construction Observations Letter that verifies the work was completed in accordance with the approved plan.

Land Development Engineering
58. Existing and set permanent survey monuments shall be verified by inspectors prior to final acceptance of the improvements by the County. Any permanent survey monuments damaged or missing shall be reset by a licensed land surveyor or registered civil engineer authorized to practice land surveying and they shall file appropriate records pursuant to Business and Professions Code Section 8762 or 8771 of the Land Surveyors Act with the County Surveyor.
59. Construct all the improvements. Construction staking is required and shall be the responsibility of the developer.

Fire Marshal’s Office
60. **Prior to occupancy**, an approved residential fire sprinkler system complying with CFMO-SP6 shall be installed throughout the structure system and finalized by the Fire Marshal Office.

61. A separate permit shall be obtained from Fire Marshal Office by a state licensed C-16 contractor prior to installation. Please allow for a minimum of 30 days for plan review of fire sprinkler plans by the Fire Marshal Office.

Roads and Airports
62. Construct all the improvements approved under the Encroachment Permit.

Environmental Health
63. Provide proof of garbage service at the time of final occupancy sign-off. Garbage service in the unincorporated areas of Santa Clara County is mandatory.
EXHIBIT A
Santa Clara Valley Habitat Plan
Conditions of Approval

File #PLN17-10080
APN: 728-24-008
BSA, Grading Approval, and Design Review
Property Owner: Martin and Rosario Gutierrez

Santa Clara Valley Habitat Plan Conditions of Approval
Incorporate the following Habitat Plan Conditions of Approval into the grading/drainage and building plans. The conditions are described in more detail within Chapter 6 of the Santa Clara Valley Habitat Plan.

Condition 1: Avoid Direct Impacts on Legally Protected Plan and Wildlife Species
Conditions Applied During Project Construction
1. Large Trees (migratory birds or raptors) - If construction will require the removal of large trees during the bird nesting season, conduct pre-construction surveys by a qualified biologist to determine if active nests are present within trees. Private applicants should follow procedures currently used (including definition of nesting season and timing of pre-construction surveys) to comply with Migratory Bird Treaty Act (MBTA) and California state regulation requirements in addressing this condition.

Condition 3: Maintain Hydrologic Conditions and Protect Water Quality and Conditions Applied During Project Construction
2. Incorporate Table 1: Hydrology Condition 3 (attached) into the grading and building plans.

Condition 7: Rural Development
Conditions Applied During Project Construction
3. Minimize ground disturbance to the smallest area feasible.
4. Avoid and minimize impacts associated with altering natural drainages and contours on the project site. If the site is graded, blend grading into the existing landform as much as possible.
5. Prevent rills (a narrow groove or crack in the road resulting from erosion by overland flow) by breaking up large or long bare areas into smaller patches that can be effectively drained before rills can develop.
6. Disconnect and disperse runoff flow paths, including roadside ditches, that might otherwise deliver fine sediment to stream channels.
7. Prevent gullies by dispersing runoff from road surfaces, ditches and construction sites, by correctly designing, installing and maintaining drainage structures (i.e. road shape, rolling dips, out-sloped roads, culverts) and by keeping streams in their natural channels. No single point of discharge from a road or other disturbed area should carry sufficient flow
to create gullies. If gullies continue to develop, additional drainage structures are needed to further disperse the runoff).

8. Maintain as much natural vegetation as possible, consistent with fuel management standards, on the project site.

9. Maintain County-mandated fuel buffer (variable width by slope conditions).

10. At project sites that are adjacent to any drainage, natural or manmade, exposed soils must be stabilized or otherwise contained on site to prevent excessive sediment from entering a waterway.

11. Minimize to the maximum extent possible the amount of ground disturbance when constructing roads.

12. Ground-disturbing activities associated with road construction should be timed to occur during dry weather months to reduce the possibility of landslides or other sediment being transported to local streams during wet weather.

13. If construction extends into wet weather, the road bed will be surfaced with appropriate surfacing material to prevent erosion of the exposed roadbed.

14. If construction on steep slopes is required, construction will be timed for dry weather months to reduce the potential for landslides.

15. All temporarily disturbed soils will be revegetated with native plants and/or grasses or sterile nonnative species suitable for the altered soil conditions upon completion of construction. Local watershed native plants will be used if available. If sterile nonnative species are used for temporary erosion control, native seed mixtures must be used in subsequent treatments to provide long-term erosion control and slow colonization by invasive nonnatives. All disturbed areas that have been compacted shall be de- compacted prior to planting or seeding.

16. All temporarily disturbed areas, such as staging areas, will be returned to pre-project or ecologically improved conditions within 1 year of completing construction or the impact will be considered permanent.

17. No plants identified by the California Invasive Plant Council as Invasive will be planted on the project site. Planting with watershed local native and/or drought-resistant plants is highly encouraged. This reduces the need for watering as well as the need for fertilizers and pesticides.

18. Outdoor lighting will be of low intensity and will utilize full cutoff fixtures to reduce light pollution of the surrounding natural areas.

Postconstruction

19. All temporarily disturbed soils will be revegetated with native plants and/or grasses or sterile, nonnative species suitable for the altered soil conditions upon completion of construction. Local watershed native plants will be used if available. If sterile, nonnative species are used for temporary erosion control, native seed mixtures must be used in subsequent treatments to provide long-term erosion control and slow colonization by invasive nonnatives. All disturbed areas that have been compacted shall be de- compacted prior to planting or seeding.
20. All temporarily disturbed areas, such as staging areas, will be returned to pre-project or ecologically improved conditions within 1 year of completing construction or the impact will be considered permanent.

**Condition 13: Serpentine and Associated Covered Species Avoidance and Minimization.**

**Conditions Applied During Project Construction**

21. Conduct surveys of the serpentine vegetation to inventory for covered species and evaluate habitat quality for covered species.

22. For portions of the development area that are in the Bay checkerspot butterfly habitat units identified in Appendix D of the Habitat Plan, survey the site for the presence of larval host plants of Bay checkerspot butterfly. If larval host plants are found, conduct reconnaissance-level surveys for adult butterflies during the peak of the flight period to determine species presence or absence.

23. Locate the project footprint as far from the covered species or the highest-quality serpentine habitat as is feasible. Utilize applicable buffers as identified in this Chapter 6 of the Habitat Plan.

24. If covered plants occur on the site and cannot be avoided, notify the Habitat Agency of the construction schedule so that plant salvage can be considered and potentially implemented (see Condition 19).

**Condition 14: Valley Oak and Blue Oak Woodland Avoidance and Minimization.**

**Conditions Applied During Project Construction**

25. Temporary project access points will be constructed as close as possible to the work area to minimize necessity for tree removal.

26. Roads and pathways will be aligned outside of the tree’s root protection zone (as defined above) whenever possible.

27. Roads and pathways designed beneath or within 25 feet of the dripline of oak trees will be graded using handheld equipment and will use permeable surfacing (e.g., grass pavers that allow runoff to infiltrate the ground).

28. Alteration of natural grade through fill or other means within the root protection zone of oak trees will be minimized.

29. Trenching for utility lines and other purposes will be minimized within root protection zones. Utilities may be installed in these areas by boring below the root zone.

30. If extensive pruning of blue oaks and valley oaks is necessary, pruning will be conducted during the winter dormant period for these species and under the supervision of an arborist certified to International Society of Arboriculture or similar standards.

**Condition 19 & 20: Plant Salvage and Avoid and Minimize Impacts to Covered Plan Occurrences.**

**Conditions Applied During Project Construction**

31. To reduce impacts on covered plants, all covered activities will be confined to the minimum area necessary to complete the activity or construction.
32. A setback buffer will be established around covered plant occurrences located on any project site or in an adjacent area that could be affected by construction traffic or activities. The setback buffer will be adequate to prevent or minimize impacts during or after project implementation.

33. The plants and buffer area will be protected from encroachment and damage during construction by installing temporary construction fencing. Fencing will be brightly colored and highly visible.

34. Fencing will be designed to keep construction equipment away from plants and prevent unnecessary damage to or loss of plants on the project site.

35. Fencing will be installed under the supervision of a qualified biologist to ensure proper location and prevent damage to plants during installation. Fencing will be installed before any site preparation or construction work begins and will remain in place for the duration of construction.

36. Construction personnel will be prohibited from entering these areas (the exclusion zone) for the duration of project construction.

If a proposed project will potentially affect the plant occurrence, the following steps will be implemented:

37. A qualified biologist will determine if the long-term viability of a covered plant occurrence will be reduced (as described below) by implementation of the covered activity.

38. Some covered plant occurrences may only be disturbed or partially affected by covered activities, and viability may be maintained. It is important to monitor and, if possible, maintain these occurrences of covered plants where they occur, even if they are not protected within the Reserve System.

39. The project proponent will submit advance notification (in advance of the full application submittal) to the Habitat Agency. Impacts on plant occurrences must be offset by protection, management, and monitoring of covered plant occurrences in the Reserve System prior to impacts (Table 5-16 of the Habitat Plan). Therefore, notification to the Habitat Agency is required to confirm available take for plant impacts prior to construction of the project. Notification will include documentation of the condition of each plant occurrence to potentially be affected. Project proponents must also notify the Habitat Agency of their construction schedule to allow the Habitat Agency the opportunity to conduct salvage activities.

40. If the biologist determines that the covered activity may affect the covered plant occurrence or a portion of the plant occurrence found on site, monitoring during construction will be required as follows.

41. The Habitat Agency will monitor construction activities. The purpose of the monitoring will be (1) to assess whether the impact reduces the long-term viability of the occurrence and whether supplemental management actions are feasible and warranted, and (2) to determine whether the Habitat Agency must protect and enhance or create occurrences in the Reserve System according to Table 5-16 of the Habitat Plan. If the impact occurs on less than 5% of the total occurrence as measured by the number of individuals at the time of impact, then the impact is assumed not to affect long-term viability and will not require
monitoring, nor will it count as a permanent impact (Table 4-6 of the Habitat Plan). This allowance does not apply to Coyote ceanothus.

When determining viability for the purpose of assessing a partial or permanent impact, the Habitat Agency will consider the following factors:
42. Results of monitoring plant occurrences affected by covered activities (e.g., correlation between pre-project observations and actual viability post project)
43. Impacts to date on the covered plant species and how close total impacts are to the allowable impact cap in the Habitat Plan (e.g., extra care taken when near cap not to exceed the cap)

Specific monitoring protocols and success criteria will be developed during implementation as appropriate for each covered species, according to the guidelines discussed here. Monitoring protocols can draw on those developed for other Habitat Conservation Plans/Natural Community Conservation Plans. It is possible that only a portion of the occurrence will be located on the covered activity project site. In such instances, the monitoring protocol will address this issue. Three possible approaches include the following:

44. If the landowner agrees, the Habitat Agency will obtain access to the adjacent sites on which the rest of the plant occurrence is located, and surveys will include the entire occurrence.
45. If access to adjacent site(s) is not possible, or if for some other reason it is not feasible to survey the entire occurrence, then an alternative will be developed to estimate the extent and condition of the adjacent portion of the occurrence.
46. If only a small portion of the occurrence is on adjacent properties, then only the portion of the occurrence on the project site will be monitored and assessed for viability. The determination whether this is a full impact will be made based on the results for this portion of the occurrence only.
47. Population monitoring will be conducted by the Habitat Agency before the covered activity is implemented to document the baseline condition. For annual species, the minimum post-construction monitoring period will be 5 years. If extreme or unusual climate conditions affect the species, then monitoring will be extended 1 or 2 years, as appropriate to assess impacts and success.
48. Monitoring will include estimates of percentage cover and number of individuals. An occurrence will be assumed to retain long-term viability and will not require replacement in the Reserve System if the decline in occurrence size and percentage cover from pre-project conditions is less than 25% over the monitoring period, unless site-specific conditions otherwise suggest substantial declines in occurrence viability.
49. For perennial species, the minimum post-construction monitoring period will be 3 years. Monitoring will include estimates of density (percentage cover), recruitment of seedlings if impacts included removing individuals, and measurements of adult plant health (e.g., signs of disease, herbivory, nutrient deficiencies). An occurrence of a perennial covered species will be assumed to retain long-term viability and will not require replacement in the Reserve System if the decline in seedling recruitment and density from pre-project...
conditions is less than 25% over the monitoring period, unless site-specific conditions otherwise suggest substantial declines in occurrence viability.

50. The Habitat Agency will implement conservation actions on the site that would help to maintain or improve the condition of the occurrence, as long as an agreement can be reached with the landowner to conduct these measures. Possible conservation measures are described in Chapter 5 of the Habitat Plan. If plant occurrences are determined to not be viable based on post-project monitoring, the Habitat Agency must assess the loss as a full permanent impact and implement conservation actions accordingly. In these cases, mitigation would occur after the impact. However, the potential for mitigation to occur after impacts is unlikely given that the qualified biologist and Habitat Agency will make conservative determinations regarding projected impacts on long-term viability.

Habitat Agency Conducts Plant Salvage (Condition 19) if Appropriate

51. Where impacts on covered plant species cannot be avoided and plants will be removed by approved covered activities, the Habitat Agency has the option of salvaging the covered plants. Salvage of covered plants is conducted in addition to mitigation that may be required for impacts on covered plants.

52. Plant salvage as mitigation is acknowledged as a technique that rarely succeeds; it is opposed by conservation organizations as a primary mitigation tool (Howald 1996; California Native Plant Society 1998). Therefore, the Habitat Agency must carefully weigh the expected costs and potential benefits of the salvage effort before undertaking it. Salvage guidelines are presented below for all covered plants, for perennial species, and for annual species.

All Covered Plants

53. All salvage operations will be conducted by the Habitat Agency or a third-party contractor approved by the Habitat Agency. Translocation activities will be reviewed and approved by the Wildlife Agencies in advance of translocation activities occurring. Translocated plants should be moved during their dormant season in order to minimize impacts on individuals. To ensure enough time to plan salvage operations, project proponents will notify the Habitat Agency of their schedule for removing the covered plant occurrence.

54. The Habitat Agency may conduct investigations into the efficacy of salvaging seeds from the soil seed bank for both perennial and annual species. The soil seed bank may add to the genetic variability of the occurrence. Covered species may be separated from the soil through garden/greenhouse germination or other appropriate means. Some topsoil taken from impact sites may also be moved to the transplant site in the reserve to introduce soil microorganisms.

55. The Habitat Agency will transplant new occurrences such that they constitute separate populations and do not become part of an existing population of the species, as measured by the potential for genetic exchange among individuals through pollen or propagule (e.g., seed, fruit) dispersal. Transplanting or seeding receptor sites (i.e., habitat suitable for establishing a new population) will be carefully selected on the basis of physical, biological, and logistical considerations (Fiedler and Laven 1996); some examples of these are listed below.
A. Historic range of the species  
B. Soil type  
C. Soil moisture  
D. Topographic position, including slope and aspect  
E. Site hydrology  
F. Mycorrhizal associates  
G. Presence or absence of typical associated plant species  
H. Presence or absence of herbivores or plant competitors  
I. Site accessibility for establishment, monitoring, and protection from trampling by cattle or trail users

Perennial Covered Plants
56. Salvage methods for perennial species will be tested for whole individuals, cuttings, and seeds. Salvage measures will include the evaluation of techniques for transplanting as well as germinating seed in garden or greenhouse and then transplanting to suitable habitat sites in the field. Techniques will be tested for each species, and appropriate methods will be identified through research and adaptive management. Where plants are transplanted or seeds distributed to the field, they will be located in reserves in suitable habitat to establish new populations. Field trials will be conducted to evaluate the efficacy of different methods and determine the best methods to establish new populations.

57. Transplanting within the reserves will only minimally disturb existing native vegetation and soils. Supplemental watering may be provided as necessary to increase the chances of successful establishment, but must be removed following initial population establishment. Supplemental watering will include watering throughout the first growing season to mimic natural rainfall patterns. During establishment, areas will be fenced off as necessary to prevent trampling or grazing by livestock. These areas will not be selected for controlled burns. Once the population has established itself, as determined by success criteria that may include setting seed, 3-year survival, or other criteria developed in agreement with the Wildlife Agencies, then fencing and irrigation will be removed and the site may be burned for management purposes if that is appropriate for the target plant.

Annual Covered Plants
58. For annual covered plants, mature seeds will be collected from all individuals for which impacts cannot be avoided (or if the population is large, a representative sample of individuals). If storage is necessary, seed storage studies will be conducted to determine the best storage techniques for each species. A seed storage facility will also be contacted and consulted regarding collecting and storage requirements of the facility. One of the leading seed banks in California is the Rancho Santa Ana Botanic Garden in Claremont (Rancho Santa Ana Botanic Garden 2010).

59. This facility has strict seed collection and storage guidelines available on its website (http://www.rsabg.org). If needed, studies will be conducted on seeds germinated and plants grown to maturity in garden or greenhouse to propagate larger numbers of seed.
Such studies can be contracted with research institutions such as the Rancho Santa Ana Botanic Garden or carried out by other qualified biologists. Seed propagation methods will ensure that genetic variation is not substantially affected by propagation (i.e., selection for plants best adapted to cultivated conditions). Field studies will be conducted under the Adaptive Management Program to determine the efficacy and best approach for dispersal of seed into suitable habitat. Where seeds are distributed to the field, they will be in reserves in suitable habitat to establish new populations. If seed collection methods fail (e.g., from excessive seed predation by insects), alternative propagation techniques will be necessary.
Table 1. Habitat Plan Condition 3 – Hydrologic Conditions*

<table>
<thead>
<tr>
<th>ID</th>
<th>Avoidance and Minimization Measure</th>
<th>Covered Activity Application</th>
<th>Covered by NPDES Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Minimize the potential impacts on covered species most likely to be affected by changes in hydrology and water quality.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>3.2</td>
<td>To the extent possible, restore the hydrograph to more closely resemble predevelopment conditions.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>5</td>
<td>Invasive plant species removed during maintenance will be handled and disposed of in such a manner as to prevent further spread of the invasive species.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>53</td>
<td>When possible, maintain a vegetated buffer strip between staging/excavation areas and receiving waters.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>62</td>
<td>Use existing roads for access and disturbed area for staging as site constraints allow. Off-road travel will avoid sensitive communities such as wetlands and known occurrences of covered plants.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>70</td>
<td>Only clear/prepare land which will be actively under construction in the near term.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>73</td>
<td>When possible, avoid wet season construction.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>84.2</td>
<td>Fiber rolls used for erosion control will be certified as free of noxious weed seed.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>84.3</td>
<td>Filter fences and mesh will be of material that will not entrap reptiles and amphibians.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>86</td>
<td>Topsoil removed during soil excavation will be preserved and used as topsoil during revegetation when it is necessary to conserve the natural seed bank and aid in revegetation of the site.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>88</td>
<td>To the extent feasible, vehicles and equipment will be parked on pavement, existing roads, and previously disturbed areas.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>89</td>
<td>The potential for traffic impacts on terrestrial animal species will be minimized by adopting traffic speed limits.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>90</td>
<td>All trash will be removed from the site daily to avoid attracting potential predators to the site. Personnel will clean the work site before leaving each day by removing all litter and construction-related materials.</td>
<td>All</td>
<td>No</td>
</tr>
<tr>
<td>95</td>
<td>To minimize entrapment of animals on job sites, the project biologist will survey the work area at the close daily activities to identify and remediate any potential areas or conditions that might trap animals. Examples of such include pits, trenches or pipes that animals can fall into or perforated pipes or netting that can cause entanglement. The biologist shall consider the animals expected to enter the site during the calendar period work will be occurring, and shall use his or her best judgment to remove entrapment conditions, allow for escape (such as a ramp not exceeding a 30-degree slope leading out of a trench) or develop a site-specific protocol (such as daily post-dawn surveys) to eliminate or minimize entrapment. If no project biologist is required on-site the job foreman or property owner will designate an individual to carry out these activities. Only individuals that hold permits or that have been approved by the Habitat Agency as a qualified biologist may handle listed species.</td>
<td>All</td>
<td>No</td>
</tr>
</tbody>
</table>

* Based on SCVHP Table 6-2. Aquatic AMMs-Modified January 30, 2018). Measures covered by NPDES will be reviewed each time the applicable NPDES permit is renewed.
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<tbody>
<tr>
<td>103</td>
<td>Unless otherwise indicated in an Executive Directive issued by the Habitat Agency, for example a directive to address plant pathogens, (103.1) all disturbed soils will be revegetated with native plants, grasses, seed mixtures, or sterile nonnative species suitable for the altered soil conditions upon completion of construction. (103.2) Local watershed native plants will be used if available. If sterile nonnative species are used for temporary erosion control, native seed mixtures must be used in subsequent treatments to provide long-term erosion control and slow colonization by invasive nonnatives. (103.3) All disturbed areas that have been compacted shall be de-compacted prior to planting or seeding. (103.4) Cut-and-fill slopes will be planted with local native or non-invasive plants suitable for the altered soil conditions.</td>
<td>All</td>
<td>No</td>
</tr>
</tbody>
</table>

* Based on SCVHP Table 6-2. Aquatic AMMs-Modified January 30, 2018. Measures covered by NPDES will be reviewed each time the applicable NPDES permit is renewed.
This map created by the Santa Clara County Planning Office. The GIS data was compiled from various sources. While deemed reliable, the Planning Office assumes no liability.

Project Vicinity Map
File PLN17-10080
APN 728-24-008
2245 Liberata Dr.
Morgan Hill

Attachment C
ATTACHMENT D
Proposed Plans with LRV
Driveway Profile, Sections & Details
Lands of Gutierrez - apn 728-24-008

PRELIMINARY PLANS
NOT FOR CONSTRUCTION
Erosion Control Plan

Lands of Gutierrez apn 728-24-008

PRELIMINARY PLANS NOT FOR CONSTRUCTION

Erosion Control Plan

Lands of Gutierrez apn 728-24-008

PRELIMINARY PLANS NOT FOR CONSTRUCTION
STANDARD BEST MANAGEMENT PRACTICE NOTES

1. Solid and Dewatering Waste Management: Provide designated waste collection areas and containers on site away from streets, gutters, storm drains, and waterways, and arrange for regular disposal. Waste containers must be watertight and covered at all times except when waste is deposited. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-17 to C-18) or later.

2. Hazardous Waste Management: Provide proper handling and disposal of hazardous waste by a licensed hazardous waste material handler. Hazardous wastes shall be routed and properly labeled in sealed containers constructed of suitable materials. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-17 to C-18) or later.

3. Split Prevent and Control: Provide proper storage areas for liquid and solid materials, including chemicals and hazardous substances, away from streets, gutters, storm drains, and waterways. Split control materials must be large enough to provide readily accessible spills. Spills must be cleaned up immediately and contaminated soil disposed properly. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-17 to C-18) or later.

4. Vehicle and Construction Equipment Service and Storage: An area shall be designated for the maintenance, where on-site maintenance is required, and storage of equipment that is protected from sewer run-on and runoff. Measures shall be provided to capture and retain sewer run-on or other potential pollutants and these wastes shall be properly disposed of off-site. Parking and major maintenance equipment, and washing shall be conducted off-site wherever possible. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-17 to C-18) or later.

5. Material Delivery, Handling, and Storage: Be prudent, materials should not be stockpiled on site. Where temporary stockpiles are necessary and approved by the County, they shall be covered with a woven plastic sheeting or top and located in designated areas near construction entrances and away from drainage paths and waterways. Barriers shall be provided around stockpiles and construction sites to prevent erosion and control water runoff. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-17 to C-18) or later.

6. Handling and Disposal of Concrete and Concrete: When concrete mucks and equipment are washed or site, concrete muck shall be contained in designated containment areas or in a containment pond designed to contain the concrete muck over the project with no impact. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-17 to C-18) or later.

7. Excavation Construction Management: Prevent or reduce the discharge of pollutants from grading operations, using measures to contain and control the discharge of pollutants, and prevent erosion or any other adverse environmental impact. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-17 to C-18) or later.

8. Contaminated Soil and Water Management: Inspections to identify contaminated soil shall occur prior to construction activities, and any contaminated soil that is identified shall be removed or treated before it is disturbed. Contaminated soil shall be disposed of in a manner that will not result in soil erosion, and any contaminated soil shall be disposed of in a manner that will not result in soil erosion. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-17 to C-18) or later.

9. Sanitary/Sewer Waste Management: Temporary sanitary sewer facilities should be located away from drainage paths, including drainage facilities, and the disposal of septage. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages C-17 to C-18) or later.

10. Inspection & Maintenance: Inspections of stormwater control measures will be performed and reported as required. Stormwater control measures shall be inspected at least monthly, with inspections completed monthly, within 24 hours of the problem being identified.

STANDARD EROSION CONTROL NOTES

1. Subsurface Drainage Management: Tracking Prevention on CSOs & CIPs Activities shall be prohibited and measures taken to prevent or minimize tracking of soil onto the public street system. A permitted approved and approved design control construction may be permitted for all soils. Class A soil is beneficial reduced to below 30% prior to an application of approved control, or at least once at the end of each workweek that material is tracked, or on other conditions as determined by the County Inspector. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages B-3 to B-13) or later.

2. Storm Drain Inlet and Catch Basin Inlet Protection: All inlet within the vicinity of the project and within the project limit shall be protected with gravel boulders and/or other forms of protection. All locations where exposed soils are present shall be protected with gravel boulders and/or other forms of protection. All locations where exposed soils are present shall be protected with gravel boulders and/or other forms of protection. Refer to Erosion & Sediment Control Field Manual, 4th Edition (pages B-3 to B-13) or later.

3. Storm Water Runoff: No storm water runoff shall be allowed to enter the storm drain or other ground water sources until appropriate erosion control measures are fully installed.

Best Management Practices and Erosion Control Details Sheet 1
County of Santa Clara
DATED SEPTEMBER 19th, 1977

2245 LIBERATA DRIVE, MORGAN HILL

A.P.N.: 728-24-008

FOR THE

IMPROVEMENT PLANS

HOME GRADING AND DRAINAGE

ON THE LANDS OF GUTIERREZ

PARCEL 4; PARCEL MAP RECORDED IN BOOK 404 OF MAPS, AT PAGE 7

SANTA CLARA COUNTY, CALIFORNIA
front entry elevation

North Wing (Front) elevation

South Wing (Front) elevation
rear elevation
rear elevation
ATTACHMENT E
Alternative Site Analysis Map
GEOTECHNICAL ENGINEERING INVESTIGATION AND GEOLOGIC HAZARDS EVALUATION
GUTIERREZ RESIDENCE AND GUEST HOUSE
2245 LIBERATA DRIVE, MORGAN HILL
SANTA CLARA COUNTY, CALIFORNIA

January 30, 2015

Prepared for

Mr. Martin Gutierrez
740 Jarvis Drive
Morgan Hill, CA 95037

Prepared by

Earth Systems Pacific
500 Park Center Drive, Suite 1
Hollister, CA 95023

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January 30, 2015

Mr. Martin Gutierrez
740 Jarvis Drive
Morgan Hill, CA 95037

Project: Gutierrez Residence and Guest House
2245 Liberata Drive
Morgan Hill, California

Subject: Geotechnical Engineering Investigation and Geologic Hazards Evaluation


Dear Mr. Gutierrez:

In accordance with your authorization of the above referenced proposal, this geotechnical engineering investigation and geologic landslide hazard evaluation has been prepared by Earth Systems Pacific (Earth Systems) for use in the development of plans and specifications for your proposed residence and guest house in Morgan Hill, California. Preliminary geotechnical recommendations for site preparation and grading; foundations; slabs-on-grade and exterior flatwork; utility trench backfill; site drainage and finish improvements; and observation and testing are presented herein.

We appreciate the opportunity to have provided services for this project and look forward to working with you again in the future. Please do not hesitate to contact this office if there are any questions concerning this report.

Respectfully submitted,

Girmay Weldegiorgis
Senior Engineer
CE 74044

Brett Faust
Senior Engineering Geologist
CEG 2386

George J. Barnett
Principal Engineer
GE 2309

Distribution: Mr. Martin Gutierrez (2)
Scott Zazueta – D&Z Design Associates (4 pdf)

Doc. No.: 1502-011.SER
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### REFERENCES

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- Site Location Map
- Site Geologic and Boring Location Map
- Schematic Geologic Cross Section

**APPENDIX A**
- Boring Logs (7)

**APPENDIX B**
- Laboratory Test Results

**APPENDIX C**
- Slope Stability Analysis Results
1.0 INTRODUCTION

Site Setting
The subject property is located at the end of Liberata Drive in the Morgan Hill area of Santa Clara County, California (APN 728-24-008). The approximate center of the proposed improvements is located at 37.1568°N latitude and 121.6185°W longitude on the United States Geological Survey's Mt. Sizer 7.5-minute Quadrangle.

The property is located in the Diablo Mountain Range between Anderson Reservoir and Holiday Lakes Estates to the northeast and Santa Clara Valley to the southwest. The site is crossed by a northwest-trending ridgeline with steep south-facing slopes and moderately inclined north-facing slopes. The majority of the property is covered by wild grass and shrubs, and sparse oak trees exist throughout the site.

The property is accessed via Barnard Road and is bounded by an undeveloped parcel on the north, and developed residential properties on the other sides.

Planned Development
It is our understanding that a main residence and a guest house will be built at the site. As shown on the preliminary site plan provided by D&Z Design Associates, the project will consist of a new single family residence and detached guest house located on the crest of a ridge at the site. Both structures will have attached garages. The structures will be accessed by a driveway originating at the cul-de-sac end of Barnard Road at the northwestern property line. A new stable is also planned near the southern portion of the property, close to the cul-de-sac at the end of Liberata Drive.

It is anticipated that the main residence and guest house will be of one- or two-story wood-frame construction over raised-wood floors, and that the proposed garages will have concrete floor slabs-on-grade. The building pad for the main residence will be constructed by placing up to about 12 feet of fill over the slope north of the proposed home. Up to about 2 feet of fill will be placed at the guest house site. Moderate cuts and minor fills are planned along the proposed driveway alignment, and a stormwater retention pond will be constructed near the end of Barnard Road. A second retention pond is planned north of the main residence. The residence and guest house will be served by conventional on-site septic systems.
**Scope of Services**

The scope of work for the geotechnical engineering investigation and geologic hazard evaluation included general site reconnaissance, subsurface exploration, laboratory testing of selected samples, engineering evaluation of the data collected, and preparation of this report. The analysis and subsequent recommendations were based on the Site Plan prepared by D&Z Design Associates, Inc., Sheet A1, dated September 30, 2014.

The geotechnical engineering report and recommendations are intended to comply with the considerations of Section 1803 of the California Building Code (CBC), 2013 Edition, and common geotechnical engineering practice in this area at this time under similar conditions. The tests were performed in general conformance with the standards noted, as modified by common geotechnical practice in this area at this time under similar conditions. The geologic hazards assessment is intended to be in conformance with common geologic practice in this area at this time under similar conditions.

Preliminary geotechnical recommendations for site preparation and grading, foundations, slabs-on-grade and exterior flatwork, utility trench backfill, site drainage and finish improvements, and geotechnical observation and testing are presented. Discussions of our landslide and fault rupture hazard are also included. It is our intent that this report be used by the client to form the geotechnical basis of the design of the project as described herein, and in the preparation of plans and specifications.

Analyses of the soil for mold or other microbial content, asbestos, percolation rates, corrosion potential, radioisotopes, hydrocarbons, or other chemical properties are beyond the scope of this report. This report also does not address issues in the domain of contractors such as, but not limited to, site safety, loss of volume due to stripping of the site, shrinkage of soils during compaction, excavatability, shoring, temporary slope angles, and construction means and methods. Ancillary features such as swimming pools, temporary access roads, fences, light poles, and non-structural fills are not within our scope and are also not addressed.

To verify that pertinent issues have been addressed and to aid in conformance with the intent of this report, it is requested that grading and foundation plans be submitted to this office for review as they near completion. In the event that there are any changes in the nature, design, or locations of improvements, or if any assumptions used in the preparation of this report prove to be incorrect, the conclusions and recommendations contained herein should not be considered valid unless the changes are reviewed and the conclusions of this report are verified or modified in writing by the geotechnical engineer. The criteria presented in this report are
considered preliminary until such time as they are verified or modified in writing by the geotechnical engineer in the field during construction.

2.0 GEOLOGY

The site is located in the foothills of the Diablo Mountain Range within the geologically complex Coast Ranges province of Central California. The Diablo Range and the Santa Cruz Mountains, respectively, form the eastern and western boundaries of the Santa Clara Valley in the Coast Ranges geomorphic province in central California. These northwest-trending mountain ranges are the result of tectonic uplift that has been interpreted to have been occurring since Pliocene-Pleistocene time (beginning approximately 3 to 5 million years before present). The regional basins now occupied by San Pablo and San Francisco Bays, and the Santa Clara Valley, were formed by related tectonic processes during Pleistocene time.

The predominant structural feature in the California Coast Ranges is the San Andreas fault zone, which is the structural boundary between two tectonic plates: the Pacific Plate to the west of the San Andreas fault zone and the North American Plate east of the fault. These two plates are moving past each other at approximately 5.1 cm/year at the mouth of the Gulf of California and 1 to 3 cm/year in the central and northern parts of California (Brown, 1990). The Calaveras and Hayward faults, located in the Diablo Range on the east side of the Santa Clara Valley, are interpreted to be part of the San Andreas fault system.

Site Geology

Based on the City of Morgan Hill’s Geologic and Geotechnical Hazards maps (Pacific Geotechnical Engineering, PGE, 1991), the site lies in an area of complex landsliding and faulting. Santa Clara Formation sedimentary rocks, Franciscan complex rocks and serpentinite are mapped on the site. The margin of a massive landslide complex is mapped on the southern portion of the site, and the Coyote Creek thrust fault is mapped across the northern portion. Santa Clara Formation rocks were characterized by PGE as a collection of poorly consolidated sedimentary and volcanic rocks that consist of interbedded conglomerate, sandstone, siltstone, claystone and volcanics. Pacific Geotechnical Engineering notes that these rocks have been considerably deformed and that there is a sequence of folds north and east of Holiday Lake Estates below the high-water line of Anderson Reservoir. Bedding attitudes near the site are shown to strike east-west and dip about 30 degrees to the north. Franciscan complex rocks are mapped within the Coyote Creek Thrust fault zone, and serpentinite is mapped on the northeast portion of the site. A Site Geology and Boring Location Map based on PGE’s map is included with this report.
Faulting
The site is located within the seismically active San Francisco Bay area, but is not within a State Earthquake Fault Zone (Hart and Bryant, 1997). However, the site is located within a County fault rupture hazard zone. Active faults are defined by the California Geological Survey (CGS) as faults that are well defined and have experienced movement within the last 11,000 years (Hart and Bryant, 2007). A generally accepted definition of a potentially active fault is one that shows evidence of displacement older than 11,000 years and younger than 2,000,000 years (i.e., Pleistocene in age). Inactive faults are classified as not having been active within the last two million years.

The major active faults in the San Francisco Bay Area are the San Andreas, Hayward, and Calaveras faults. The nearest active fault is the Calaveras, which is a major branch of the San Andreas Fault system that merges with the San Andreas Fault south of Hollister. It is a right-lateral, strike-slip fault that trends northwest through the Hollister Valley and enters the Diablo Range about 15 miles to the southeast. Based on the USGS Working Group on California Earthquake Probabilities (WGCEP, 2008), the Calaveras fault in the site vicinity has been assigned a slip rate of 15 mm/year and a maximum magnitude earthquake of 6.9.

The San Andreas fault is located approximately 13 miles southwest of the site. The Calaveras and Hayward faults are mapped, respectively, approximately 2 miles and 10 miles east and northeast of the site (CGS, 2010).

Whereas the Coyote Creek Thrust fault that crosses the site is not considered active, PGE (1991) notes that because of its structural position with respect to the Calaveras fault it should at least be considered potentially active.

Landsliding
The majority of the south-facing slopes at the site are located within a California Geological Survey (CGS) seismic hazard zone for earthquake induced landsliding (CGS, 2006), as shown (blue) on the Site Location Map. Both north and south-facing slopes at the site are located within a Santa Clara County landslide hazard zone.

As previously noted, the margin of a landslide complex is present on the southern portion of the property. Based on PGE (1991), the complex consists of many nested and coalescing landslides and includes static, dormant and recent landslides. The complex extends approximately 2,000 feet to the southeast and down to the valley floor. Several smaller landslides/slumps and debris flows are also mapped on the site. Two small slides are mapped
on the north-facing slopes within the footprint of the proposed main residence and the scarp of a rotational slump is mapped at the crest of the south-facing slopes adjacent to the main residence. There is no slope instability mapped near the guest house. The mapped landslides, slumps and debris flows are shown on the Site Geology and Boring Location Map.

3.0 FIELD INVESTIGATION AND LABORATORY TESTING

Geologic Reconnaissance
On November 12, 2014, we performed a geologic reconnaissance of the site. We did not observe evidence of active landsliding on the site. Ground features present on the site at the time of our reconnaissance generally agree with mapping by PGE (1991). However, there was one minor difference. Where their map shows Franciscan Complex greenstone within the Coyote Creek thrust fault zone, we encountered Franciscan Complex mélange in Boring B3 drilled in that area.

Subsurface Exploration
The subsurface exploration program consisted of 7 exploratory borings drilled at the site on November 12, 2014. The exploratory borings were drilled under the direction of an Earth Systems Pacific geologist at the approximate locations shown on the Site Geology and Boring Location Map. The borings were drilled to depths ranging from 11.5 feet to 25 feet below the ground surface. The borings were drilled using a Simco 2400 SK-1 drill rig equipped with a 6-inch diameter, continuous flight, solid-stem auger.

Soils encountered in the borings were categorized and logged in general accordance with the Unified Soil Classification System and rock was characterized with regard to type, hardness, and degree of weathering. Copies of the boring logs are presented in Appendix A. As the borings were drilled, samples were obtained using a brass-lined barrel sampler (ASTM D 3550-01/07 with shoe similar to D 2937-04) and a standard penetration test sampler (ASTM D 1586-11). The samplers were driven into the ground using a 140-pound hammer dropped from a height of approximately 30 inches. A bulk soil sample was also obtained from the auger cuttings.

General Subsurface Profile
Borings B1 to B5 were drilled in the vicinity of the proposed main residence, and Borings B6 and B7 were drilled near the east and west corners of the proposed guest house. The locations of Borings B3 to B5 were intended to identify bedrock materials and the location of faulting nearest the main residence.
In Boring B1 we encountered interbedded layers of pebble conglomerate and sandstone of the Santa Clara Formation to the final depth of 25 feet.

In Boring B2, a surface layer of 1.5 feet of dense clayey sand was underlain by interbedded layers of pebble conglomerate and sandstone of the Santa Clara Formation to the final depth of 20 feet.

Boring B3 encountered approximately 8 feet of stiff, dark gray, fat clay and medium dense, olive gray, clayey sand that was underlain by Franciscan Complex mélange to the final depth of boring at 11.5 feet.

In Boring B4, approximately 3 feet of stiff, dark yellow brown, lean clay with sand was underlain by weathered Santa Clara Formation siltstone/sandstone to the bottom of the boring at 11.5 feet.

Boring B5 encountered approximately 2.5 feet of dense, dark yellow brown, clayey sand that was underlain by soft Santa Clara Formation pebble conglomerate rock to the final depth of the boring at 11.5 feet.

Moderately soft to soft serpentinite rock was encountered in Borings B6 and B7 to the final depth of 9.5 and 10.0 feet, respectively. During drilling the soft rock pulverized to clayey sand.

No ground water was encountered in the borings. Copies of the boring logs are presented in Appendix A.

Laboratory Testing
Selected liner samples were tested for moisture content and dry density (ASTM D 2216-10 and D 2937-10), grain size distribution (ASTM D 422-63/07) and plasticity index (ASTM D 4318-10). Two liner samples were also tested for shear strength parameters (ASTM D 3080-11). Copies of the laboratory test results are included in Appendix B.

4.0 DATA ANALYSIS

Subsurface Soil Classification
Based on the data in the boring logs (See Appendix A), the site is assigned to Site Class C (very dense soil/soft rock) as defined by Table 20.3-1 of the ASCE 7-10.
Seismic Design Parameters
The following seismic design parameters represent the general procedure as outlined in Section 1613 of the California Building Code and in ASCE 7. The values determined below are based on the 2009 National Earthquake Hazard Reduction Program (NEHRP) maps and were obtained using the United States Geological Survey’s Design Maps Web Application.

**Summary of Seismic Parameters - CBC 2013**
(*Site Coordinates 37.1568°N, 121.6185°W*)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
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<tr>
<td>Mapped Short Term Spectral Response Parameter - $S_s$</td>
<td>2.040g</td>
</tr>
<tr>
<td>Mapped 1 Second Spectral Response Parameter - $S_1$</td>
<td>1.007g</td>
</tr>
<tr>
<td>Site Class:</td>
<td>C</td>
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<tr>
<td>Site Coefficient - $F_a$</td>
<td>1.0</td>
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<td>Site Coefficient - $F_v$</td>
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<tr>
<td>Site Modified Short Term Parameter – $S_{Ms}$</td>
<td>2.040g ($F_a$ * $S_s$)</td>
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<tr>
<td>Site Modified 1 Second Parameter – $S_{M1}$</td>
<td>1.007g ($F_v$ * $S_1$)</td>
</tr>
<tr>
<td>Site Design Short Term Parameter – $S_{D5}$</td>
<td>1.360 ($2/3$ $S_{Ms}$)</td>
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<tr>
<td>Site Design 1 Second Parameter – $S_{D1}$</td>
<td>0.672 ($2/3$ $S_{M1}$)</td>
</tr>
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</table>

**Liquefaction**
Soil liquefaction is a phenomenon where saturated granular soils near the ground surface undergo a substantial loss of strength due to increased pore water pressure resulting from cyclic stress applications induced by earthquakes or other vibrations. In this process, the soil acquires mobility sufficient to permit both vertical and horizontal movements, if not confined, which may result in significant deformations.

It is our opinion that liquefaction will have a minimal impact on the proposed residence and improvements. Liquefaction is most prevalent among saturated, loose uniformly graded sands and some silt soils, which are not present at the site. In general, the project site is predominantly underlain by stiff and dense soil deposits as well as sandstone/conglomerate rocks with a low susceptibility to liquefaction.

**Slope Stability Evaluation**
A quantitative slope stability analysis was performed for the south-facing slopes at the site located within a State seismic hazard zone. The stability of the slopes was evaluated for the static and dynamic cases by performing a computer analysis for a two-dimensional slope section A-A’ (see Site Geology and Boring Location Map). The computer analysis was performed using Janbu’s Simplified Method with the aid of the computer program PCSTABL version 6.54H (1996).
The seismic (dynamic) stability was evaluated using a seismic coefficient of 0.330g. This value is based on a 10% in 50 year probabilistic acceleration of 0.675g derived from the USGS seismic hazards website, an earthquake magnitude of 7.0, and a distance from the controlling fault of 1.7 miles in accordance with guidelines in SP 117A (CGS 2009). A slope is considered to be stable if the static stability analyses results in a calculated static factor of safety of 1.5 or higher. Slopes are generally considered dynamically stable with a minimum calculated dynamic factor of safety of 1.0 for the screen test. If the dynamic factor of safety is less than 1.0, a Newmark displacement analysis is required to evaluate slope movement.

The slope section used in the analyses was selected based on the site geologic data obtained from site observations, subsurface drilling, and published geologic maps. The section location is shown on the Site Geology and Boring Location Map. The geologic sections are shown on the corresponding computer output plots in Appendix C. Values for cohesion (c) and friction angle (phi) used in modeling each unit in the cross-sections are listed in the following table:

<table>
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<th>Map Unit</th>
<th>c (psf)</th>
<th>( \Phi ) (deg)</th>
<th>Source</th>
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<tr>
<td>QTsc</td>
<td>872</td>
<td>42</td>
<td>Earth Systems (this study)</td>
</tr>
<tr>
<td>Qls</td>
<td>872</td>
<td>12</td>
<td>CGS, 2004</td>
</tr>
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The parameters used for landslides (Qls) were obtained from the Seismic Hazard Zone Report for the Morgan Hill 7.5-Minute Quadrangle rather than from the Mt. Sizer Seismic Hazard Zone Report. In our opinion, the strength values stated in the Mt. Sizer report (c=410 psf and \( \Phi \)=4 degrees) are not representative of the landslide conditions in the site vicinity.

**Results of Stability Evaluation**

The computer program generated plots of the cross-sections analyzed, and the ten most critical failure surfaces (potential failure surfaces with lowest factor of safety (FOS)) for the existing and proposed slopes. The results of the stability analyses for static and dynamic conditions are summarized in the following table and are shown on the computer output presented in Appendix C.

<table>
<thead>
<tr>
<th>Cross Section</th>
<th>Static FOS</th>
<th>Dynamic FOS</th>
<th>Newmark displacement</th>
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<tr>
<td>A-A'</td>
<td>3.13</td>
<td>1.5</td>
<td>-</td>
</tr>
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</table>
Faulting
The locations of Borings B3 through B5 were intended to identify the location of faulting based on bedrock types encountered in the borings. Franciscan Complex mélangé was encountered in Boring B3, and Santa Clara Formation rocks were encountered in Borings B4 and B5. Based on these findings, at its nearest point the Coyote Creek thrust fault lies approximately 20 feet outside the northeast corner of the proposed main residence footprint.

5.0 CONCLUSIONS

Site Suitability
Based on the results of our analysis, in our opinion, the subject site is suitable for the proposed residential improvements from a geological and geotechnical engineering standpoint, provided that the recommendations included in this report are implemented in the project design and construction. The primary geotechnical considerations are the potential for excessive differential settlement of the main residence that would result from the proposed cuts and fills on the building pad, the existence of shallow landslides at the site of the main residence, and the expansion potential of the soil.

Slope Stability and Landslides
The results of the slope stability modeling indicate that the south-facing slopes are stable under both static and dynamic conditions. Modeling resulted in a static factor of safety of 3.13 and a dynamic factor of safety of 1.50. However, there are two small landslides beneath the northeast portion of the proposed main residence. Based on the subsurface conditions encountered in Borings B1 and B4 located within the landslides, landslide debris is present to a depth of about 3 feet. During grading, landslide materials should be removed until firm, undisturbed materials are exposed. Other than the two small landslides, there was no evidence of slope instability on the north facing slopes. Additionally, given the location of the building sites atop a ridge, the potential for debris flows to affect the main residence and guest house are very low.

Soil/ Bedrock Conditions
Our borings on the east side of the proposed main residence encountered lean to fat clay to depths of 3 to 8 feet that were underlain by mélangé/sandstone/siltstone rocks (Borings B3 and B4). Within the general footprint of the main residence, 1.5 to 2.5 feet of dense, clayey sands underlain by conglomerate/sandstone were encountered (Borings B2 and B5). Bedrock is
present at ground surface north of the residence where fill material is proposed (Boring 1). The
guest house area is underlain by moderately soft to soft serpentinite bedrock (Borings 6 and 7).

Soil Expansion Potential:
A plasticity index test of a sample of the clayey sand from the site resulted in a liquid limit (LL)
of 40 and a plasticity index (PI) of 23, indicating that the sample tested has a high expansion
potential. Expansive soils tend to swell with increases in soil moisture and shrink as the soil
moisture decreases. The volume changes that the soils undergo in this cyclical pattern can
stress and damage foundations, slabs, and other improvements if precautionary measures are
not incorporated into the design and construction procedures. Use of a drilled pier foundation
system is recommended to reduce the potential for excessive expansive soil movement for the
main residence. The foundation piers should be sufficiently deep to withstand soil expansion
forces. Due to the geologic conditions at the site, the guest house can be supported by
conventional spread footings, but the footings should be deepened to the zone of lesser soil
moisture fluctuation. Concrete slabs and exterior flatwork should be protected by covering the
slab and flatwork areas with nonexpansive material. The soil should also be moisture
conditioned during grading.

Foundations
Due to the variable depths of the proposed cuts and fills for the building pad for the main
residence, it is recommended that that structure be supported by a system of drilled piers
embedded into bedrock. It appears that very minimal grading will be performed at the
proposed guest house location, and our subsurface investigation revealed shallow bedrock.
Therefore, the guest house can be supported on conventional shallow foundations bearing in
bedrock.

Groundwater
Groundwater was not encountered during subsurface exploration to depths of 25 feet below
the existing ground surface. Earth Systems also did not observe seeps or springs indicative of
groundwater at the site. Historical groundwater data was not readily available for review and
could not be determined. While groundwater was not encountered at the time of drilling,
variations in rainfall, irrigation, temperature, and other factors may affect water levels, and
therefore groundwater levels should not be considered constant.
Seismicity
The San Francisco Bay area is recognized by geologists and seismologists as one of the most seismically active regions in the United States. The significant earthquakes in this area are generally associated with crustal movement along well-defined, active fault zones which regionally trend in a northwesterly direction. Although research on earthquake prediction has greatly increased in recent years, seismologists cannot predict when and where an earthquake will occur. Nevertheless, on the basis of current technology, it is reasonable to assume that the proposed residences will be subjected to at least one moderate to severe earthquake during their lifetimes. During such an earthquake, the hazard from fault offset on the site is slight, but strong shaking of the site is likely to occur. Therefore, at a minimum, the proposed improvements should be designed in accordance with the seismic design provisions of the latest California Building Code. It should be understood that the California Building Code seismic design parameters are not intended to prevent structural damage during an earthquake, but to reduce the potential for building collapse and loss of life.

6.0 RECOMMENDATIONS
Site Preparation and Grading
1. The site should be prepared for grading by removing existing trees and their root systems, vegetation, debris, and other potentially deleterious materials from areas to receive improvements.

2. Ruts or depressions resulting from the removal of tree root systems, etc., should be properly cleaned out down to undisturbed native soil or rock. The bottom of the resulting depressions should be cross-scarified to a depth of at least eight inches and recompacted as described later in this section. These depressions should then be backfilled with compacted, moisture conditioned structural fill, as recommended below. Clearing and backfilling operations should be conducted under the field observation of the geotechnical engineer.

3. A keyway should be established near the toe of the proposed fill slope for the main residence. The actual keyway location should be established by the geotechnical engineer at the time of grading. The keyways should be a minimum of 12 feet wide or 1-½ times as wide as the compaction equipment, whichever is wider. The keyway should penetrate a minimum of 3 feet into undisturbed firm soil or rock on the downhill side of the keyway.
4. The slope above the keyway, as well as any slopes steeper than 10 percent that are to receive fill, should be cut to level benches. The benches should be a minimum of 5 feet wide and should be bottomed into undisturbed firm soil or rock. The bottoms of keyway and benches should be angled 2 to 3 percent back into the slope.

5. During the slope keying and benching operations, the existing landslide material in the building pad area should be entirely removed to expose firm native soil or bedrock. The depth and lateral extent of the landslide material to be removed should be as recommended by the geotechnical engineer based on the conditions observed at the time of grading.

6. Where soil or soft weathered rock is exposed on the bottoms of keyways and benches, the surface should be scarified to a depth of approximately 8 inches, moisture conditioned to a level above optimum, and recompacted to a minimum 95 percent of maximum dry density. Undisturbed firm rock exposed in the keyways and benches should not be scarified. The keyways and benches should be observed by the geotechnical engineer during grading.

7. Due to the potential that seepage of subsurface water could destabilize the fill slope, a subsurface drain should be installed in the keyway. The subsurface drain should consist of a rigid perforated pipe covered with permeable material or gravel encased by synthetic filter fabric, or manufactured synthetic drainage systems. The filter fabric should conform to Caltrans Standard Specifications, Section 88-1.028, Class A. Permeable material should conform to Section 68-2.02F(3), Class 2, of the Caltrans Standard Specifications. The location and configuration of the drain should be as recommended by the geotechnical engineer based on conditions observed at the time of grading.

8. Fill should be placed in lifts not exceeding 8 inches in loose thickness, moisture conditioned to a level above optimum moisture content, and compacted to a minimum of 90 percent of maximum dry density. Organics and rock, debris, and irreducible material larger than 4 inches in diameter should be removed from the soil to be compacted.

9. To help reduce the effects of soil expansion on concrete slabs-on-grade, a minimum of 12 inches of nonexpansive material should be placed in the slab areas. The nonexpansive imported material should be compacted to a minimum 90 percent of
maximum dry density. Nonexpansive import should also be used to reduce the effects of soil expansion on exterior flatwork (refer to Slabs-on-grade and Exterior Flatwork).

10. Nonexpansive material is defined as being coarse grained (ASTM D 2487-11) with a plasticity index (ASTM D 4318-10) of 12 or less. Proposed nonexpansive material should be evaluated by the geotechnical engineer before being transported to the site, and on an intermittent basis during placement on the site. Processed aggregate base would be suitable for use as nonexpansive material. The slab and flatwork areas should be periodically moistened as necessary prior to placement of the nonexpansive import to maintain the soil moisture content above optimum.

11. If fill is to be imported for general use at the site (other than nonexpansive imported material), the fill should be coarse grained with a plasticity of 20 or less. Proposed imported soils should be evaluated by a representative of this firm before being transported to the site, and on an intermittent basis during placement on the site.

12. In areas to receive pavement, the upper 8 inches of subgrade soil should be compacted to a minimum 92 percent of maximum dry density. The aggregate base courses should be compacted to a minimum 95 percent of maximum dry density. The subgrade and base should be firm and unyielding when proofrolled with heavy, rubber-tired equipment prior to paving. The pavement subgrade soils should be periodically moistened as necessary prior to placement of the aggregate base to maintain the soil moisture content near optimum.

13. Due to the fine-grained nature of the upper soils, and depending on moisture conditions at the time of construction, there is a potential for the soils to become unstable during grading. Unstable soils hinder compactive effort and are inappropriate for placement of additional fill. Alternatives to correct instability include aeration to dry the soils, lime treatment, and the use of gravel or geotextiles as stabilizing measures. Recommendations for stabilization should be provided by a representative of this firm as needed during construction.

14. Cut and fill slopes should not be steeper than 2:1, measured horizontally to vertically. It is recommended that fill slopes be over-filled by at least one foot laterally during placement and trimmed back after construction to create a firm surface. Finished slopes should be track-walked or otherwise compacted under the observation of the geotechnical engineer at the completion of construction. Graded slopes should be planted for erosion control as soon after construction as possible.
Foundations

Main Residence

1. The main residence should be supported by a foundation system utilizing drilled cast-in-place concrete piers interconnected with grade beams. The piers should have minimum diameters of 16 inches and should be reinforced as directed by the architect/engineer. To help resist uplift forces on grade beams at the garage door openings, piers should be provided at maximum 8-foot spacings at the door openings.

2. The piers should penetrate through any fill to be embedded a minimum of 8 feet into firm undisturbed bedrock. The geotechnical engineer should be present during pier drilling operations to observe the recommended penetration into firm native materials. As up to about 12 feet of fill will be placed in the building area, pier depths on the order of 20 feet should be planned. The pier drilling equipment should be selected accordingly, and difficulty should be expected during drilling.

3. The piers should be designed to derive support from skin friction against the bedrock. End bearing capacity of the piers, and skin friction in fill should be disregarded in the calculations.

4. The bedrock should be assigned a maximum allowable skin friction value of 600 psf. The allowable skin friction value for downward loads may be increased by one-third when transient loads such as wind or seismicity are included. Using the recommended design values, total and differential settlements are expected to be on the order of \( \frac{3}{4} \) inch.

5. Lateral loads should be resisted by passive resistance of the bedrock against the piers. Passive resistance should be calculated based on an equivalent fluid pressure of 350 psf acting on a width of 2 pier diameters.

5. All perimeter piers, and piers adjacent to the garage slab, should be laterally restrained by concrete grade beams. Grade beams should be reinforced as directed by the architect/engineer.

6. To help cut off subsurface water that could otherwise enter the subfloor area, perimeter grade beams should penetrate a minimum of 12 inches below lowest adjacent interior (crawl space) grade. To reduce uplift forces caused by soil expansion on the grade beams, 2-inch void forms or compressible styrofoam material should be placed at the bottoms of the grade beams.
7. The piers should not deviate from a plumb line by more than 2 percent of the pier length, as measured from the top to the point of interest. Adequate pier oversize may be assumed to provide the recommended tolerance. The bottoms of the pier excavations should be firm and should not contain excessive loose debris and slough material. Loose drilling spoils should be removed or compacted prior to placement of reinforcing steel.

Guest House
1. The guest house should be supported by conventional spread footings penetrating a minimum of 12 inches into firm undisturbed bedrock. To penetrate through the zone most affected by soil expansion, the footings should have minimum overall depths of 24 inches below lowest adjacent grade. In the event that firm rock is not exposed within the planned depths of the footings, deepening of the footing excavations may be necessary to achieve the recommended penetration into firm rock. The footing excavations should be observed by the geotechnical engineer prior to placement of formwork or reinforcement, and should be moistened to close any desiccation cracks prior to placement of concrete.

2. Minimum widths of continuous footings should be 12 inches. Isolated spread footings should be a minimum of 18 inches wide. All footings should be reinforced as directed by the architect/engineer.

3. Footings should be designed using a maximum allowable bearing capacity of 2,500 psf dead plus live load. This value may be increased by one-third when transient loads such as wind or seismicity are included. Using these criteria, long term total and differential foundation settlements are expected to be on the order of 1 inch and \( \frac{1}{2} \) inch, respectively.

4. Resistance to lateral loads should be calculated based on a passive equivalent fluid pressure of 350 pcf and a friction factor of 0.3. Passive and frictional resistance can be combined in the calculations without reductions. These values are based on the assumption that backfill adjacent to foundations is adequately compacted. The upper 12 inches of embedment should be neglected in calculating lateral passive resistance where landscape areas are adjacent to the foundations.
Slabs-on-Grade and Exterior Flatwork

1. Interior slabs-on-grade and exterior flatwork should have minimum thicknesses of 4 full inches and should be reinforced as directed by the architect/engineer. Based on soil expansion only, interior slab reinforcement should consist of #3 rebar spaced at 18 inches on center each way. Due to the soil expansion potential, steel reinforcement should also be provided for exterior flatwork.

2. Interior slabs and foundations should be doweled together as required by the architect/engineer; based on soil expansion potential only, the dowels should be a minimum of #3 rebar spaced on 18-inch centers. The garage slabs can be designed to be “free floating” based on the specifications of the architect/engineer. However, the slabs should be doweled into foundations at door openings.

3. To help protect slabs-on-grade from damage due to expansive soils, they should be underlain by a minimum of 12 inches of nonexpansive imported material (refer to Site Preparation and Grading).

4. In areas where moisture transmitted from the subgrade would be undesirable, a vapor retarder should be utilized beneath the floor slab. The vapor retarder should comply with ASTM Standard Specification E 1745-11 and the latest recommendations of ACI Committee 302. The vapor retarder should be installed in accordance with ASTM Standard Practice E 1643-11. Care should be taken to properly lap and seal the vapor retarder, particularly around utilities, and to protect it from damage during construction.

5. If sand, gravel or other permeable material is to be placed over the vapor retarder, the material over the vapor retarder should be only lightly moistened and not saturated prior to casting the slab concrete. Excess water above the vapor retarder would increase the potential for moisture damage to floor coverings and could increase the potential for mold growth or other microbial contamination.

6. Exterior flatwork should be cast on a minimum 8-inch thick layer of compacted, nonexpansive material such as clean sand or aggregate base. A greater thickness of nonexpansive material would enhance flatwork performance. Prior to placement of the nonexpansive material, the soil surface in the flatwork area should be at or above optimum moisture content, and no desiccation cracks should be present.
7. Assuming that movement (i.e., ¼-inch or more) of exterior flatwork beyond the structure is acceptable, the flatwork should be designed to be independent of the building foundations. The flatwork should not be dowelled to foundations, and a separator should be placed between the two. If differential movement of flatwork is considered undesirable, the flatwork should be designed and constructed in roughly the same manner as the structure slabs, and reinforced footings should be provided around the perimeter of the flatwork.

8. To reduce shrinkage cracks in concrete, the concrete aggregates should be of appropriate size and proportion, the water/cement ratio should be low, the concrete should be properly placed and finished, contraction joints should be installed, and the concrete should be properly cured. This is particularly applicable to slabs that will be cast directly upon a vapor retarder and those that will be protected from transmission of vapor by use of admixtures or surface sealers. Concrete materials, placement and curing specifications should be at the direction of the architect/engineer; ACI 302.1R-04 and ACI 302.2R-04 are suggested as resources for the architect/engineer in preparing such specifications.

Utility Trenches

1. A select, noncorrosive, granular, easily compactable material should be used as bedding and shading immediately around utility pipes. The site soils may be used for trench backfill above the select material.

2. Trench backfill in the upper 8 inches of subgrade beneath pavement areas should be compacted to a minimum of 92 percent of maximum dry density. Trench backfill in other areas should be compacted to a minimum of 90 percent of maximum dry density. Jetting of utility trench backfill should not be allowed.

3. Where utility trenches extend under perimeter foundations or areas to receive pavement, the trenches should be backfilled entirely with native soil compacted to a minimum of 90 percent of maximum dry density. The zone of native soil should extend a minimum distance of 2 feet on both sides of the foundation or pavement edge. If utility pipes pass through sleeves cast into the perimeter foundations, the annulus between the pipes and sleeves should be completely sealed.
Site Drainage and Finish Improvements

1. Unpaved ground surfaces should be finish graded to direct surface runoff away from site improvements at a minimum 5 percent grade for a minimum distance of 10 feet. The site should be similarly sloped to drain away from foundations, slopes, and other improvements during construction. If this is not feasible due to the terrain, property lines, or other factors, swales with improved surfaces, area drains, or other drainage facilities should be provided to divert drainage away from improvements.

2. Runoff should discharge in a nonerosive manner away from slopes, foundations and other improvements in accordance with the requirements of the governing agencies. The landscaping should be planned and installed to maintain proper surface drainage conditions.

3. Raised planter beds adjacent to foundations should be provided with sealed sides and bottoms so that irrigation water is not allowed to penetrate the subsurface beneath foundations. Outlets should be provided in the planters to direct accumulated irrigation water away from foundations.

4. Subfloor areas should be contoured to one or more low points to collect any water that might enter the crawl spaces. Drains should be provided at the low points to discharge such water outside the foundations by gravity flow.

5. The on-site soils are highly erodible. Stabilization of surface soils, particularly those disturbed during construction, by vegetation or other means during and following construction is essential to protect the site from erosion damage. Care should be taken to establish and maintain vegetation.

Geotechnical Observation and Testing

1. It must be recognized that the recommendations contained in this report are based on a limited subsurface investigation and rely on continuity of the subsurface conditions encountered.

2. It is assumed that the geotechnical engineer will be retained to provide consultation during the design phase, to interpret this report during construction, and to provide construction monitoring in the form of testing and observation.
3. Unless otherwise stated, the terms "compacted" and "recompacted" refer to soils placed in level lifts not exceeding 8 inches in loose thickness and compacted to a minimum of 90 percent of maximum dry density. The standard tests used to define maximum dry density and field density should be ASTM D 1557-12 and ASTM D 6938-10, respectively, or other methods acceptable to the geotechnical engineer and jurisdiction. Unless otherwise stated, “moisture conditioning” refers to adjusting the soil moisture to at least optimum moisture prior to application of compactive effort.

4. At a minimum, the following should be provided by the geotechnical engineer:
   - Review of grading and foundation plans as they near completion
   - Professional observation during site preparation, grading, and foundation construction
   - Oversight of soil compaction testing during grading
   - Oversight of soils special inspection during grading

5. Special inspection of grading should be provided as per Sections 1705.6 and 1705.8, and Tables 1705.6 and 1705.8 of the CBC; the soils special inspector should be under the direction of the geotechnical engineer. In our opinion, the following operations should be subject to continuous soils special inspection:
   - Slope keying and benching
   - Removal of existing landslide material
   - Scarification and recompaction
   - Fill placement and compaction
   - Foundation pier drilling (main residence)

6. In our opinion, the following operations may be subject to periodic soils special inspection; subject to approval by the Building Official:
   - Site preparation
   - Installation of keyway drain
   - Proposed imported materials
   - Spread footing excavations (guest house)
   - Compaction of utility trench backfill
   - Compaction of pavement subgrade and aggregate base
7. It will be necessary to develop a program of quality control prior to beginning grading. It is the responsibility of the owner, contractor, or project manager to determine any additional inspection items required by the architect/engineer or the governing jurisdiction.

8. The locations and frequencies of compaction tests should be as per the recommendations of the geotechnical engineer at the time of construction. The recommended test locations and frequencies may be subject to modification by the geotechnical engineer based upon soil and moisture conditions encountered, the size and type of equipment used by the contractor, the general trend of the compaction test results, and other factors.

9. A preconstruction conference between a representative of the owner, the geotechnical engineer, the soils special inspector, the architect/engineer, and contractors is recommended to discuss planned construction procedures and quality control requirements. This firm should be notified at least 48 hours prior to beginning grading operations.

10. If Earth Systems Pacific is not retained to provide construction observation and testing services, it shall not be responsible for the interpretation of the information by others or any consequences arising there from.

7.0 CLOSURE

This report is valid for conditions as they exist at this time for the type of project described herein. Our intent was to perform the investigation in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the locality of this project at this time under similar conditions. No representation, warranty, or guarantee is either expressed or implied. This report is intended for the exclusive use by the client as discussed in the Scope of Services section. Application beyond the stated intent is strictly at the user’s risk.

If changes with respect to the project type or location become necessary, if items not addressed in this report are incorporated into plans, or if any of the assumptions stated in this report are not correct, Earth Systems Pacific should be notified for modifications to this report. Any items not specifically addressed in this report should comply with the California Building Code and the requirements of the governing jurisdiction.
The preliminary recommendations of this report are based upon the geotechnical conditions encountered during the investigation, and may be augmented by additional requirements of the architect/engineer, or by additional recommendations provided by Earth Systems Pacific based on conditions exposed at the time of construction.

This document, the data, conclusions, and recommendations contained herein are the property of Earth Systems. This report should be used in its entirety, with no individual sections reproduced or used out of context. Copies may be made only by Earth Systems, the client, and their authorized agents for use exclusively on the subject project. Any other use is subject to federal copyright laws and the written approval of Earth Systems.

Thank you for this opportunity to have been of service. Please feel free to contact this office at your convenience if you have any questions regarding this report.
REFERENCES


California Geological Survey, 2009, Guidelines for Evaluation and Mitigation of Seismic Hazards in California, Special Publication 117A.


Pacific Geotechnical Engineering, 1991, Geology, Geologic, and Geotechnical Hazards, City of Morgan Hill, City of Morgan Hill Geologic Map Folio.


Aerial Photographs (Stereo Pairs)

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FIGURES

Site Location Map
Site Geology and Boring Location Map
Schematic Geologic Cross Section
Site Location Map
(scale 1" = 2,000')


Earth Systems Pacific
Gutierrez Residence and Guest House
2245 Liberata Drive
Morgan Hill, Santa Clara County, California
Landslide (to be removed)

Proposed Grading

Main Residence

Horizontal Scale 1"=100'
Vertical Scale 1"=50'

QTsc - Santa Clara Formation
APPENDIX A

Boring Logs
# GUTIERREZ RESIDENCE
2245 Liberata Drive
Morgan Hill, California

## SOIL DESCRIPTION

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<th>SYMBOL</th>
<th>SOIL DESCRIPTION</th>
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- very soft rock

End of boring at 25.0 feet
No groundwater encountered

**LEGEND:**
- 2.5" Mod Cal Sample
- 2.0" Cal Sample
- SPT
- Bulk Sample

**NOTE:** This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of the drilling. Subsurface conditions may differ at other locations and times.
# Soil Description

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<td>SC</td>
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<td>Clayey SAND with gravel, dense, dark to yellow brown, slightly moist; fine to medium grained sand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>QTSc</td>
<td></td>
<td>Pebble Conglomerate, soft rock, dark red brown, moist, moderately weathered; Clayey sand with gravel, Santa Clara Formation</td>
<td>1.0-2.5</td>
<td>2-1</td>
<td>□</td>
<td>114.9</td>
<td>11.3</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>[Gravel=16%; Sand=53%; Fines=31%]</td>
<td>0.5-3.0</td>
<td>A</td>
<td>○</td>
<td></td>
<td></td>
<td>23</td>
<td>38</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td>3.5-5.0</td>
<td>2-2</td>
<td>□</td>
<td></td>
<td></td>
<td>50</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>QTSc</td>
<td></td>
<td>Pebble SANDSTONE, soft rock, yellow brown, moist, severely weathered, medium to coarse grained; Clayey sand, Santa Clara Formation</td>
<td>8.5-10.0</td>
<td>2-3</td>
<td>□</td>
<td></td>
<td></td>
<td>15</td>
<td>27</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>- zone of very dense gravel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>QTSc</td>
<td></td>
<td>SANDSTONE, very soft rock, yellow brown, moist, fine to medium grained, slightly weathered; Clayey sand, Santa Clara Formation</td>
<td>13.5-15.0</td>
<td>2-4</td>
<td>□</td>
<td>106.2</td>
<td>13.9</td>
<td>21</td>
<td>40</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>[Φ =42°, C=872 psf]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td>- very clayey, fine grained sandstone</td>
<td>18.5-20.0</td>
<td>2-5</td>
<td>□</td>
<td>110.1</td>
<td>17.2</td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td>End of boring at 20.0 feet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>No groundwater encountered</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Legend:** □ 2.5" Mod Cal Sample  □ 2.0" Cal Sample  ○ SPT  ○ Bulk Sample

**Note:** This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of the drilling. Subsurface conditions may differ at other locations and times.
Earth Systems Pacific

LOGGED BY: Brett Faust
DRILL RIG: Simco 2400SK-1
AUGER TYPE: 6" Solid Stem

Boring No. 3
PAGE 1 OF 1
JOB NO.: SH-12630-SA
DATE: 11/12/14

GUTIERREZ RESIDENCE
2245 Liberator Drive
Morgan Hill, California

SOIL DESCRIPTION

<table>
<thead>
<tr>
<th>DEPTH (feet)</th>
<th>USES CLASS</th>
<th>SYMBOL</th>
<th>SOIL DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>CH</td>
<td>FAT CLAY, stiff, dark gray brown, moist, Oe</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>SC</td>
<td>Clayey SAND, medium dense, olive gray, moist, completely decomposed Franciscan Complex Melange</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>[Gravel=6%; Sand=52%; Fines=42%] [LL=40; PL=17; PI=23]</td>
</tr>
<tr>
<td>5.0-6.5</td>
<td></td>
<td></td>
<td>5-6.5 3-1</td>
</tr>
<tr>
<td>7</td>
<td>SC</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>Kifm</td>
<td>Franciscan Complex Melange, soft rock, light green, moist, pervasively sheared; Clayey sand</td>
<td></td>
</tr>
<tr>
<td>10.0-11.5</td>
<td></td>
<td></td>
<td>10.0-11.5 11-2</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td>13</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td></td>
<td>14</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td>18</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td>20</td>
</tr>
<tr>
<td>22</td>
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<td>22</td>
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<td>24</td>
<td></td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td>26</td>
</tr>
</tbody>
</table>

End of boring at 11.5 feet
No groundwater encountered

LEGEND:  ■ 2.5" Mod Cal Sample  □ 2.0" Cal Sample  ⊗ SPT  ○ Bulk Sample

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of the drilling. Subsurface conditions may differ at other locations and times.
# Soil Description for Gutiérrez Residence

**GUTIERREZ RESIDENCE**  
2245 Liberata Drive  
Morgan Hill, California

## Soil Description

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>USCS Class</th>
<th>Symbol</th>
<th>Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>CL</td>
<td></td>
<td>Lean CLAY with sand, stiff, dark yellow brown, moist, Qc</td>
</tr>
<tr>
<td>3.5</td>
<td>QTsc</td>
<td></td>
<td>SILTSTONE, stiff, olive yellow brown, slightly moist, completely decomposed to lean clay, trace serpentine, Santa Clara Formation</td>
</tr>
<tr>
<td>11.5</td>
<td>QTsc</td>
<td></td>
<td>SANDSTONE, soft rock, yellow brown, slightly moist, slightly weathered, traces of pebbles, Santa Clara Formation</td>
</tr>
</tbody>
</table>
| 12 - 11.5   |            |        | End of boring at 11.5 feet  
No groundwater encountered

## Sample Data

<table>
<thead>
<tr>
<th>Interval (feet)</th>
<th>Sample Number</th>
<th>Type</th>
<th>Blows per 6 in. (N)</th>
<th>Pocket Pen (t.s.f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 - 6.5</td>
<td>4-1</td>
<td></td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>10.0 - 11.5</td>
<td>4-2</td>
<td></td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

**Legend:**  
- □ 2.5" Mod Cal Sample  
- □ 2.0" Cal Sample  
- ● SPT  
- ○ Bulk Sample

**Note:** This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of the drilling. Subsurface conditions may differ at other locations and times.
### GUTIERREZ RESIDENCE
2245 Liberata Drive
Morgan Hill, California

#### SOIL DESCRIPTION

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>USCS Class</th>
<th>Symbol</th>
<th>Soil Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>SC</td>
<td></td>
<td>Clayey SAND, dense, dark yellow brown, slightly moist</td>
</tr>
<tr>
<td>3</td>
<td>Qtsc</td>
<td></td>
<td>Pebble Conglomerate, soft rock, dark yellow to red brown, severely weathered; clayey sands with gravel, Santa Clara Formation</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>more gravel</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td>End of boring at 11.5 feet</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
<td>No groundwater encountered</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Interval (feet)</th>
<th>Sample Number</th>
<th>Sample Type</th>
<th>Dry Density</th>
<th>Moisture</th>
<th>Borehole Penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0-6.5</td>
<td>5-1</td>
<td>SPT</td>
<td>11</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>10.0-11.5</td>
<td>5-2</td>
<td>SPT</td>
<td>10</td>
<td>16</td>
<td>12</td>
</tr>
</tbody>
</table>

**LEGEND:**
- ■ 2.5" Mod Cal Sample
- □ 2.0" Cal Sample
- ○ SPT
- □ Bulk Sample

**NOTE:** This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of the drilling. Subsurface conditions may differ at other locations and times.
### GUTIERREZ RESIDENCE
2245 Liberata Drive
Morgan Hill, California

#### SOIL DESCRIPTION

<table>
<thead>
<tr>
<th>DEPTH (feet)</th>
<th>USCS CLASS</th>
<th>SYMBOL</th>
<th>INTERVAL (feet)</th>
<th>SAMPLE NUMBER</th>
<th>SAMPLE TYPE</th>
<th>DRY DENSITY (pcf)</th>
<th>MOISTURE (%)</th>
<th>BLOWS PER 5 IN.</th>
<th>POCKET PEN (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>Sp</td>
<td>1.0-2.0</td>
<td>6-1</td>
<td></td>
<td>96.6</td>
<td>10.8</td>
<td>28</td>
<td>50/3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>3.5-5.0</td>
<td>6-2</td>
<td></td>
<td></td>
<td></td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.5-9.5</td>
<td></td>
<td></td>
<td></td>
<td>6-3</td>
<td></td>
<td></td>
<td></td>
<td>40</td>
<td>50/6</td>
</tr>
</tbody>
</table>

End of boring at 9.5 feet
No groundwater encountered

**LEGEND:**
- ■ 2.5" Mod Cal Sample
- □ 2.0" Cal Sample
- ● SPT
- ○ Bulk Sample

**NOTE:** This leg of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of the drilling. Subsurface conditions may differ at other locations and times.
<table>
<thead>
<tr>
<th>DEPTH (feet)</th>
<th>USCS CLASS</th>
<th>SYMBOL</th>
<th>SOIL DESCRIPTION</th>
<th>SAMPLE DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>Sp</td>
<td>SERPENTINITE, moderately soft rock, gray green, pervasively sheared, pulverizes to clayey sand, very moist</td>
<td>INTERVAL (feet)</td>
</tr>
<tr>
<td>1.0-2.0</td>
<td></td>
<td>7-1</td>
<td>93.7</td>
<td>18.7</td>
</tr>
<tr>
<td>3.5-4.5</td>
<td></td>
<td>7-2</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>8.5-10.0</td>
<td></td>
<td>7-3</td>
<td>21</td>
<td>30</td>
</tr>
</tbody>
</table>

End of boring at 10.0 feet
No groundwater encountered

LEGEND: ■ 2.5" Mod Cal Sample □ 2.0" Cal Sample ○ SPT ○ Bulk Sample

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of the drilling. Subsurface conditions may differ at other locations and times.
APPENDIX B

Laboratory Test Results
# BULK DENSITY TEST RESULTS

**ASTM D 2937-10 (modified for ring liners)**

January 2015

<table>
<thead>
<tr>
<th>BORING NO.</th>
<th>DEPTH feet</th>
<th>MOISTURE CONTENT, %</th>
<th>WET DENSITY,pcf</th>
<th>DRY DENSITY,pcf</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2.0 - 2.5</td>
<td>11.2</td>
<td>130.1</td>
<td>117.0</td>
</tr>
<tr>
<td>1</td>
<td>9.0 - 9.5</td>
<td>8.5</td>
<td>130.7</td>
<td>120.4</td>
</tr>
<tr>
<td>1</td>
<td>18.5 - 19.0</td>
<td>12.6</td>
<td>104.4</td>
<td>92.7</td>
</tr>
<tr>
<td>2</td>
<td>2.0 - 2.5</td>
<td>11.3</td>
<td>127.9</td>
<td>114.9</td>
</tr>
<tr>
<td>2</td>
<td>14.0 - 14.5</td>
<td>13.9</td>
<td>121.0</td>
<td>106.2</td>
</tr>
<tr>
<td>2</td>
<td>19.5 - 20.0</td>
<td>17.2</td>
<td>129.0</td>
<td>110.1</td>
</tr>
<tr>
<td>6</td>
<td>1.5 - 2.0</td>
<td>10.8</td>
<td>107.0</td>
<td>96.6</td>
</tr>
<tr>
<td>7</td>
<td>1.5 - 2.0</td>
<td>18.7</td>
<td>111.2</td>
<td>93.7</td>
</tr>
</tbody>
</table>
# Plasticity Index

<table>
<thead>
<tr>
<th>Test No.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boring No.</td>
<td>3</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample Depth</td>
<td>5.0 - 6.5'</td>
<td>1.5 - 2.0'</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid Limit</td>
<td>40</td>
<td>NL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plastic Limit</td>
<td>17</td>
<td>NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plasticity Index</td>
<td>23</td>
<td>NP</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Plasticity Chart

The chart illustrates the relationship between Plasticity Index and Liquid Limit. Points are plotted on the chart to indicate the soil classification:
- **CH or OH**
- **CL or OL**
- **ML or OL**
- **MH or OH**
- **U**
- **A**

The chart is used to determine the soil type based on the plotted points.
PARTICLE SIZE ANALYSIS

Boring #2 @ 0.0 - 3.0'
Clayey Sand with gravel (SC)

<table>
<thead>
<tr>
<th>Sieve size</th>
<th>% Retained</th>
<th>% Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot; (12.5-mm)</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>3/8&quot; (9.5-mm)</td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td>#4 (4.75-mm)</td>
<td>16</td>
<td>84</td>
</tr>
<tr>
<td>#8 (2.36-mm)</td>
<td>26</td>
<td>74</td>
</tr>
<tr>
<td>#16 (1.18-mm)</td>
<td>35</td>
<td>65</td>
</tr>
<tr>
<td>#30 (600-µm)</td>
<td>41</td>
<td>59</td>
</tr>
<tr>
<td>#50 (300-µm)</td>
<td>48</td>
<td>52</td>
</tr>
<tr>
<td>#100 (150-µm)</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>#200 (75-µm)</td>
<td>69</td>
<td>31</td>
</tr>
</tbody>
</table>
PARTICLE SIZE ANALYSIS

Boring #3 @ 5.0 - 6.5'
Clayey Sand (SC)

LL = 40; PL = 17; PI = 23

<table>
<thead>
<tr>
<th>Sieve size</th>
<th>% Retained</th>
<th>% Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot; (12.5-mm)</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>3/8&quot; (9.5-mm)</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>#4 (4.75-mm)</td>
<td>6</td>
<td>94</td>
</tr>
<tr>
<td>#8 (2.36-mm)</td>
<td>11</td>
<td>89</td>
</tr>
<tr>
<td>#16 (1.18-mm)</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>#30 (600-μm)</td>
<td>30</td>
<td>70</td>
</tr>
<tr>
<td>#50 (300-μm)</td>
<td>41</td>
<td>59</td>
</tr>
<tr>
<td>#100 (150-μm)</td>
<td>52</td>
<td>48</td>
</tr>
<tr>
<td>#200 (75-μm)</td>
<td>58</td>
<td>42</td>
</tr>
</tbody>
</table>

U.S. STANDARD SIEVE OPENING IN INCHES  U.S. STANDARD SIEVE NUMBERS

PERCENT PASSING

GRAIN SIZE, mm
DIRECT SHEAR

ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)

January 2015

Boring #1 @ 9.0 - 9.5'
Conglomerate
Ring sample, saturated

INITIAL DRY DENSITY: 118.6 pcf
INITIAL MOISTURE CONTENT: 8.5%
PEAK SHEAR ANGLE (Ø): 55°
COHESION (C): 296 psf

SHEAR vs. NORMAL STRESS
**Gutierrez Residence**

**DIRECT SHEAR continued**

Boring #1 @ 9.0 - 9.5'

Conglomerate

Ring sample, saturated

SPECIFIC GRAVITY: 2.70 (assumed)

<table>
<thead>
<tr>
<th>SAMPLE NO.:</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INITIAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WATER CONTENT, %</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
<td>8.5</td>
</tr>
<tr>
<td>DRY DENSITY, pcf</td>
<td>119.1</td>
<td>118.1</td>
<td>118.5</td>
<td>118.6</td>
</tr>
<tr>
<td>SATURATION, %</td>
<td>55.4</td>
<td>53.9</td>
<td>54.3</td>
<td>54.5</td>
</tr>
<tr>
<td>VOID RATIO</td>
<td>0.414</td>
<td>0.426</td>
<td>0.422</td>
<td>0.421</td>
</tr>
<tr>
<td>DIAMETER, inches</td>
<td>2.410</td>
<td>2.410</td>
<td>2.410</td>
<td></td>
</tr>
<tr>
<td>HEIGHT, inches</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>AT TEST</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WATER CONTENT, %</td>
<td>14.9</td>
<td>16.1</td>
<td>18.2</td>
<td></td>
</tr>
<tr>
<td>DRY DENSITY, pcf</td>
<td>120.7</td>
<td>121.3</td>
<td>124.3</td>
<td></td>
</tr>
<tr>
<td>SATURATION, %</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
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</tr>
<tr>
<td>VOID RATIO</td>
<td>0.396</td>
<td>0.389</td>
<td>0.355</td>
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</tr>
<tr>
<td>HEIGHT, inches</td>
<td>0.99</td>
<td>0.97</td>
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<td></td>
</tr>
</tbody>
</table>

---

**Graph**

**SH-12630-SA**

**ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)**

January 2015
Gutierrez Residence

DIRECT SHEAR

ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)

January 2015

Boring #2 @ 19.0 - 19.5'
Sandstone
Ring sample, saturated

INITIAL DRY DENSITY: 109.6 pcf
INITIAL MOISTURE CONTENT: 17.2 %
PEAK SHEAR ANGLE (Ø): 42°
COHESION (C): 872 psf

SHEAR vs. NORMAL STRESS
DIRECT SHEAR continued

ASTM D 3080/D3080M-11 (modified for consolidated, undrained conditions)

Gutierrez Residence                            SH-12630-SA

Boring #2 @ 19.0 - 19.5'
Sandstone
Ring sample, saturated

SPECIFIC GRAVITY: 2.65 (assumed)

<table>
<thead>
<tr>
<th>SAMPLE NO.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>AVERAGE</th>
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<tr>
<td>INITIAL</td>
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<td></td>
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<tr>
<td>WATER CONTENT, %</td>
<td>17.2</td>
<td>17.2</td>
<td>17.2</td>
<td>17.2</td>
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<tr>
<td>DRY DENSITY, pcf</td>
<td>108.2</td>
<td>107.5</td>
<td>113.0</td>
<td>109.6</td>
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<td>SATURATION, %</td>
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<td>84.7</td>
<td>98.3</td>
<td>89.8</td>
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<tr>
<td>VOID RATIO</td>
<td>0.528</td>
<td>0.538</td>
<td>0.463</td>
<td>0.510</td>
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<td>DIAMETER, inches</td>
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<tr>
<td>HEIGHT, inches</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

| AT TEST |      |      |      |         |
| WATER CONTENT, % | 24.7 | 25.4 | 22.1 |         |
| DRY DENSITY, pcf | 108.7 | 108.6 | 118.7 |         |
| SATURATION, % | 100.0 | 100.0 | 100.0 |         |
| VOID RATIO  | 0.522 | 0.523 | 0.393 |         |
| HEIGHT, inches | 1.00 | 0.99 | 0.95 |         |

![Graph showing shear stress vs. horizontal deformation]
APPENDIX C

Slope Stability Analysis Results
Safety Factors Are Calculated By The Modified Janbu Method
Gutierrez Residence A-A' (dynamic)

Safety Factors Are Calculated By The Modified Janbu Method

<table>
<thead>
<tr>
<th>#</th>
<th>FS</th>
<th>Soil Type</th>
<th>Total Saturated Cohesion</th>
<th>Friction Angle</th>
<th>Piez. Load</th>
<th>Value</th>
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<tbody>
<tr>
<td>a</td>
<td>1.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>1.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td>1.50</td>
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<td>d</td>
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<td>g</td>
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</tr>
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<td>h</td>
<td>1.50</td>
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</tr>
<tr>
<td>i</td>
<td>1.50</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

STABL6H FSmin=1.50

c:\program files (x86)\stedwin\gutierrez\a-a\ dynamic.plt
Run By: Username 1/7/2015 08:48AM
ATTACHMENT G
Biological and Plant Survey Reports from Live Oak Associates, Inc.
October 24, 2019

Mr. Martin Gutierrez  
C/o Amanda Musy-Verdel  
Hanna and Brunetti  
7651 Eigleberry Street  
Gilroy, CA 95020

RE: Final findings from the focused rare plant surveys and Bay checkerspot butterfly flight surveys conducted on the Lands of Gutierrez project site in Morgan Hill, Santa Clara County, California (PN 2253-02)

Dear Mr. Gutierrez:

This report is to provide you with the final results of both focused rare plant surveys and Bay checkerspot butterfly flight surveys conducted on serpentine areas of the Lands of Gutierrez project site, located in Morgan Hill, Santa Clara County, California.

The area being focused on during the rare plant and butterfly flight surveys was the northernmost portion of the site which was identified by Live Oak Associates, Inc. (LOA) during a Santa Clara Valley Habitat Plan (SCVHP) Land Cover verification site visit to support serpentine grassland habitat having the potential to support rare serpentine plant species. As such, to comply with Condition 13 and Condition 20 of the SCVHP, LOA performed focused surveys for special status plant species on the serpentine areas of the site.

During the same Land Cover verification site visit, the serpentine area of the site was also confirmed to support dwarf plantain (Plantago erecta), the larval host plant for the federally endangered Bay checkerspot butterfly (Euphydryas editha bayensis) which is also a focal species of the SCVHP. As a result of the latter, Dr. Raymond White, our associate entomologist, performed five flight surveys on the site for the Bay checkerspot butterfly during the period from late March through mid-April to comply with Condition 13 of the SCVHP.

**Special Status Plant Survey Methods**

Ms. Peterson conducted focused surveys of the serpentine area of the site on March 26, June 17, and September 10, 2019 to cover the blooming periods for all special status plants having potential to occur on the serpentine areas of the site. These surveys were performed so as to provide 100% visual coverage of the area, in conformance with the California Department of Fish and Wildlife’s (CDFW) 2018 Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities, as well as in compliance with Conditions 13, 19 and 20 of the SCVHP.
The March survey was timed to coincide with the early blooming period for fragrant fritillary (*Fritillaria liliacea*) and most beautiful jewelflower (*Streptanthus albidus* ssp. *perameonus*); however, during this survey, LOA was also able to rule out the occurrence of three special status plant species that are perennial and identifiable at any time of year, including Coyote ceanothus (*Ceanothus ferrisiae*), Mount Hamilton thistle (*Cirsium fontinale* var. *campylon*) and Santa Clara Valley dudleya (*Dudleya abramsii* ssp. *setchellii*). The June 2019 survey was timed to coincide with the blooming period for Tiburon Indian paintbrush (*Castilleja affinis* ssp. *neglecta*), most beautiful jewelflower and Metcalf Canyon jewelflower (*Streptanthus albidus* ssp. *albidus*) and the early part of the blooming season for Loma Prieta hoita (*Hoita strobilina*). The September survey was timed to coincide with the latter part of the blooming period for Loma Prieta hoita and the peak blooming period for smooth lessingia (*Lessingia micradenia* var. *glabrata*).

All plant species encountered during the surveys were identified to the taxonomic level necessary to determine whether it was a special status plant species using The Jepson Manual Second Edition (Baldwin et. al. 2012).

As detailed further in the Findings/Conclusions section below, a population of smooth lessingia was found present on the site during the September 2019 survey, therefore, our methods also included mapping the extent of the population and making estimates of population density and percent cover for this species.

**Findings/Conclusions**

A list of all vascular plant species encountered during site surveys is provided as Attachment 1.

Only one rare plant was identified on the site and that is smooth lessingia (*Lessingia micradenia* var. *glabrata*) (California Rare and Protected Rating (CRPR) 1B and a focal species of the SCVHP). This occurrence is described in greater detail below. All other potentially-occurring special status plant species were ruled out on the serpentine areas of the site, including Tiburon Indian paintbrush, Coyote ceanothus, Mount Hamilton thistle, Santa Clara Valley dudleya, fragrant fritillary, Loma Prieta hoita, Metcalf Canyon jewelflower and most beautiful jewelflower.

Smooth lessingia was in peak bloom during the September 10, 2019 survey and the extent of the population was mapped via a Trimble Navigation GPS with a sub-meter accuracy. A map of the population is provided as Attachment 2 and we will provide your project civil engineers with the GIS shape files so that it can be determined whether the population will be impacted as a result of your proposed project. The population is healthy and quite dense on the site, with a mean density of about five plants per square foot and mean percent cover of approximately five percent within the limits of the mapped population.

Because of the presence of smooth lessingia on the site, several SCVHP conditions may apply to the project including Condition 13, Condition 19 and Condition 20. Additional information regarding these SCVHP conditions is provided in Attachment 3.

With regard to Bay checkerspot butterfly, findings were negative for this species during the five flight surveys conducted by our associate herpetologist, Dr. Raymond White. A copy of his final report is provided in Attachment 4.
Thank you for allowing LOA to provide you with assistance with this project. If you wish to discuss any of our findings or conclusions, please feel free to contact me at (408) 281-5884 or Rick Hopkins at (408) 281-5885.

Sincerely,

Pamela E. Peterson
Senior Project Manager
Plant and Wetland Ecologist
408-281-5884

Cc: Amanda Musy-Verdel

List of Attachments:

Attachment 1: Vascular Plants of the Study Area
Attachment 2: Map of Smooth Lessingia Populations on the Lands of Gutierrez Site
Attachment 3: SCVHP Conditions that May Apply to the Project
Attachment 4: Final Bay Checkerspot Butterfly Flight Survey Report
ATTACHMENT 1: VASCULAR PLANTS OF THE STUDY AREA

The plants species listed below were observed on the serpentine habitat areas of the Lands of Gutierrez project site during field surveys conducted by Live Oak Associates on March 26, June 17, and September 10, 2019. The U.S. Army Corps of Engineers’ wetland indicator status of each plant is provided following its common name.

OBL - Obligate  
FACW - Facultative Wetland  
FAC - Facultative  
FACU - Facultative Upland  
UPL - Upland

**AGAVACEAE – Century Plant Family**  
*Chlorogalum pomeridianum var. pomeridianum*  
Soap plant  
UPL

**APOCYNACEAE – Dogbane Family**  
*Asclepias fascicularis*  
Narrow-leaf milkweed  
FAC

**ASPARAGACEAE – Asparagus Family**  
*Muilla maritima*  
Muilla  
UPL

**ASTERACEAE – Sunflower Family**  
*Achillea millefolium*  
Yarrow  
UPL  
*Hemizonia congesta ssp. luzuifolia*  
Hayfield tarweed  
UPL  
*Lactuca saligna*  
Willowleaf lettuce  
UPL  
*Lessingia micradenia var. glabrata*  
Smooth lessingia  
UPL

**APIACEAE – Carrot Family**  
*Sanicula bipinnatifida*  
Purple sanicle  
UPL

**BRASSICACEAE – Mustard Family**  
*Lepidium nitidum*  
Shining peppergrass  
UPL  
*Raphanus sativa*  
Wild radish  
UPL

**BORAGINACEAE – Borage Family**  
*Amsinckia intermedia*  
Common fiddleneck  
UPL

**CONVOLVULACEAE – Morning-Glory Family**  
*Calystegia sp.*  
Morning glory  
UPL

**CRASSULACEAE – Stone Crop Family**  
*Crassula connata*  
Pygmy weed  
UPL

**FABACEAE – Legume Family**  
*Acmispon wrangelianus*  
Chilean trefoil  
UPL  
*Astragalus gambelianus*  
Gambel’s milkvetch  
UPL  
*Lupinus bicolor*  
Annual lupine  
UPL  
*Medicago polymorpha*  
Burclover  
FACU
**Trifolium sp.**  
**Vicia benghalensis***  
**Vicia sativa***

**IRIDACEAE – Iris Family**  
*Sisyrinchium bellum*

**GERANIACEAE – Geranium Family**  
**Geranium dissectum***

**MONTIACEAE – Miner’s Lettuce Family**  
**Claytonia perfoliata**

**ONAGRACEAE – Evening Primrose Family**  
**Clarkia purpurea**

**PAPAVERACEAE – Poppy Family**  
**Eschscholzia californica**  
**Platystemon californicus**

**PLANTAGINACEAE – Plantain Family**  
**Plantago erecta**

**POACEAE – Grass Family**  
**Avena barbata***  
**Bromus hordeaceus***  
**Festuca perennis***  
**Hordeum marinum***  
**Hordeum murinum***  
**Nassella pulchra**

**POLEMONIACEAE – Phlox Family**  
**Leptosiphon liniflorus**

**POLYGONACEAE – Knotweed Family**  
**Rumex crispus***

**PRIMULACEAE – Primrose Family**  
**Anagallis arvensis***

**RANUNCULACEAE – Buttercup Family**  
**Ranunculus californicus**

**ROSACEAE – Rose Family**  
**Aphanes occidentalis**

* Introduced non-native species
ATTACHMENT 2: MAP OF SMOOTH LESSINGIA POPULATIONS ON THE LANDS OF GUTIERREZ SITE
Approximate Property Boundary

Lands of Gutierrez

Source: Aerial photo courtesy of USDA Aerial Photography Field Office 9/28/2016
Parcel boundaries courtesy of Santa Clara County Planning Dept

LEGEND
- California Annual Grassland (24.51 Ac.)
- Foothill Pine-Oak Woodland (0.67 Ac.)
- Pond (0.05 Ac.)
- Serpentine Bunchgrass Grassland (1.22 Ac.)
- Developed (Rural Residential) (0.09 Ac.)
- Smooth Lessingia (Lessingia micradenia var. glabrata) (0.81 Ac.)

Live Oak Associates, Inc.
Lands of Gutierrez
Smooth Lessingia

Date  Project #  Figure #
10/24/2019  2253-01  2
ATTACHMENT 3: SCVHP CONDITIONS THAT MAY APPLY TO THE LANDS OF GUTIERREZ PROJECT

Sources: SCVHP Section 6 (ICF International 2012) and the Santa Clara Valley Habitat Plan Implementation Guide (Santa Clara County 2015).

Condition 13. Serpentine and Associated Covered Species Avoidance and Minimization

This condition is intended to minimize the impacts from Covered Projects on serpentine habitat, including minimizing direct impacts on the Bay checkerspot butterfly and serpentine plants that are covered by the Habitat Plan.

What Covered Projects Does This Condition Apply to?

Covered Projects that affect serpentine land covers (serpentine bunchgrass grassland, serpentine rock outcrops, serpentine seeps, and serpentine chaparral).

Applicable Habitat Plan Maps/Geobrowser Maps

Serpentine Fee Zone – shows areas where serpentine land covers may occur. Field verification at the time a Covered Project is proposed is required to verify if Serpentine land covers occur onsite.

Wildlife Survey Areas – shows areas where Bay Checkerspot Butterfly surveys are required

Conditions to Apply during Project Design

Serpentine Avoidance

- In cases where serpentine areas are part of a project site in a developed area, the project will be designed to preserve larger patches of serpentine outside the development area and limit impacts to the smallest patches feasible and to the edges of serpentine patches regardless of their size.

- The length of the edge of the serpentine patch that is directly adjacent to the developed area will be minimized and will include as large a buffer as possible between the serpentine edge and the developed area.

- Landscaping will not be planted on serpentine areas except as needed to reduce fire hazards adjacent to structures consistent with County fire hazard reduction regulations (see also Condition 10). Plantings will not include species that are known or suspected to invade serpentine habitats or cross- pollinate with endemic serpentine plant species or other native plants.

- On undeveloped sites, the project area and construction staging area must be located to avoid or minimize impacts to any serpentine on site. The guidelines described above for developed areas will also be followed for project sites in undeveloped areas.

Projects That Affect Serpentine

- Conduct surveys of the serpentine vegetation to inventory for covered species and evaluate habitat quality for covered species.

- For portions of the development area that are in Bay checkerspot butterfly habitat units identified in Appendix D, survey the site for the presence of larval host plants of Bay
checkerspot butterfly. If larval host plants are found, conduct reconnaissance level surveys for adult butterflies during the peak of the flight period to determine species presence or absence.

- Locate the project footprint as far from the covered species or the highest-quality serpentine habitat as is feasible. Utilize applicable buffers as identified in this chapter.
- If covered plants occur on the site and cannot be avoided, notify the Habitat Agency of the construction schedule so that plant salvage can be considered and potentially implemented (see Condition 19).

**Condition 19. Plant Salvage when Impacts are Unavoidable**

Requirements of Condition 19 are integrated into the requirements of Condition 20, below.

**Condition 20. Avoid and Minimize Impacts to Covered Plant Occurrences**

These two conditions are intended to ensure that Covered Projects avoid or minimize impacts to covered plants.

*What Covered Projects Does This Condition Apply to?*

Covered Projects that may impact any of the nine covered plant species within the mapped potential habitat areas (see Geobrowser Maps below).

*Applicable Habitat Plan Maps/Geobrowser Maps*

*Plant Survey Area* – Shows areas where Plant Surveys may be required.

*Process Flow Chart (to conduct at time of project design and construction)*

**Step 1**

Review Geobrowser maps to determine if the proposed project is located within a Plant Survey area.

**Step 2**

If the proposed project is located in a Plant Survey Area, verify the onsite land cover is suitable to support one of the nine covered plants that require surveys. These land covers and the corresponding plant survey required are shown below:

- **Serpentine bunchgrass grassland:** Survey for smooth lessingia, fragrant fritillary, Metcalf canyon jewelflower, most beautiful jewelflower, Tiburon paintbrush, and Coyote ceanothus.

- **Serpentine rock outcrop:** Survey for Santa Clara Valley dudleya, smooth lessingia, Metcalf canyon jewelflower, most beautiful jewelflower, and Tiburon paintbrush.

- **Serpentine seep:** Survey for Mount Hamilton thistle.

- **Mixed serpentine chaparral:** Survey for Coyote ceanothus and most beautiful jewelflower.
Mixed oak woodland and forest with serpentine soils: Survey for Loma Prieta hoita.

Coast live oak forest and woodland with serpentine soils: Survey for Loma Prieta hoita.

Northern coastal scrub and Diablan sage scrub with serpentine soils: Survey for Coyote ceanothus, Metcalf canyon jewelflower, most beautiful jewelflower, and smooth lessingia.

Step 3

Conduct surveys for the relevant plants if the relevant land cover occurs on site (based on on-site verification) during the survey periods listed below (Table 6-9 from the Habitat Plan) to determine if plants occur on site. Plant surveys must be conducted in accordance with the Wildlife Agency (CDFW, USFWS) protocols; however no floristic surveys are required.

Table 6-9. Survey Periods for Covered Plant Species

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<tr>
<th>Species</th>
<th>Scientific Name</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
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</tr>
<tr>
<td>Tiburon Indian paintbrush</td>
<td><em>Castilleja affinis</em> ssp. <em>neglecta</em></td>
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<tr>
<td>Coyote ceanothus</td>
<td><em>Ceanothus ferrisiae</em></td>
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<tr>
<td>Mount Hamilton thistle</td>
<td><em>Cirsium fontinale</em> var. <em>campylon</em></td>
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<td>✓</td>
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<tr>
<td>Santa Clara Valley dudleya</td>
<td><em>Dudleya abramsii</em> ssp. <em>setchellii</em></td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>Fragrant fritillary</td>
<td><em>Fritillaria liliacea</em></td>
<td>✓</td>
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<tr>
<td>Loma Prieta hoita</td>
<td><em>Hoita strobilina</em></td>
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<tr>
<td>Smooth lessingia</td>
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<tr>
<td>Metcalf Canyon jewelflower</td>
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<td>✓</td>
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<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>Most beautiful jewelflower</td>
<td><em>Streptanthus albidus</em> ssp. <em>peramoenus</em></td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
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</tbody>
</table>

Note: (✓) indicates flowering periods which are possible but uncommon for the species.

Step 3

If a plant occurrence is found on the project site, the following analysis/steps are required:

a) **Determine Health of Plant Occurrence**

   The local jurisdiction will obtain the opinion of a qualified biologist regarding the projected long-term viability of a covered plant occurrence given the plant occurrence condition, site conditions, and project-level construction details.

b) **Avoidance in Project Design**

   o In order to reduce impacts to covered plants, all covered activities will be confined to the minimum area necessary to complete the activity or construction.
A setback buffer will be established around covered plant occurrences located on any project site or in an adjacent area that could be affected by construction traffic or activities. The setback buffer will be adequate to prevent or minimize impacts during or after project implementation.

The plants and buffer area will be protected from encroachment and damage during construction by installing temporary construction fencing. Fencing will be bright-colored and highly visible.

Fencing will be designed to keep construction equipment away from plants and prevent unnecessary damage to or loss of plants on the project site.

Fencing will be installed under the supervision of a qualified biologist to ensure proper location and prevent damage to plants during installation. Fencing will be installed before any site preparation or construction work begins and will remain in place for the duration of construction.

Construction personnel will be prohibited from entering these areas (the exclusion zone) for the duration of project construction.

**Step 4**

If a proposed project will potentially impact the plant occurrence, follow the following steps:

- **Determine long term viability of plant occurrence** - A qualified biologist will determine if the long-term viability of a covered plant occurrence will be reduced (as described below) by implementation of the covered activity.

  Some covered plant occurrences may only be disturbed or partially affected by covered activities, and viability may be maintained. It is important to monitor and, if possible, maintain these occurrences of covered plants where they occur, even if they are not protected within the Reserve System.

- **Projects that may partially impact covered plant occurrences** - If the biologist determines that the covered activity will potentially impact the covered plant species or impact a portion of the plant occurrence found onsite, monitoring during construction will be required as follows.

  Covered plant occurrences that are determined to be partially permanently affected by a qualified biologist (i.e., only a portion of the occurrence is impacted) by covered activities will be monitored by the Habitat Agency. The purpose of the monitoring will be 1) to assess whether the impact reduces the long-term viability of the occurrence and whether supplemental management actions are feasible and warranted, and 2) to determine whether the Habitat Agency must protect and enhance or create occurrences in the Reserve System according to Table 5-16. If the impact occurs to less than 5% of the total occurrence as measured by the number of individuals at the time of impact, then the impact is assumed not to affect long-term viability and will not require monitoring nor will it count as a permanent impact (Table 4-6). This allowance does not apply to Coyote ceanothus.

  When determining viability for the purpose of assessing a partial or permanent impact, the Habitat Agency will consider the following factors.

  1. Results of monitoring plant occurrences affected by covered activities (e.g., correlation between pre-project observations and actual viability post project).
2. Impacts to date to the covered plant species and how close total impacts are to the allowable impact cap in the Habitat Plan (e.g., extra care taken when near cap not to exceed the cap).

Specific monitoring protocols and success criteria will be developed during implementation as appropriate for each covered species, according to the guidelines discussed here. Monitoring protocols can draw on those developed for other HCP/NCCPs. It is possible that only a portion of the occurrence will be located on the covered activity project site. In such instances, the monitoring protocol will address this issue. Three possible approaches include the following.

1. If the landowner agrees, the Habitat Agency will obtain access to the adjacent sites on which the rest of the plant occurrence is located, and surveys will include the entire occurrence.

2. If access to adjacent site(s) is not possible, or if for some other reason it is not feasible to survey the entire occurrence, then an alternative will be developed to estimate the extent and condition of the adjacent portion of the occurrence.

3. If only a small portion of the occurrence is on adjacent properties, then only the portion of the occurrence on the project site will be monitored and assessed for viability. The determination whether this is a full impact will be made based on the results for this portion of the occurrence only.

Population monitoring will be conducted by the Habitat Agency before the covered activity is implemented to document the baseline condition. For annual species, the minimum post-construction monitoring period will be 5 years. If extreme or unusual climate conditions affect the species, then monitoring will be extended 1 or 2 years, as appropriate to assess impacts and success.

Monitoring will include estimates of percent cover and number of individuals. An occurrence will be assumed to retain long-term viability and will not require replacement in the Reserve System if the decline in occurrence size and percent cover from pre-project conditions is less than 25% over the monitoring period, unless site-specific conditions otherwise suggest substantial declines in occurrence viability.

For perennial species, the minimum post-construction monitoring period will be 3 years. Monitoring will include estimates of density (percent cover), recruitment of seedlings if impacts included removing individuals, and measurements of adult plant health (e.g., signs of disease, herbivory, nutrient deficiencies, etc.). An occurrence of a perennial covered species will be assumed to retain long-term viability and will not require replacement in the Reserve System if the decline in seedling recruitment and density from pre-project conditions is less than 25% over the monitoring period, unless site-specific conditions otherwise suggest substantial declines in occurrence viability.

The Habitat Agency will implement conservation actions on the site that would help to maintain or improve the condition of the occurrence, as long as an agreement can be reached with the landowner to conduct these measures. Possible conservation measures are described in Chapter 5 of the Habitat Plan. If plant occurrences are determined to not be viable based on post-project monitoring, the Habitat Agency must assess the loss as a full permanent impact and implement conservation actions accordingly. In these cases, mitigation would occur after the impact. However, the potential for mitigation to occur after impacts is unlikely given that the qualified
biologist and Habitat Agency will make conservative determinations regarding projected impacts on long-term viability.

**Step 5**
If the project will permanently impact a covered plant occurrence, comply with the following requirements:

For projects that will permanently impact a covered plant occurrence, the loss must be offset by protection, management, and monitoring of covered plant occurrences in the Reserve System prior to impacts (Table 5-16 of the Habitat Plan). The applicant shall coordinate with the Habitat Agency to ensure that the required protection of the covered plant occurrences occur within the Reserve System prior to construction of the project.

**Plant Salvage (Condition 19)**
Where impacts on covered plant species cannot be avoided and plants will be removed by approved covered activities, the Habitat Agency has the option of salvaging the covered plants. Salvage of covered plants is conducted in addition to mitigation that may be required for impacts on covered plants.

Plant salvage as mitigation is acknowledged as a technique that rarely succeeds; it is opposed by conservation organizations as a primary mitigation tool (Howald 1996; California Native Plant Society 1998). Therefore, the Habitat Agency must carefully weigh the expected costs and potential benefits of the salvage effort before undertaking it. Salvage guidelines are presented below for all covered plants, for perennial species, and for annual species.

**All Covered Plants**
All salvage operations will be conducted by the Habitat Agency or a third party contractor approved by the Habitat Agency. Translocation activities will be reviewed and approved by the Wildlife Agencies in advance of translocation activities occurring. Translocated plants should be moved during their dormant season in order to minimize impacts to individuals. To ensure enough time to plan salvage operations, project proponents will notify the Habitat Agency of their schedule for removing the covered plant occurrence.

The Habitat Agency may conduct investigations into the efficacy of salvaging seeds from the soil seed bank for both perennial and annual species. The soil seed bank may add to the genetic variability of the occurrence. Covered species may be separated from the soil through garden/greenhouse germination or other appropriate means. Some topsoil taken from impact sites may also be moved to the transplant site in the reserve to introduce soil microorganisms.

The Habitat Agency will transplant new occurrences such that they constitute separate populations and do not become part of an existing population of the species, as measured by the potential for genetic exchange among individuals through pollen or propagule (e.g., seed, fruit) dispersal. Transplanting or seeding receptor sites (i.e., habitat suitable for establishing a new population) will be carefully selected on the basis of physical, biological, and logistical considerations (Fiedler and Laven 1996); some examples of these are listed below.
• Historic range of the species.
• Soil type.
• Soil moisture.
• Topographic position, including slope and aspect.
• Site hydrology.
• Mycorrhizal associates.
• Presence or absence of typical associated plant species.
• Presence or absence of herbivores or plant competitors.
• Site accessibility for establishment, monitoring, and protection from trampling by cattle or trail users.

**Perennial Covered Plants**

Salvage methods for perennial species will be tested for whole individuals, cuttings, and seeds. Salvage measures will include the evaluation of techniques for transplanting as well as germinating seed in garden or greenhouse and then transplanting to suitable habitat sites in the field. Techniques will be tested for each species, and appropriate methods will be identified through research and adaptive management. Where plants are transplanted or seeds distributed to the field, they will be located in reserves in suitable habitat to establish new populations. Field trials will be conducted to evaluate the efficacy of different methods and determine the best methods to establish new populations.

Transplanting within the reserves will only minimally disturb existing native vegetation and soils. Supplemental watering may be provided as necessary to increase the chances of successful establishment, but must be removed following initial population establishment. Supplemental watering will include watering throughout first growing season to mimic natural rainfall patterns. During establishment, areas will be fenced off as necessary to prevent trampling or grazing by livestock. These areas will not be selected for controlled burns. Once the population has established itself, as determined by success criteria that may include setting seed, 3-year survival, or other criteria developed in agreement with the Wildlife Agencies, then fencing and irrigation will be removed and the site may be burned for management purposes if that is appropriate for the target plant.

**Annual Covered Plants**

For annual covered plants, mature seeds will be collected from all individuals for which impacts cannot be avoided (or if the population is large, a representative sample of individuals). If storage is necessary, seed storage studies will be conducted to determine the best storage techniques for each species. A seed storage facility will also be contacted and consulted regarding collecting and storage requirements of the facility. One of the leading seed banks in California is the Rancho Santa Ana Botanic Garden in Claremont, CA (Rancho Santa Ana Botanic Garden 2010). This facility has strict seed collection and storage guidelines available on its website (http://www.rsabg.org). If needed, studies will be conducted on seeds germinated and plants grown to maturity in garden or greenhouse to propagate larger numbers of seed. Such studies can be contracted with research institutions such as the Rancho Santa Ana Botanic Garden, or carried out by other qualified biologists. Seed propagation methods will ensure that genetic variation is
not substantially affected by propagation (i.e., selection for plants best adapted to cultivated conditions). Field studies will be conducted under the Adaptive Management Program to determine the efficacy and best approach for dispersal of seed into suitable habitat. Where seeds are distributed to the field, they will be located in reserves in suitable habitat to establish new populations. If seed collection methods fail (e.g., due to excessive seed predation by insects), alternative propagation techniques will be necessary.
ATTACHMENT 4: FINAL BAY CHECKERSPOT BUTTERFLY FLIGHT SURVEY REPORT
Some 1.22 acres of the 27 acre site was identified as serpentine grassland, nearly all (1.22 acres) supported dense stands of *Plantago erecta* (Morris), the primary larval food plant of the Federally Endangered Bay checkerspot butterfly (*Euphydryas editha bayensis*).

In 5 visits (March 23, 31, April 7, 13, and 22, 2019) during the likely flight season of the Bay checkerspot butterfly, no Bay checkerspot butterflies were seen. Approximately an hour was spent traversing and re-traversing through this small area on each visit. The weather was favorable for insect flight on each of the survey days. A summary of observations follows.

The serpentine grassland supports dense stands of *Plantago erecta*, but nectar sources are minimal. Most sites supporting populations of this butterfly can be recognized by the presence of dense carpets of bright goldfields (*Lasthenia californica*) and often tidy tips (*Layia platyglossa*). These are totally absent here. This site has rather modest numbers of common muilla (*Muilla maritima*) and a very few lomatium (*Lomatium sp.*) and serrated onion (*Allium serra*) plants. The low density of nectar is likely to make this site unattractive for the butterfly.

An important secondary plant for larval survival is owl’s clover (*Castilleja* sp.) which is present so sparsely that I observed only five specimens.

A diversity of slope exposures and steepnesses is helpful for butterfly survival. Here there is only modest variety in exposures and no steep slopes at all.

The serpentine grassland extends on to the adjacent Anderson Reservoir property, but has no present butterfly habitat value there due to taller bunchgrass vegetation (ungrazed) as well as lack of nectar. There is essentially no *Plantago* on the Anderson side.

I would not expect this site to consistently support the Bay checkerspot butterfly and attest to its current absence.
Lands of Gutierrez (LOA #2253-01) Bay Checkerspot Butterfly survey summary.

March 26, 2019
sun, occasional clouds Time 10:15 to 11:30 AM
Flying: 10 Vanessa, bees 2 horses onsite

March 31, 2019
fine weather, sunny, no wind Time 12:56 to 2:12 PM
Flying: 1 Papilio, 1 buckeye, 1 Coenonympha, 44 Vanessa (migrating north), bees.

April 7, 2019
fine weather, warm & sunny Time 1:30 to 2:40 PM
Flying 214 Vanessa migrating, bees, 1 Coenonympha, 2 sulfurs.

April 13, 2019
slight breeze, warm. Time 1:00 to 2:10 PM
Flying: 16 Vanessa, 5 Coenonympha, 2 blues, bees, 4 moths
2 horses 16 or more cattle, mostly young.
no new nectar

April 22, 2019
great sun, hot, slight wind Time: 2:35 to 3:25 PM
Flying: 10 Vanessa, 5 Coenonympha, bumble bees
horses not seen, 6 cattle seen, expect the rest were in shade on lower west corner.
Some Plantago senescent (brown) at this time, maybe 10-15% of total.
No more Castilleja or nectar.
ATTACHMENT H
Public Comments (dated January 24, 2021 and January 28, 2021)
Hello Lara Tran,

I received notification yesterday for a proposed building permit for the lot next door to my home. I have some real concerns about the massive size and scope of this project (I have previously been impacted by the owner's illegal grading along my fence-line (which got him red-tagged by the county), and his planting of hundreds of trees that would have shaded my solar panels (fortunately, the county made him remove these trees. We still have water/flooding impact in our front yard and fencing (now leaning over, and no longer tall enough to keep the deer out because of the dirt he added so he can drive around the perimeter of his property) because of the illegal grading that he did. Additionally, our road has been repeatedly been damaged by tracked vehicles that have unloaded on the road to access his property.

Concern #1 - why are they building a massive home directly on top of the ridgeline when there are excellent sites below near other homes on Liberata that would require a much much shorter driveway and already has an entrance built. The current site is visible from the whole of Morgan Hill to the south and west, from Rosendin Park to the north (i.e. upper Anderson Lake Park), and over the homes it abuts from Holiday Lake Estates to the east (I have viewed the bright orange tape that is currently up from all sides).

Concern #2 - Has an environmental impact report been done, and what are the findings? I know there were previously protected flora/fauna in Holiday Lake estates, which this home will tower over. The mentioned cuts/fills proposed are massive, particularly if they are done directly on a ridgeline. This is a serious concern given the massive amount of soil that will be moved.

Concern #3 - does the proposed home have a reliable supply of water? The owner had previously contacted our neighborhood water company for access to our water because his new well was not producing sufficiently (we could not give him access because of our bylaws). For the last two summers, he has had many many large, loud truck loads of water (from Morgan Hill Fire Hydrants) delivered to fill up his water tanks (I'm including a photo of one such load below). I spoke with the driver and he said he was filling the water tanks because the well wasn't able to do so. I was also approached by someone who kept horses on the property who asked to use our water to 'cool the horses' because there was not sufficient water on the property. I really would prefer to avoid all the noise the trucks make hauling water up to his water tanks.

I have looked online at the links in the notification, and I am unable to find any details or drawings about the plans. I would like to be able to review the materials to understand exactly what is being proposed. My understanding is that this is/was a
Williamson Act property, so I would like to understand exactly what portion of the lot is being improved (note that he as already considerably changed the 'character' of the land with his galvanized fencing, corrals for horses, water tanks, and vehicles strewn about the lower portion of his property - we get to look at this mess from our house, not the pretty site it used to be). What are the requirements for a house like his being built on the ridgeline (and why is he building on the ridgeline when he has excellent building sites near his well on the lower portion of his property). Is this property in Willamson, or is it now encumbered by open space development restrictions? If so I would assume his gate and improvements on the bottom of this lot should count toward this? Is a massive home of nearly 9000 square feet, along with a separate dwelling and garage and a very lengthy driveway really compatible with an open space designation (in addition to the improvements including fenced gate entry, galvanized fencing replacing barbed wire, corrals, well and tank, stacked hay bales, tractors/trucks/vehicles parked) he has already? Have the homeowners in Holiday Lake Estates also been notified about this proposed development?

I have many other concerns, including lighting and headlight impact, (that could impact my astronomical observatory, where I do long exposure astrophotography). Will the primary house access take place from Liberata drive (where he has already built a gated entrance), or from Barnard Road? We have been having regular problems with vehicles blocking our driveway with workers (?) waiting to be granted access to his property (people parking in the middle of the road in front of our house blocking our driveway, like the water truck in the picture below). Please provide me information so I can understand exactly what is being done. I would like to understand how much more severe his impact to our property and the surrounding environment will be. I would like to have sufficient time to review these materials so I'm very concerned about the limited time before the meeting and whether it will be possible to adequately review the materials remotely (because of Covid).

Any help and information you can provide will be greatly appreciated.

My name is [redacted], and I live at [address]

you can contact me via this email address, or you may also call me on my cell, [phone number]

Do you have a contact number where I can reach you at? I would like to have a conversation with you at your earliest convenience....

Thank you for your help,

[redacted]

p.s. One of the many many loads of water that he has had trucked in....
Hi Lara,

I have some additional questions about the proposed development. I'm was looking at the GIS information to try to understand the ridgeline terrain at the site, and in the process I noticed that a large number of trees have been razed, all near the area of the proposed development, since 2017. I'm guessing this was done in preparation for building this development. The trees are clearly visible in the 2018 aerial survey (taken Nov-Dec 2017), and they are gone in the 2019 survey (taken December 2018-February 2019). I know in Morgan Hill there are rules about removing trees, and SCC guidelines recommend building near stands of trees on ridgelines, but it looks like most of the trees have already been removed. What used to be a well-treed area is now fairly barren. I'm just wondering if the large number of trees that have already been removed was considered as part of this approval process? It's hard to gauge from the photos, but it appears that 20 to 30 trees were removed from the west corner of the property. Is it acceptable for this many trees to be razed in a ridgeline/open space area before getting building permits? Should any impact reports have been done before he razed all of these trees? On the plans, it seems to say that one tree will be removed (if I understand correctly), but that's because they already removed all of the others.

As I haven't yet received any info on the planning package:

1. I would like to see copies of any geological or site surveys done. Can you please send me these, or forward links where I can review them?
2. I would like to see any documents related to the suitability of the well on site, which you stated is the source of water, but I have heard is insufficient. I am interested in the rated production of the well, and any other supporting documents from the Department of Environmental Health. I can't understand how the well is adequate when he has to use water trucks to fill his tanks, and when they want to use my front hose to 'water the horses'. I sent you a picture of one such water load in my original note. I have tried to contact the Department of Environmental Health, but have gotten no replies at this point. Has the well production been verified by the county (I've heard it was 2 GPM, but that is second hand information). Additionally, I have heard 'through the grapevine' that the parcel owner was working at the bottom of the Hill near Main Avenue (I have seen him there myself working on something) working on getting a well working to supply water. I'm not sure why he would be working on another well if his current one was working. My neighbor spoke to the person doing the work, and he said they were getting the well working. I would just like to know if the county actually verified that the well produces a sufficient supply of water. I don't want to have a continuous stream of large water trucks delivering water to the site like they have in the past.
3 - I would like to see a copy of the completed CEQA checklist, and any supporting documentation.

4 - I would like to receive a copy of the complete planning package once it's available today.

5 - I would like to receive verification if my previous request for continuation will be considered, as I'm having so much trouble getting any information.

6 - Does the previous illegal grading done and importation of many transfer loads of dirt (that was red tagged but never mitigated adequately) affect this application? My front yard still floods because of this and the any new driveway here will result in a lot more water in this area that already has serious drainage problems. Should the previously added soil that was never removed be included in the fill amounts? Will the previous impact he has already had on the drainage be considered?

7 - Does the previous planting of a double row of trees around the perimeter of the property (which the county made him remove because of the open space easement) affect this application?

8 - Does the removal of many many trees (as described above and as evidenced in the County's own aerial surveys) affect this application? Are impact reports about the cite valid given the fact that he removed a lot of the trees at the development site, apparently right before the permit application process? Is such tree removal allowed on a ridgeline and on a parcel with Open Space restrictions (it would appear he greatly changed the 'character of the land' by removing them).

9 - I've just gotten the link and glanced at the plans, but it appears that the driveway will be raised directly adjacent to where he previously added transfer loads of dirt. Do the plans take into account the water that flows from Barnard Road and pools because of the previous red-tagged soil addition.

10 - Was any consideration given to the fact that he is taking access from Barnard Road (Public) as opposed to Liberata Road (Private), where he has already built a partial driveway, gated entrance, and well? Barnard Road is in a poor state of repair from the current traffic already, and the construction traffic will be impacting a public road as opposed to the Private Road he already has access to. Has the County Department of Roads and Airports considered this, or been consulted?

11 - I would like understand how it was determined there are no buildable sites on the lower half of this parcel. I would like to see all the soil, geotechnical, or any other reports that were used in making this determination.

12 - I would like the details of why you have determined this site is not on the ridgeline. I am able to view the story poles from both sides the ridge. They are plainly visible as on the ridge for the majority of Morgan Hill. I would like exactly how this determination was made, given how visible it is on the ridgeline.

13 - You stated that two other building sites were considered but were unacceptable. I would like the information about the other two sites that were considered, including their locations. I would like to review any soil, geotechnical or other reports that were used to make this determination.

14 - Is it possible to get contact information for the residents in Holiday Lakes that abut this development. I would like to speak to these people, but with Covid I can't really go to their doors to talk. I would like to make sure they are aware of what is being proposed (especially given how hard it is to gather information).

15 - The story poles appear less visible than before, and the orange tape is sagging because of previous winds. Is it possible to restore these so they accurately reflect
the outline of the house? I need to take photos prior to the hearing to show how visible this is (hopefully the weather clears) and I want to ensure the poles accurately portray the actual outline of the proposed structures.

Please let me know ASAP if the hearing will be rescheduled as I requested previously. If it is not, I will likely have to take vacation next week to figure this all out (which I can't really afford to do), and it still won't be enough time. The more I look, the more I realize how much I don't know. A week is not enough time to figure this all out.

I'm sorry for all of the questions, but I'm still trying to understand how this process works and figure out what information is there to review. If possible, it might be easier if you could give me access to all the information that was used by the planning department in recommending this project. I didn't think I would need to do this much work, but at this point the more I look, the more concerned I get.

I'm cc:ing Rob Eastwood, the Planning Manager. Mr. Eastwood, I've left a couple messages for you but haven't heard back.

Thank you again for your time,

[Signature]

On Wednesday, January 27, 2021, 06:34:51 PM PST, Tran, Lara <lara.tran@pln.scgov.org> wrote:

Hello [Name],

Thank you for sending me the picture you took of the current drainage situation.

Warm regards,

LARA TRAN
Associate Planner

Department of Planning and Development
County of Santa Clara