TOWN OF LOS GATOS **ITEM NO: 3**
PLANNING COMMISSION STAFF REPORT
Meeting Date: April 13, 2016

PREPARED BY: Marni Moseley, AICP, Associate Planner
MMoseley@losgatosca.gov

APPLICATION NO: Architecture and Site Application S-12-103
Subdivision Application M-12-008
Negative Declaration ND-16-001

LOCATION: **341 Bella Vista Avenue** (west side of Bella Vista Avenue, north of Charles Street)

APPLICANT/
PROPERTY OWNER: Jake Peters and Dan Ross

CONTACT: Dan Ross

APPLICATION
SUMMARY: Requesting approval to merge two lots and to construct a new single family residence and remove large protected trees on property zoned R-1:8. No significant environmental impacts have been identified and a Mitigated Negative Declaration is recommended. APN 529-23-015 and 016.

DEEMED COMPLETE: March 24, 2016
FINAL DATE TO TAKE ACTION: September 24, 2016

RECOMMENDATION: Approval, subject to conditions.

PROJECT DATA:

General Plan Designation:	Low Density Residential
Zoning Designation:	R-1:8
Applicable Plans & Standards:	Hillside Development Standards and Guidelines, General Plan
Parcel Size:	10,155 square feet (when merged)

Surrounding Area:

	Existing Land Use	General Plan	Zoning
North	Residential	Medium Density Residential	R-1:8 & RM:5-12
East	Residential	Medium Density Residential	R-1:8
South	Residential	Medium Density Residential	RM:5-12
West	Residential	Medium Density Residential	RM:5-12:PD

CEQA: It has been determined that this project will not have a significant impact on the environment and a Mitigated Negative Declaration is recommended.

FINDINGS:

- That the project will not have a significant impact on the environment and a Mitigated Negative Declaration is recommended.
- That the project is consistent with the Hillside Development Standards and Guidelines.
- As required by Section 66474 of the Subdivision Map Act if the Planning Commission denies the subdivision application.

CONSIDERATIONS:

- As required by Section 29.20.150 of the Town Code for granting approval of an Architecture and Site application.

ACTION: Approve the applications, subject to the attached conditions.

EXHIBITS:

Received under separate cover March 4, 2016:

1. Initial Study and Mitigated Negative Declaration

Received with this Staff Report:

2. Location map
3. Mitigation Monitoring and Reporting Program (six pages)
4. Response to comments on Mitigated Negative Declaration (48 pages)
5. Required findings (two pages)
6. Recommended Conditions of Approval (13 pages)
7. Project data sheet (two pages)
8. Consulting Architect's report (four pages), received November 13, 2013
9. Consulting Arborist report (35 pages), dated October 28, 2013
10. Consulting Arborist report (11 pages), dated September 24, 2014
11. Applicant's letter (seven pages), received March 25, 2016
12. Town Council Resolution 2012-057 (three pages)
13. Public Comments received by 11:00 a.m. on April 7, 2016 (158 pages)
14. Development Plans (26 sheets), received March 24, 2016

BACKGROUND:

The site currently contains two legal non-conforming parcels. A previous proposal for development of the site included two new residences (339 and 341 Bella Vista Avenue). Those applications were reviewed by staff and forwarded to the Planning Commission for consideration. The Planning Commission denied the applications which included a lot line adjustment, two Architecture and Site applications, two Mitigated Negative Declarations, and a variance application for a reduction in the required driveway length. The proposed application included two residences as follows:

	Parcel Size		*Proposed Floor Area (sq. ft.)*		*FAR*
	Before LLA	After LLA	house	garage	
Lot-2 339	6,049	4,915	1,920	441	0.39
Lot 1 341	4,106	5,240	1,838	441	0.35

The applications were appealed to the Town Council who considered the appeal on April 2, 2012. The Council denied the appeal and the proposed applications (Exhibit 11) with the finding that the applications did not address the concerns of the Commission as it related to FAR, house size, and massing from the rear.

The applicant submitted new applications to merge the lots and construct one new residence in December of 2012. The new applications have been reviewed by staff and a new Initial Study and Mitigated Negative Declaration (MND) have been prepared. The applicant's letter of justification (Exhibit 11) discusses how the feedback from the Planning Commission and Town Council has been incorporated into the new applications.

PROJECT DESCRIPTION:

A. Subdivision Application

The applicant is proposing to merge the two existing lots into one lot. The new lot would conform to the minimum lot size of 8,000 square feet for the R-1:8 zone, but would continue to be non-conforming because it does not meet the minimum lot depth requirement of 90 feet.

B. Architecture and Site Application

The applicant is proposing a new single-family residence with 1,463 square feet of living floor area, 1,179 square feet of cellar, and a 501-square foot attached garage. The

residence is proposed to have natural cedar siding and trim, a mixture of comp shingle roofing and green roof, and non-reflective aluminum windows.

A color and material board will be available at the Planning Commission meeting, and Exhibit 7 includes general project data for the property.

C. Location and Surrounding Neighborhood

The project site is located along a wooded stretch of Bella Vista Avenue approximately 50 feet north of Los Gatos-Saratoga Road. Immediately below the site (west) are townhomes on Maggi Court. Properties across Bella Vista (east) are developed with single-family homes. Although there are existing single-family residences along the west side of Bella Vista, there is a gap in the vicinity of the project site, and there are no abutting homes on the either side of the two existing parcels.

D. Zoning Compliance

The proposed residence would comply with the required setbacks, maximum permitted height, FAR, and structure coverage limitations for the R-1:8 zone. The R-1:8 zone permits single-family residences.

ANALYSIS:

A. Neighborhood Compatibility

Based on Town and County records, the residences in the immediate neighborhood range in size from 884 square feet to 3,500 square feet. The floor area ratios (FAR) range from 0.10 FAR to 0.57 FAR. The proposed residence would be 1,463 square feet with a 0.15 FAR. Pursuant to Town Code, the maximum square footage for the property with the required slope reduction would be 1,490 square feet.

The following Neighborhood Analysis table (on the next page) reflects current conditions of the immediate neighborhood.

Address	House sf	Garage sf	Lot Size	Stories	FAR
312 Bella Vista	884	324	10,050	1	0.09
316 Bella Vista	1,344	520	9,420	2	0.14
320 Bella Vista	2,407	224	9,744	2	0.25
322 Bella Vista	3,500	504	9,231	2	0.38
326 Bella Vista	1,591	360	11,024	2	0.14
332 Bella Vista	1,571	520	15,246	2	0.10
333 Bella Vista*	1,392	-	4,900	2	0.28
338 Bella Vista*	1,157	252	2,035	1	0.57
341 Bella Vista	**1,463**	**501**	**10,155**	**2**	**0.14**

* Site contains more than one residential unit.

The finished floor elevation of the top level of the residence, which is the garage, is lower than the grade of the street. From Bella Vista Avenue, very little of the residence will be visible. The applicant has reduced the height of the garage walls along the rear of the residence to reduce the height and the appearance of a three story elevation from the rear along Maggi Court.

The proposed residence has a main living floor area of 1,278 square feet, and lower level of bedrooms with an additional 1,364 square feet, of which 1,179 qualifies as cellar. The proposed residence would have a similar floor area and FAR to those in the immediate area.

B. Tree Impacts

The project site and surrounding area currently contains 21 protected trees. The application was reviewed by the Town's Consulting Arborist on two occasions (Exhibits 9 and 10). The proposed application requires the removal of three protected oak trees. One 48-inch (tree 2), and two multi-trunk (trees 1 and 15), all qualify as large protected trees pursuant to the Town's Tree Protection Ordinance. All three trees are in direct conflict with the proposed building location. The canopy spread for trees 1 and 2 cover the majority of the building envelope (Sheet A1.0 of Exhibit 14); any potential building location on the site would conflict with one or both of these trees due to their canopy and root spread. The

applicant will be required to implement the required tree protection measures included in the latest arborist report (Exhibit 10) and referenced in the MND (Exhibit 1).

If the project is approved, tree protection measures would be implemented prior to and during construction. Replacement trees would be required to be planted pursuant to Town Code. Tree protection measures are incorporated as conditions of approval (Exhibit 6) to protect the trees that will remain on the subject property and within the development area.

C. Architectural Considerations

Staff requested that the Town's Architectural Consultant review the project (Exhibit 8). The Consultant's conclusions were that while the modern architecture is a departure from that of the immediate neighborhood, the design and proposed materials lend it to blending with the hillside due to the roof slope and proposed natural materials.

The Consultant recommended that the proposed material for the roof of the first floor of living area be decorative rather than gravel. The applicant has included this change in the final development plans (Exhibit 14).

D. Hillside Development Standards and Guidelines

The proposed development has been re-designed to comply with all possible and relevant Hillside Development Standards and Guidelines (HDS&G).

Retaining walls:
The applicant's geotechnical report requires a support wall between the street and the residence which wraps around the below grade patio at the main living floor level to the south of the site, at no point around this patio is more than five feet of retaining wall exposed. The lowest level of the residence includes a small, approximately 150-square foot, below grade patio. This patio provides the required egress for the master bedroom as well as a minimal amount of usable outdoor space. The wall along the rear and side range from approximately 3 feet at the western edge to 10 feet along the eastern edge of the patio. This retaining wall is only exposed to the patio and would have limited visibility from outside the project site.

Least Restrictive Development Area (LRDA):
The project site has an average slope of 47.2 percent, and contains slopes from 40 percent to 56 percent. As a result, the site does not contain any area that complies with the LRDA requirements in the HDS&G. The applicant has proposed the home in the area of least impact given the site constraints. The applicant has provided justification regarding the location of the proposed residence on the site given the site's slope, tree canopy, and privacy concerns of neighbors (Exhibit 11).

Height:
The proposed residence steps with the natural grade of the site. The maximum height is proposed to be 22 feet, nine inches, with an overall maximum height of 33 feet from the highest point to the lowest point.

Tree Removals:
While the application includes removal of three large protected trees on the site, given the location of the trees, their diameter, and canopy, there is not an alternative location on the site for development that would significantly reduce the impact on the trees and facilitate their retention. The applicant will be required to provide canopy replacement pursuant Town Code requirements.

Privacy:
Throughout the previous public hearing process for the site, neighbors along Maggi Court have expressed concerns regarding privacy. The applicant has proposed several privacy measures to further reduce the privacy impacts that are inherent with the site. These measures include:

- Privacy screens placed along the west side of the lot between the existing trees;
- Planting additional landscape screening along the west property line; and
- Providing privacy fins to the right and left of the kitchen window to limit the view from that window to the area between the Maggi Court units.

E. Environmental Review

An Initial Study and Mitigated Negative Declaration (MND) were prepared for the project by the Town's Environmental Consultant, Kimley-Horn. The 20-day public review period began on March 4, 2016 and ended on March 24, 2016. Mitigation measures are required for Air Quality, Biological, Geology and Soils, Hydrology and Water Quality, and Transportation and Traffic. The Mitigation Monitoring and Reporting Program is provided in Exhibit 3. Mitigation measures have been incorporated into the recommended conditions of approval (Exhibit 6).

PUBLIC COMMENTS:

Staff received public comments from neighbors on Bella Vista Avenue and Maggi Court expressing concerns regarding privacy, grading, size of the residence, and tree removals (Exhibit 13).

COORDINATION:

Planning staff coordinated with the Building Department, the Engineering Division of Parks and Public Works, and the Santa Clara County Fire Department.

CONCLUSION AND RECOMMENDATION:

A. Conclusion

The proposed application would merge two existing legal non-conforming parcels, and constructs one single-family residence with conforming parking and access. The proposed application addresses the direction provided previously by the Planning Commission and confirmed by the Town Council (Exhibit 12) regarding the following issues:

- FAR exception: the applicant is proposing a single residence that conforms to the maximum FAR pursuant to Town Code.
- House size: the single residence is similar in size to those in its immediate neighborhood as to both size and floor area.
- Bulk and Mass at the rear: The proposal has reduced the resulting mass along the rear of the property by removing one of the proposed residences. Additionally, the applicant has reduced the overall maximum height from 34 feet six inches to 33 feet.
- Reduced Setbacks: No setback reductions are requested for the proposed applications.
- Pedestrian Safety: The proposed driveway complies with Town Code requirements and would provide a conforming means of access to and from the residence. The previous concern regarding pedestrian safety was in relation to the requested variance for the driveway depths.

The proposed residence is similar in size and FAR to those in the immediate area, and the applicant has pursued additional measures to reduce privacy impacts for the neighbors to the rear along Maggi Court. The requested exceptions to the HDS&G required as part of the application are for development on slopes greater than 30 percent, which applies to the entire property, and a retaining wall along the rear and side of the lower level patio. While the existing site does not have an LRDA that conforms to all the requirements specified in the HDS&G, the applicant has pursued development in what the applicant believes to be the least impactful location given the constraints of the site. The proposed retaining wall along the rear and side of the lowest patio is necessary to facilitate some usable outdoor area where impact to adjacent residences would be minimized. The measures taken to reduce privacy impacts while providing limited useable outdoor area and the necessary egress for the bedrooms on the lower level are appropriate given the existing site.

B. Recommendation

Staff recommends that the Planning Commission take the following actions to approve the Architecture and Site application and Subdivision application:

1. Make the Negative Declaration and adopt the Mitigation Monitoring and Reporting Plan (Exhibit 3); and
2. Determine that none of the findings required by Section 66474 of the Subdivision Map Act to deny the subdivision application can be made (Exhibit 5); and
3. Make the finding that the project complies with the Hillside Development Standards and Guidelines (Exhibit 5); and
4. Make the required considerations as required by Section 29.20.150 of the Town Code for granting approval of an Architecture & Site application (Exhibit 5); and
5. Approve Architecture and Site Application S-12-103 and Subdivision Application M-12-008 with the conditions contained in Exhibit 6 and the development plans attached as Exhibit 14.

ALTERNATIVES:

Alternatively, the Commission can:

1. Approve the application with additional and/or modified conditions; or
2. Continue the matter to a date certain with specific direction; or
3. Deny the Architecture and Site application and Subdivision application.

Prepared by:
Marni Moseley, AICP
Associate Planner

Approved by:
Joel Paulson, AICP
Community Development Director

JP:MM:cg

cc: Dan Ross, 188 Villa Avenue, Los Gatos, CA 95030
Jake Peters, P.O. Box 3486, Ketchum, ID 83340

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MITIGATED NEGATIVE DECLARATION
AND
INITIAL STUDY AND ENVIRONMENTAL CHECKLIST

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341 BELLA VISTA AVENUE
LOS GATOS, CALIFORNIA

ARCHITECTURE AND SITE APPLICATION S-12-103
Subdivision Application M-12-008
Mitigated Negative Declaration ND-16-001

PREPARED FOR
TOWN OF LOS GATOS
COMMUNITY DEVELOPMENT DEPARTMENT
110 E. MAIN STREET
LOS GATOS, CA 95030

FEBRUARY 2016

Exhibit 1

Table of Contents

List of Figures

List of Tables

Attachments

Please note: The attachments are provided electronically under separate cover.

Attachment 1: Arborist Report
Attachment 2: Geologic and Geotechnical Study
Attachment 3: Greenpoint New Home Rating System

TOWN OF LOS GATOS
COMMUNITY DEVELOPMENT DEPARTMENT
CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)
MITIGATED NEGATIVE DECLARATION

PROJECT INFORMATION

Project Title:
341 Bella Vista Avenue
Architecture and Site Application S-12-103
Subdivision Application M-12-008
Mitigated Negative Declaration ND-

Project Location:
339 and 341 Bella Vista Avenue (APN 529-23-015 and 529-23-016; Figure 1)

Lead Agency Name and Address:
Town of Los Gatos
Community Development Department
110 East Main Street
Los Gatos, CA 95030

Contact Person and Phone Number:
Marni Moseley, (408) 354-6802

Project Applicant:
Dan Ross
188 Villa Avenue
Los Gatos, CA 95030

Property Owner:
Jake Peters
P.O. Box 3486
Ketchum, ID 83340

General Plan Designation:
Medium Density Residential (5 - 12 dwelling units per acre)

Zoning:
R-1:8: Single-Family Residential (8,000 Square-Foot Minimum Lot Size; Hillside Development Standards and Guidelines apply)

PROJECT DESCRIPTION

The project sponsor is requesting Architecture and Site approval for construction of one single-family residence on the west side of Bella Vista Avenue, just north of Bella Vista's bridge over Los Gatos – Saratoga Road. Although there are two lots (339 and 341), only one home would be built on these two lots. The home would be located mostly on the southern lot (341), but a small portion of the house would extend onto the northern lot (339). Since the home would be located on both lots, the Town will require, as a condition of approval, that the two lots be combined into one lot with the address 341 Bella Vista Avenue. Please see Figure 3, *Site Plan*.

The proposed residence would be 3,139 square feet (s.f.) and the breakdown would be as follows:

- Main Level 1,278 s.f.
- Lower Level 1,360 s.f. (living and cellar space)
- Garage 501 s.f.

Total 3,139 s.f.

The attached garage would form the top level of the residence (501 s.f.) at street level. Below street level, there would be a main floor (kitchen and living area), encompassing 1,278 s.f., and directly below, a lower floor (1,360 s.f.) where three bedrooms and two bathrooms would be located (204 s.f. plus 1,156

s.f. of cellar space) would be directly below. The garage is designed at an angle to accommodate driveway apron that is 18 feet wide and 44 feet long, which would allow two vehicles to park on the driveway apron and remain outside the Bella Vista Avenue right-of-way.

Outdoor living spaces (including a roof deck above the main level, two patios on the main level, and three patios on the lower level) would be designed with privacy walls and planters to offer maximum privacy for both project residents and neighbors. In addition, garage and house walls would help to further maximize privacy. The roof deck and southern patio would be strategically placed on the south (screened) end of the structure, where they would be hemmed in by garage walls, patio walls, and existing tree canopies.

Project Location

The project site is located at 341 Bell Vista Avenue within the Town of Los Gatos. The project site is an undeveloped lot on the west side of Bella Vista Avenue south of Bella Vista Court and north of the Saratoga-Los Gatos Road overpass (Assessor's Parcel Numbers [APN] 529-23-015 and 529-23-016).

MITIGATION MEASURES

Implementation of the following mitigation and avoidance measures will reduce all potentially significant environmental effects to less-than-significant levels:

Air Quality (AQ)

AQ-1: ***BAAQMD-Recommended Basic Construction Mitigation Measures.*** *To limit the project's construction-related dust and criteria pollutant emissions, the following BAAQMD-recommended Basic Construction Mitigation Measures shall be included in the project's grading plan, building plans, and contract specifications:*

a. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. Recycled water should be used wherever feasible.

b. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

c. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

d. All vehicle speeds on unpaved roads shall be limited to 15 mph.

e. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.

f. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

g. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

h. Post a publicly visible sign with the telephone number and person to contact at the Town regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Biological Resources (BIO)

BIO-1: Special-status and Migratory Bird Species.

In order to avoid impacts to special-status and migratory bird species during project implementation, the measures outlined below shall be implemented. With the incorporation of the following measures, significant impacts on these species would be avoided.

Prior to the issuance of any grading permits or improvements plans, the applicant shall submit to the satisfaction of the Director of Community Development, evidence that the following measures have been completed or have been incorporated into the construction documents.

a. *The removal of trees and shrubs shall be minimized to the extent feasible.*

b. *If tree removal, pruning, grubbing and demolition activities are necessary, such activities shall be conducted outside of the breeding season (i.e., between September 1 and January 31), to avoid impacts to nesting birds.*

c. *If tree removal, pruning, grubbing and demolition activities are scheduled to commence during the bird breeding season (i.e., between February 1 and August 31), a preconstruction survey shall be conducted by a qualified biologist no more than two weeks prior to the initiation of work. The preconstruction survey shall include the project footprint and up to a 300-foot buffer, access and sight-lines permitting. If no active nests of migratory birds are found, work may proceed without restriction and no further measures are necessary. If work is delayed more than two weeks, the preconstruction survey shall be repeated, if determined necessary by the project biologist.*

d. *If active nests (i.e. nests with eggs or young birds present, or hosting an actively breeding adult pair) of special-status or migratory birds are detected, the project biologist shall designate non-disturbance buffers at a distance sufficient to minimize disturbance based on the nest location, topography, cover, species, and the type/duration of potential disturbance. No work shall occur within the non-disturbance buffers until the young have fledged, as determined by a qualified biologist. The appropriate buffer size shall be determined in cooperation with the CDFW and/or the USFWS. If, despite the establishment of a non-disturbance buffer it is determined that project activities are resulting in nest disturbance, work shall cease immediately and the CDFW and the USFWS shall be contacted for further guidance.*

e. *If project activities must occur within the non-disturbance buffer, a qualified biologist shall monitor the nest(s) to document that no take of the nest (i.e., nest failure) will result. If it is determined that project activities are resulting in nest disturbance, work shall cease immediately and the CDFW and the USFWS shall be contacted for further guidance.*

BIO-2: Special-status Bats.

In order to avoid impacts to special-status bat species during project implementation, the measures outlined below shall be implemented. With the incorporation of the following measures, significant impacts on these species would be avoided.

Prior to the issuance of any grading permits or improvements plans, the applicant shall submit to the satisfaction of the Director of Community Development, evidence that the following measures have been completed or have been incorporated into the construction documents.

a. *Prior to the removal or significant pruning of trees and the demolition of buildings, a qualified bat biologist shall assess them for the potential to support roosting bats. Suitable bat roosting*

sites include trees with snags, rotten stumps, and decadent trees with broken limbs, exfoliating bark, cavities, and structures with cracks, joint seams and other openings to interior spaces. If there is no evidence of occupation by bats, work may proceed without further action.

b. *If suitable roosting habitat is present, the bat biologist shall recommend appropriate measures to prevent take of bats. Such measures may include exclusion and humane eviction (see "c" below) of bats roosting within structures during seasonal periods of peak activity (e.g., February 15 - April 15, and August 15 - October 30), partial dismantling of structures to induce abandonment, or other appropriate measures.*

c. *If bat roosts are identified on the site, the following measures shall be implemented:*

- *If non-breeding/migratory bats are identified on the site within a tree or building that is proposed for removal, then bats shall be passively excluded from the tree or building. This is generally accomplished by opening up the roost area to allow airflow through the cavity/crevice, or installing one-way doors. The bat biologist shall confirm that the bats have been excluded from the tree or building before it can be removed.*

- *If a maternity roost of a special-status bat species is detected, an appropriate non-disturbance buffer zone shall be established around the roost tree or building site, in consultation with the CDFW. Maternity roost sites may be demolished only when it has been determined by a qualified bat biologist that the nursery site is not occupied. Demolition of maternity roost sites may only be performed during seasonal periods of peak activity (e.g., February 15 - April 15, and August 15 - October 30).*

- *No additional mitigation for the loss of roosting bat habitat is required.*

Geology and Soils (GEO)

GEO-1: Geotechnical Report Recommendations.

The project applicant shall implement all of the recommendations of the project geotechnical report, and any associated updates or revisions, related to site preparation and grading, foundation design, driveways, retaining walls, and drainage improvements. To ensure correct implementation, the geotechnical engineer shall review project plans and observe geotechnical-relevant aspects of proposed initial construction of roads and infrastructure. The geotechnical engineer shall submit an "as built" letter to the Director of Public Works stating that the project has been constructed in conformance with the recommendations of the geotechnical report.

Hydrology and Water Quality (HWQ)

MM HWQ-1*: *Construction Erosion Control Measures.

Prior to the issuance of grading permits or improvement plans in lieu of grading permits, the applicant shall:

Demonstrate to the satisfaction of the Town Engineer that the project's stormwater quality control measures, including the erosion control features described in the project's final Erosion Control Plan have been incorporated into the project design.

Transportation and Traffic (TR)

MM TR-1*: *Horizontal Stopping Sight Distance.

Prior to the issuance of a building permit, the applicant shall:

Demonstrate to the satisfaction of the Town Engineer that adequate horizontal stopping sight distance exists for the project driveway in each direction on Bella Vista Avenue. The applicant shall prepare an exhibit that has been stamped by a registered engineer or a professional land surveyor stating that adequate sight distance is provided. The horizontal stopping sight distance requirements shall be consistent with the Caltrans Highway Design Manual as specified in the Town's Street Design Standards.

DETERMINATION

In accordance with local procedures regarding the California Environmental Quality Act (CEQA), the Community Development Director has conducted an Initial Study to determine whether the proposed project may have a significant adverse effect on the environment, and on the basis of that study recommends the following determination:

- The proposed project will not have a significant effect on the environment. Therefore, an Environmental Impact Report (EIR) will not be required.
- The Initial Study incorporates all relevant information regarding potential environmental effects of the project and confirms the determination that an EIR is not required.

STATEMENT OF FINDINGS

Based on the findings of the Initial Study, the proposed project will not have a significant effect on the environment for the following reasons:

- As discussed in the Initial Study, the proposed project does not have the potential to significantly degrade the quality of the environment, including history or prehistory.
- As discussed in the Initial Study, both short-term and long-term environmental effects associated with the proposed project would be less than significant.
- When impacts associated with adoption of the proposed project are considered alone or in combination with impacts from other past, current, or probable future projects, project-related impacts would be less than significant.
- The above discussions do not identify any substantial adverse impacts to human beings as a result of the proposed project.
- This determination reflects the independent judgment of the Town.

_____ _____

Joel Paulson, Interim Director of Community Development Date

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TOWN OF LOS GATOS
COMMUNITY DEVELOPMENT DEPARTMENT
INITIAL STUDY AND ENVIRONMENTAL CHECKLIST FORM

PROJECT INFORMATION

Project Title:
341 Bella Vista Avenue
Architecture and Site Application S-12-103
Subdivision Application M-12-008
Mitigated Negative Declaration ND-16-001

Project Location:
339 and 341 Bella Vista Avenue (APN 529-23-015 and 529-23-016)

Lead Agency Name and Address:
Town of Los Gatos
Community Development Department
110 East Main Street
Los Gatos, CA 95030

Contact Person and Phone Number:
Marni Moseley, (408) 354-6802

Project Applicant:
Dan Ross
188 Villa Avenue
Los Gatos, CA 95030

Property Owner:
Jake Peters
P.O Box 3486
Ketchum, ID 83340

General Plan Designation:
Medium Density Residential (5 - 12 dwelling units per acre)

Zoning:
R-1:8 Single-Family Residential (8,000 Square-Foot Minimum Lot Size; Hillside Development Standards & Guidelines apply)

PROJECT LOCATION

The project site is located at 341 Bell Vista Avenue within the Town of Los Gatos. The project site is an undeveloped lot on the west side of Bella Vista Avenue south of Bella Vista Court and north of the Saratoga-Los Gatos Road overpass (Assessor's Parcel Number [APN] 529-23-015 and 529-23-016). Please see Figures 1 and 2, *Regional Map* and *Vicinity Map*, respectively.

PROJECT DESCRIPTION

The project sponsor is requesting Architecture and Site approval for construction of one single-family residence on the west side of Bella Vista Avenue, just north of Bella Vista's bridge over Los Gatos – Saratoga Road. Although there are two lots (339 and 341), only one home would be built on these two lots. The home would be located mostly on the southern lot (341), but a small portion of the house would extend onto the northern lot (339). Since the home would be located on both lots, the Town will require, as a condition of approval, that the two lots be combined into one lot with the address 341 Bella Vista Avenue. Please see Figure 3, *Site Plan*.

The proposed residence would be 3,139 square feet (s.f.) and the breakdown would be as follows:

- Main Level 1,278 s.f.

- Lower Level 1,360 s.f. (living and cellar space)
- Garage 501 s.f.

Total 3,139 s.f.

The attached garage would form the top level of the residence (501 s.f.) at street level. Below street level, there would be a main floor (kitchen and living area), encompassing 1,278 s.f., and directly below, a lower floor (1,360 s.f.) where three bedrooms and two bathrooms would be located (204 s.f. plus 1,156 s.f. of cellar space) would be directly below. The garage is designed at an angle to accommodate a driveway apron that is 18 feet wide and 44 feet long, which would allow two vehicles to park on the driveway apron and remain outside the Bella Vista Avenue right-of-way. The floor plan for each level of the proposed home is shown in Figures 4 through 6, *Garage Floor Plan*, *Main Level Floor Plan*, and *Lower Level Floor Plan*, respectively.

The proposed residence has been designed to be built into the existing hillside to minimize the development footprint and to minimize the profile of the existing building from the surrounding area. The project proposed the excavation of approximately 692 cubic yards of soil. Please see Figure 7, *Grading and Drainage Plan*. Figure 8, *Building Context Images*, shows how the proposed home would be built into the hillside and the relation to existing homes on Bella Vista Avenue and Maggi Court.

Outdoor living spaces (including a roof deck above the main level, two patios on the main level, and three patios on the lower level) would be designed with privacy walls and planters to offer maximum privacy for both project residents and neighbors. In addition, garage and house walls would help to further maximize privacy. The roof deck and southern patio would be strategically placed on the south (screened) end of the structure, where they would be hemmed in by garage walls, patio walls, and existing tree canopies. A cross section of the building elevation is shown in Figure 9, *Building Elevation Cross-Section*.

Conceptual views of the proposed project upon completion are shown from different viewpoints in Figure 10, *Conceptual Renderings*. A shadow study prepared for the project illustrates how anticipated shadows would fall on surrounding properties on the longest and shortest days of the year. Please see Figure 11, *Shadow Study*.

SURROUNDING LAND USES AND SETTING

The 0.23-acre (10,155 s.f.) project site is generally surrounded by residential uses. Single-family homes are situated to the east of the subject property, across Bella Vista Avenue. Townhomes on Maggi Court are located to the west and below the project site. There is a gated emergency access driveway that extends between these townhomes and Bella Vista Avenue to the north of the project site. Other single-family residences on the west side of Bella Vista Avenue occur farther north of the project site (beyond this driveway). Adjoining the project site on the south is the undeveloped, easternmost portion of Los Gatos Motor Inn site; the Bella Vista Avenue bridge over Los Gatos – Saratoga Road is located approximately 60 feet south of the project site.

OTHER AGENCIES WHOSE APPROVAL IS REQUIRED

In addition to the Town, the Santa Clara County Fire Department would be responsible for approval of the fire safety design elements of the proposed project. The project's utilities would also be subject to review and approval by the West Valley Sanitation District and San Jose Water Company.

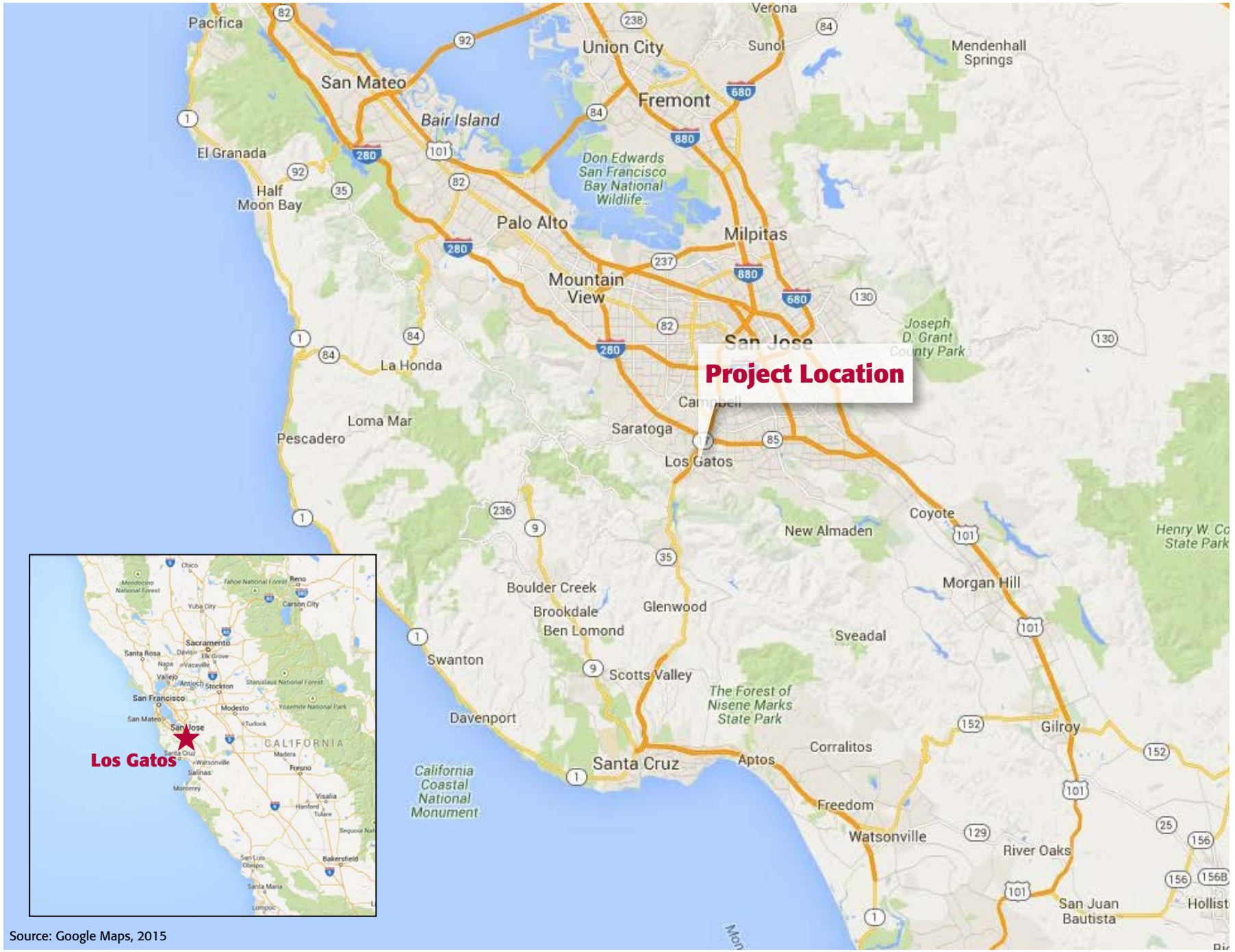
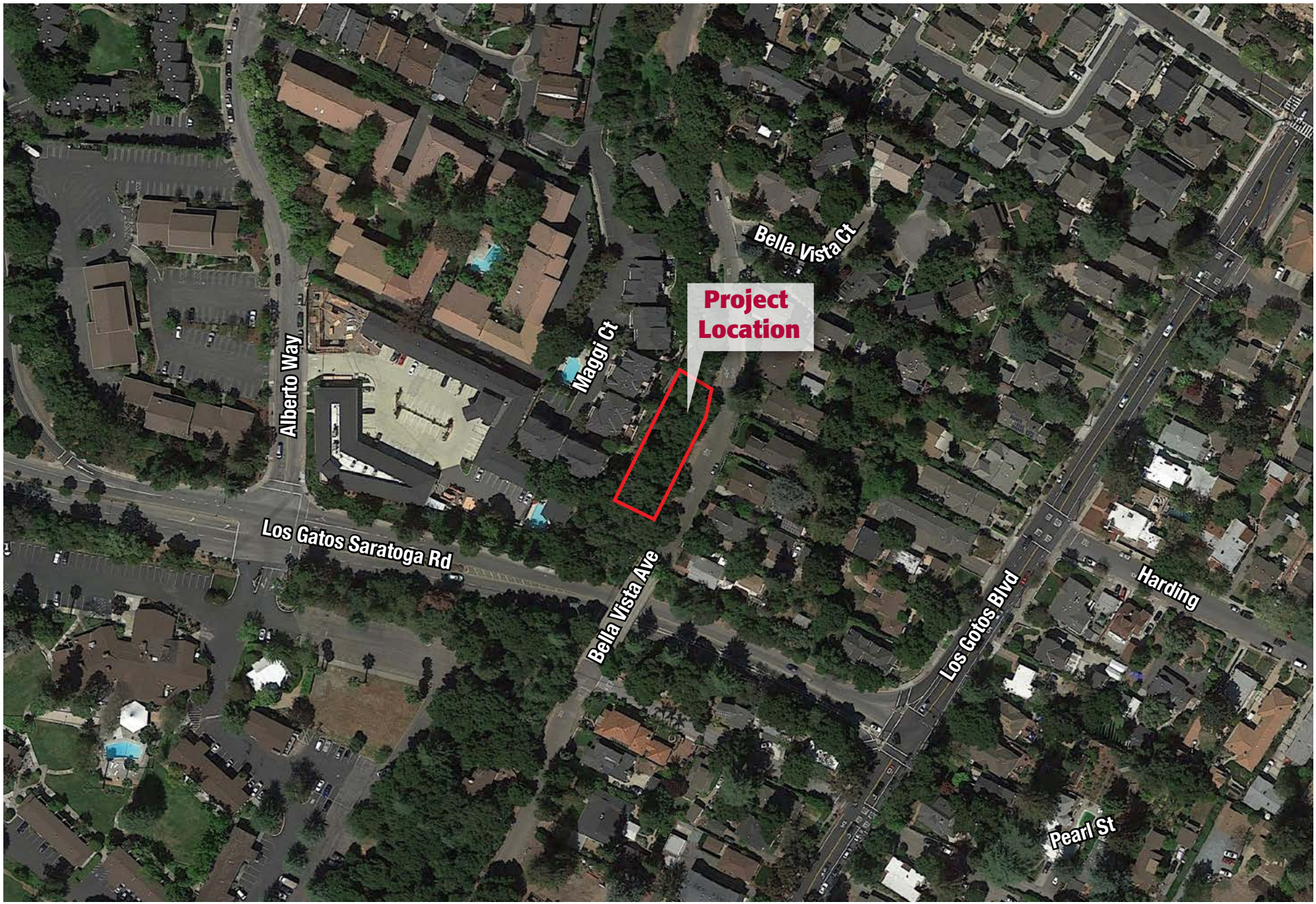


FIGURE 1: Regional Location Map
341 Bella Vista Avenue
City of Los Gatos

Not to scale

Kimley»Horn

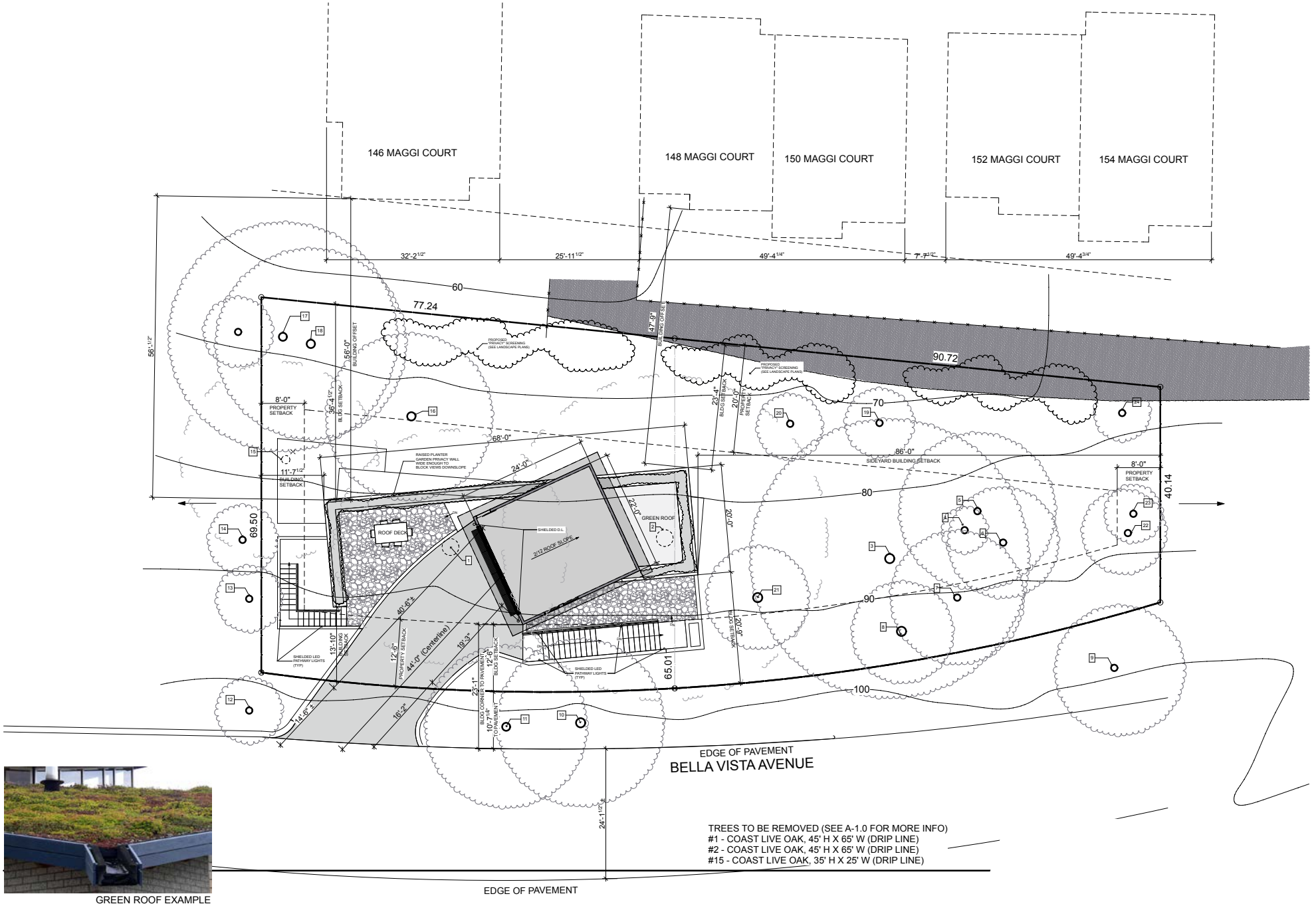


Source: Google Earth, 2015

FIGURE 2: Vicinity Map
341 Bella Vista Avenue
Town of Los Gatos

Not to scale

Kimley»Horn



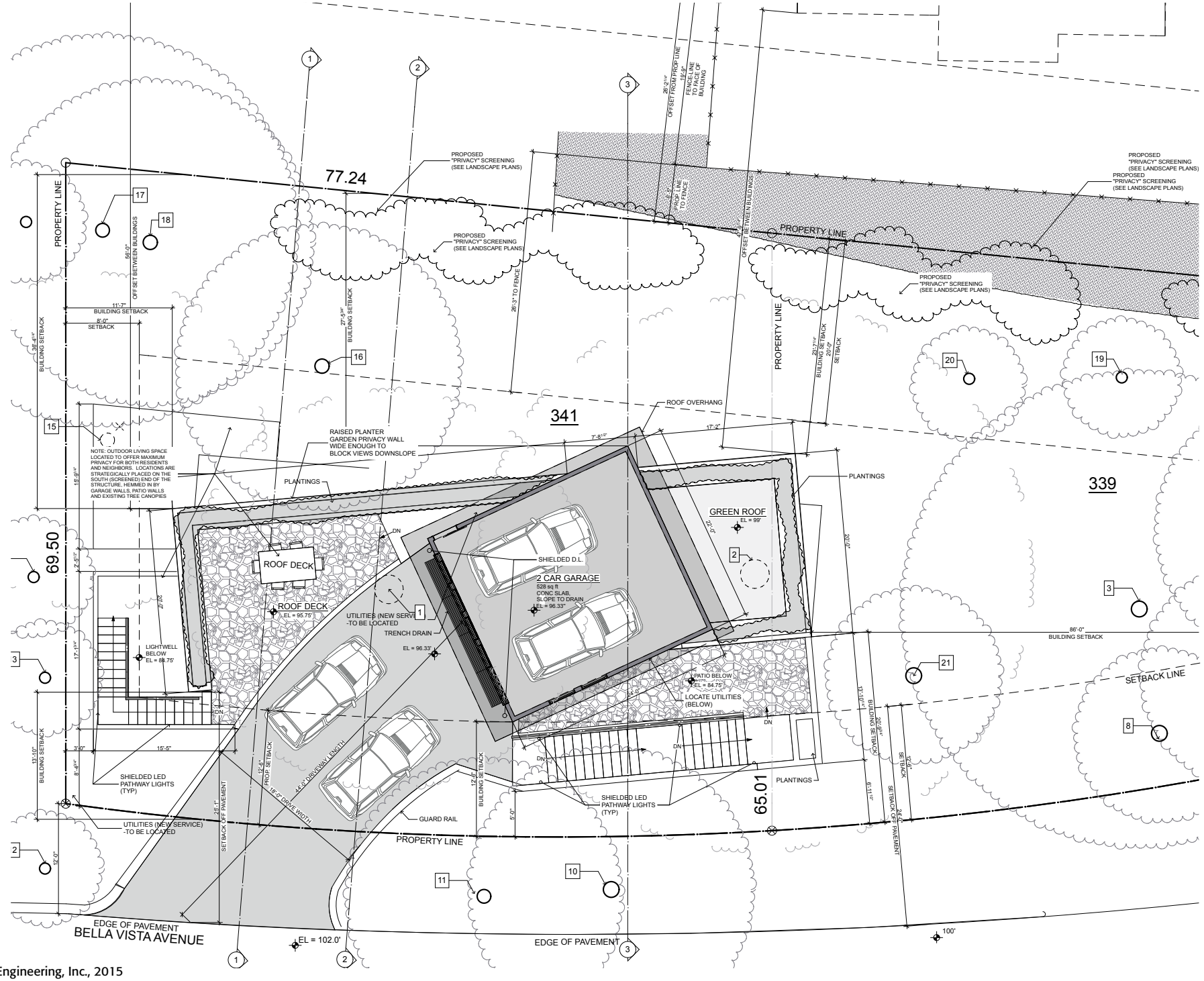
GREEN ROOF EXAMPLE

TREES TO BE REMOVED (SEE A-1.0 FOR MORE INFO)
#1 - COAST LIVE OAK, 45' H X 65' W (DRIP LINE)
#2 - COAST LIVE OAK, 45' H X 65' W (DRIP LINE)
#15 - COAST LIVE OAK, 35' H X 25' W (DRIP LINE)

TS/Civil Engineering, Inc., 2015

FIGURE 3 - Site Plan
341 Bella Vista Avenue
Town of Los Gatos

Kimley»Horn



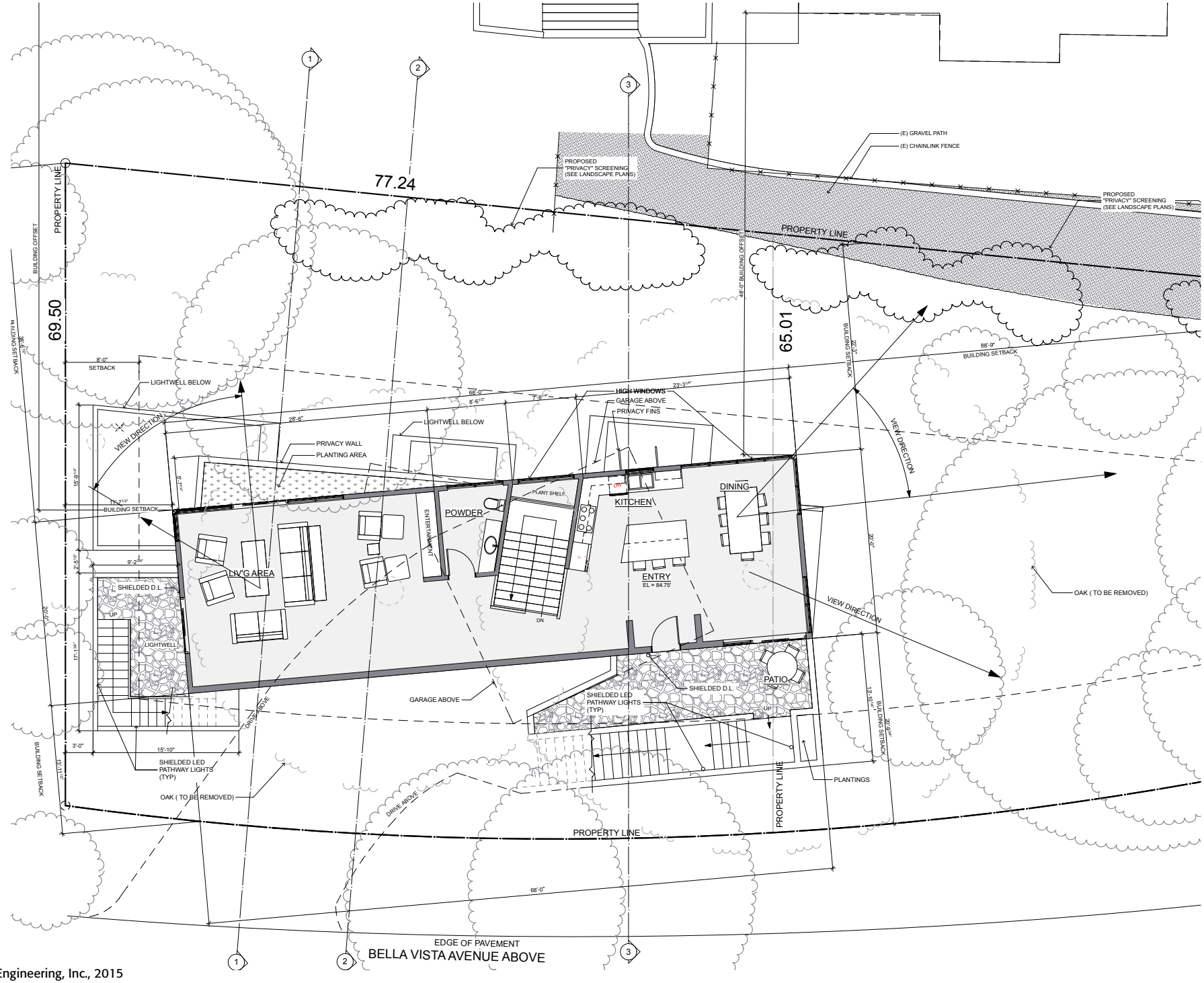
TS/Civil Engineering, Inc., 2015

FIGURE 4 - Garage Floor Plan

341 Bella Vista Avenue

Town of Los Gatos

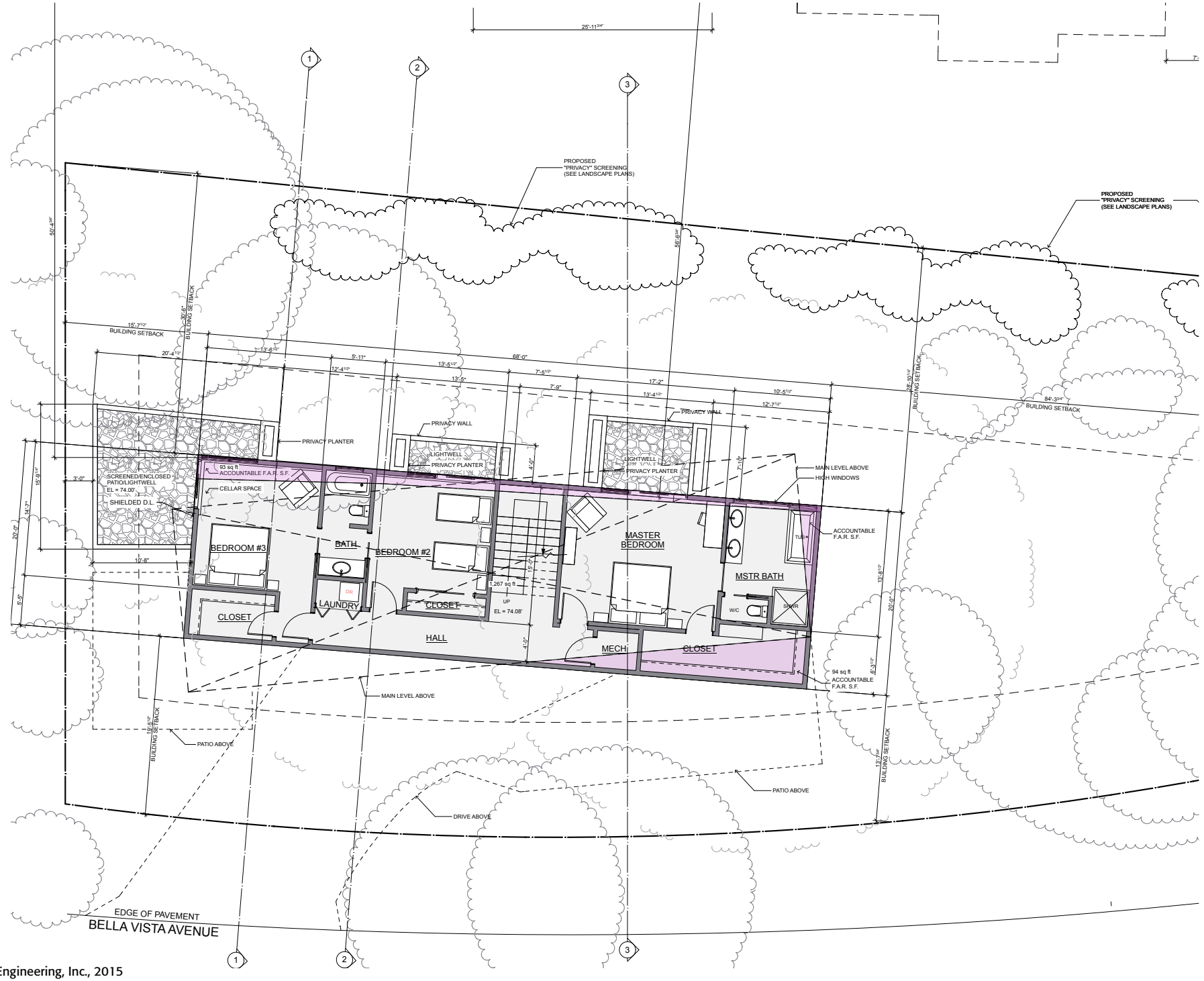
Kimley»Horn



TS/Civil Engineering, Inc., 2015

FIGURE 5 - Main Level Floor Plan
341 Bella Vista Avenue
Town of Los Gatos

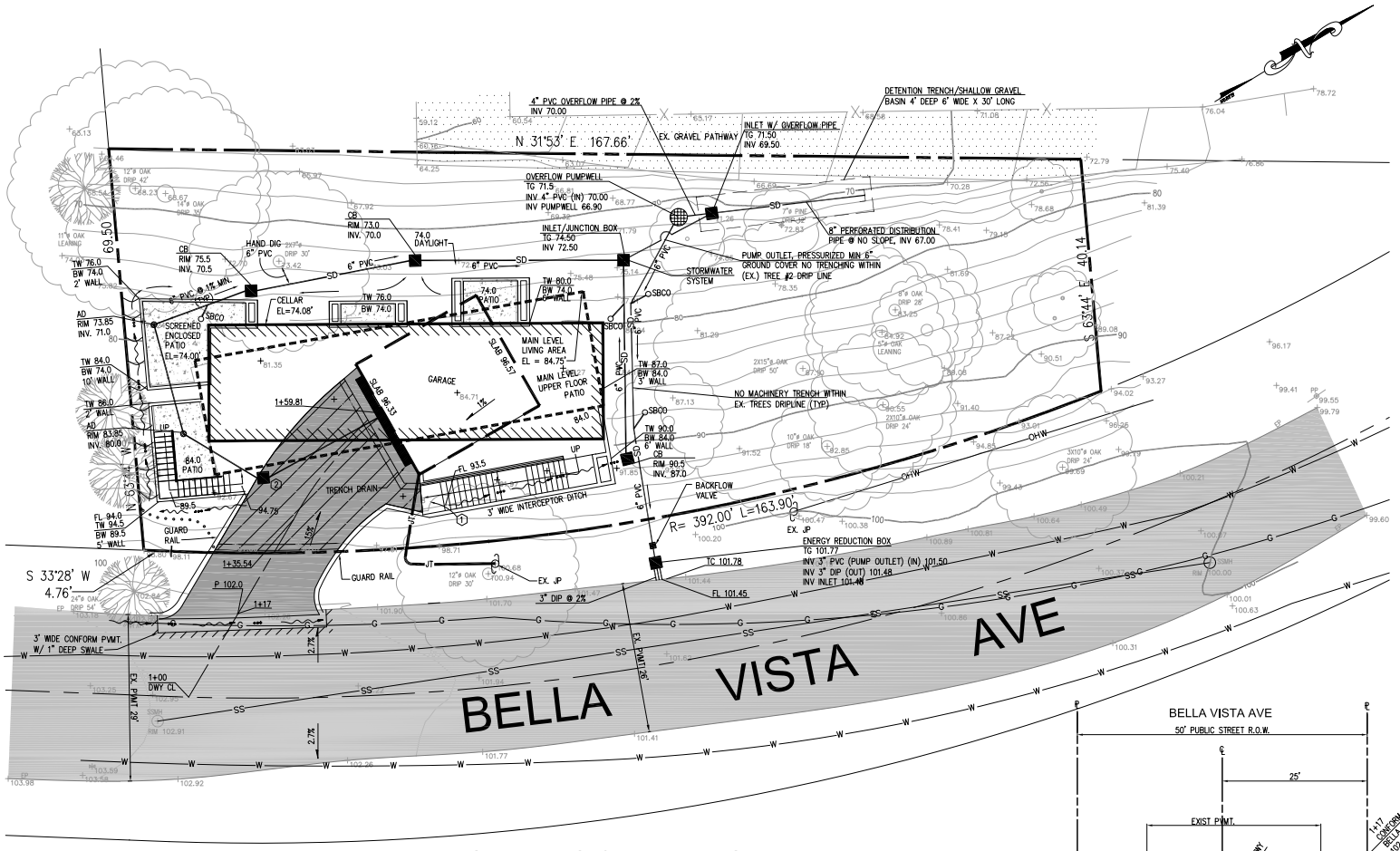
Kimley»Horn



TS/Civil Engineering, Inc., 2015

FIGURE 6 - Lower Level Floor Plan
341 Bella Vista Avenue
Town of Los Gatos

Kimley»Horn



GRADING & DRAINAGE PLAN

SCALE: 1"=10'

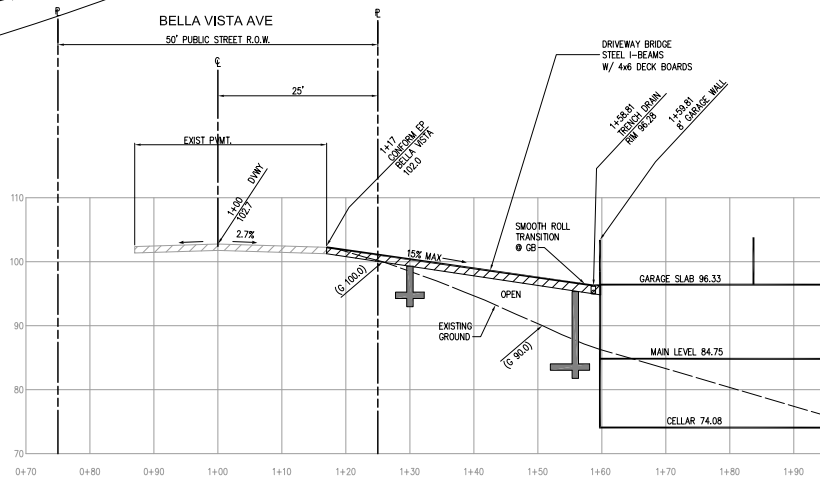
SHEET NOTES:

1. TW 99.0 BW 94.0
2. CB RIM 96.5 BW 94.5 SBCO–SUBDRAIN CLEANOUT

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET) 1" = 10'



DRIVEWAY PROFILE

SCALE: 1"=10' HOR/ VERT.

PERVIOUS AND IMPERVIOUS SURFACES		
	EXISTING CONDITION SITE (SQFT)	P
CELLAR	0	
PATIOS/STAIRS	0	
UPPER FLOOR OVERHANGS	0	
DRIVEWAY	0	
TOTAL	0	

LOT AREA
APN'S 529-23-015 & 016 10,155 SF = 0.233 AC.
AVG. SLOPE: $S = \frac{0.00229\ (10)\ (480)}{0.233} = 47$

ZONING: R-1:8
IMPERVIOUS COVERAGE: 3,083/10,155=30.4%

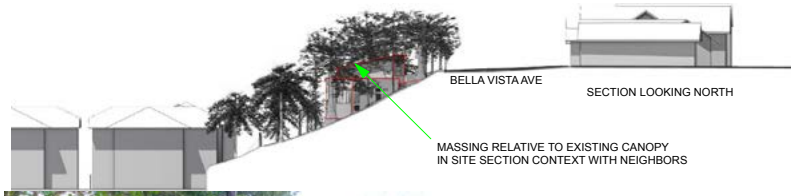
EARTHWORK SUMMARY			
	CUT (CY)	MAX. CUT	FI
CELLAR	554	16'	
PATIOS	59	8'	
DRIVEWAY	–	--	
STAIRWELL	27	8'	
Total	613	X	

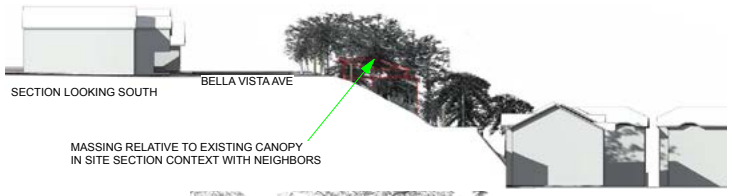
* Approximately 613 CY to be hauled off the site.

TS/Civil Engineering, Inc., 2015

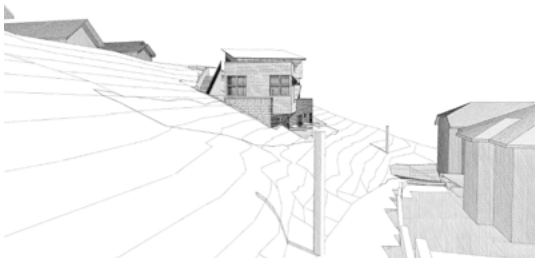
FIGURE 7 - Grading and Drainage Plan
341 Bella Vista Avenue
Town of Los Gatos

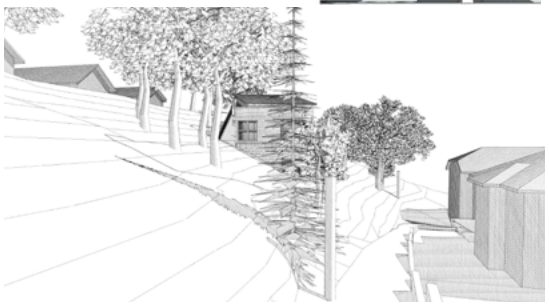
Kimley»Horn



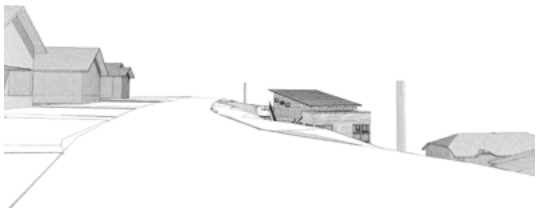



GRAVEL ACCESS PATH HEADED SOUTH (MOST FOLIAGE WILL REMAIN)


GRAVEL ACCESS PATH HEADED SOUTH (TREES REMOVED)

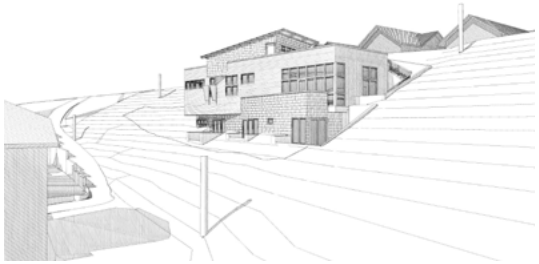

GRAVEL ACCESS PATH HEADED SOUTH (W/ PARTIAL SIMULATED CANOPY)


BELLA VISTA HEADED SOUTH (MOST FOLIAGE WILL REMAIN)


BELLA VISTA HEADED SOUTH (TREES REMOVED)

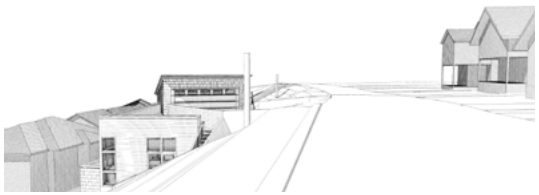

BELLA VISTA HEADED SOUTH (W/ PARTIAL SIMULATED CANOPY)


FROM SOUTH HILLSIDE (MOST FOLIAGE WILL REMAIN)


FROM SOUTH HILLSIDE (TREES REMOVED)


FROM SOUTH HILLSIDE (W/ PARTIAL SIMULATED CANOPY)


BELLA VISTA HEADED NORTH (MOST FOLIAGE WILL REMAIN)

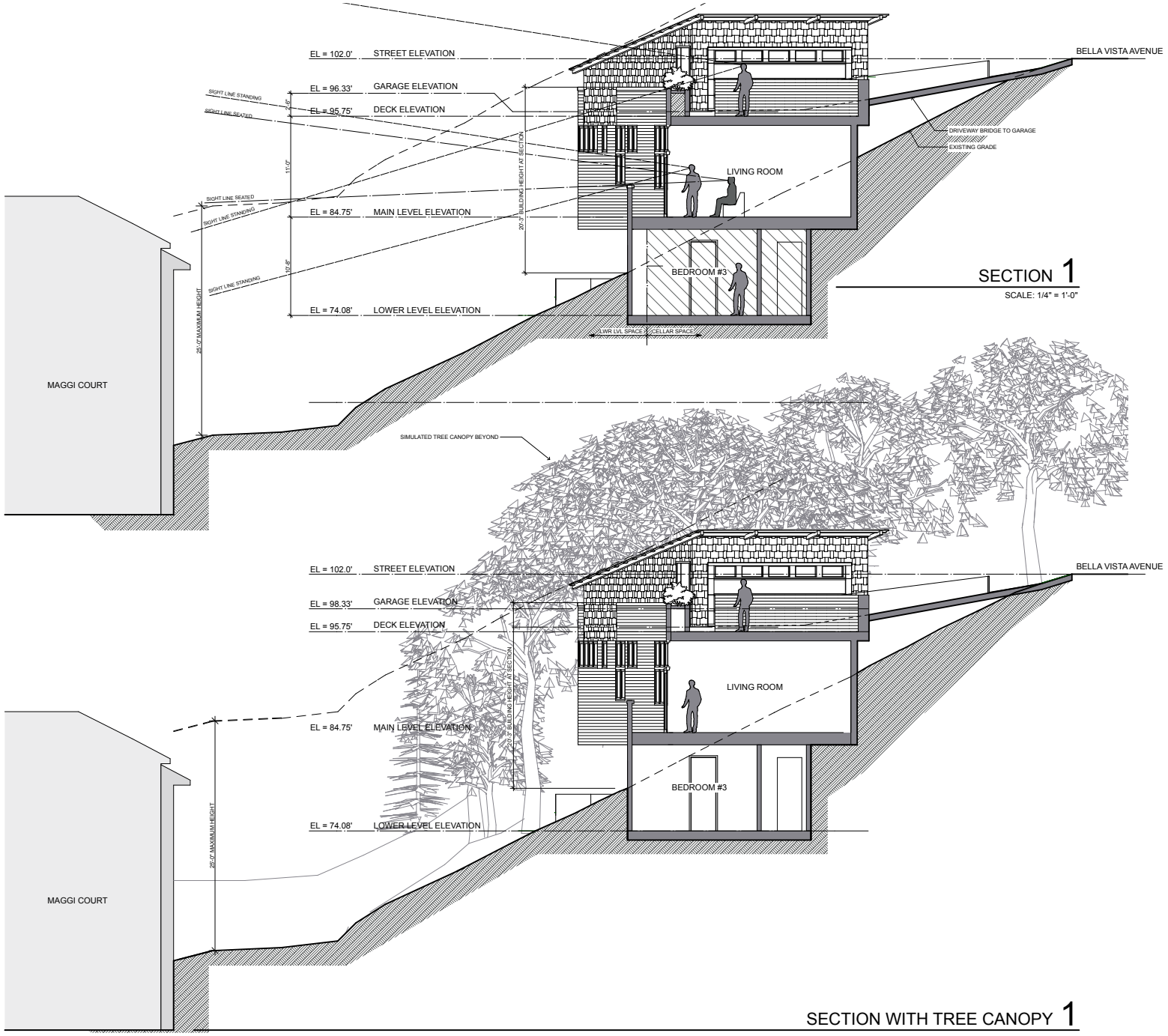

BELLA VISTA HEADED NORTH (TREES REMOVED)


BELLA VISTA HEADED NORTH (W/ PARTIAL SIMULATED CANOPY)

TS/Civil Engineering, Inc., 2015

FIGURE 8 - Building Context Images
341 Bella Vista Avenue
Town of Los Gatos

Kimley»Horn



TS/Civil Engineering, Inc., 2015

FIGURE 9 - Building Elevation Cross-Section
341 Bella Vista Avenue
Town of Los Gatos

Kimley»Horn

VIEW FROM THE SOUTH

VIEW FROM THE NORTH

VIEW LOOKING WEST

BELLA VISTA SOUTHBOUND

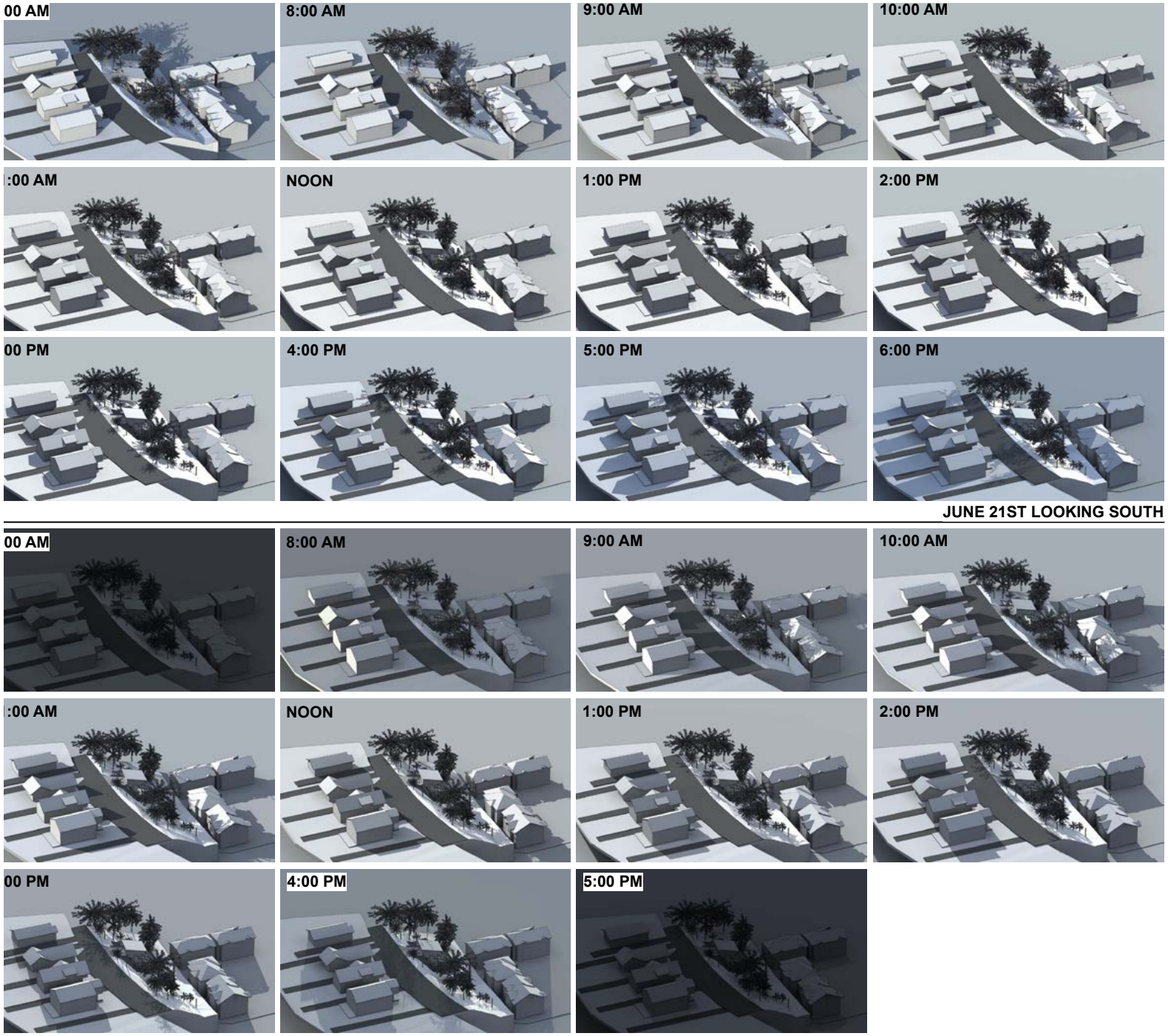
BELLA VISTA NORTHBOUND

AERIAL

ProVisulization, 2015

FIGURE 10 - Conceptual Renderings
341 Bella Vista Avenue
Town of Los Gatos

Kimley»Horn



ProVisulization, 2015

FIGURE 11 - Shadow Study
341 Bella Vista Avenue
Town of Los Gatos

Kimley»Horn

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Less Than Significant With Mitigation Incorporated" as indicated by the checklist on the following pages:

☐ Aesthetics	☐ Agriculture Resources	☒ Air Quality
☒ Biological Resources	☐ Cultural Resources	☒ Geology/Soils
☐ Greenhouse Gases	☐ Hazards & Hazardous Materials	☒ Hydrology/Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☒ Transportation/Traffic	☐ Utilities/Service Systems	

DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Joel Paulson, Interim Director of Community Development — Date: 2/15/16

EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Aesthetics - Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

1a. Scenic Vistas

The project site is not a designated scenic vista on any State, federal, or local listing for designated scenic areas. The project site is not currently used as a public vantage point for observing any scenic views or as any other public vantage point. The project site is located on the west side of Bella Vista Avenue, and homes on the east side of Bella Vista Avenue (316, 320, and 322 Bella Vista Avenue; opposite the site) currently have partially obscured, distant views of the mountains to the west. Existing mature trees on the project site partially screen scenic vistas from these homes, particularly the 45-inch oak tree located in the center of the site and oak tree on the eastern boundary. Since the 45-inch oak would be removed and replaced with a garage, distant views would continue to be obscured (see Figure 10). Therefore, the proposed home would not significantly alter available distant views from homes to east, although views of trees from these homes would change to views of the proposed home. Potential impacts are considered less than significant.

1b. Scenic Resources Within a State Scenic Highway

The closest State Scenic Highway is Highway 9 in the city of Saratoga, approximately ¾ mile west of the subject property. Intervening trees, buildings, and topography obscure or block views of the site from this section of Highway 9. Consequently, the project would have no impact on state scenic highway resources.

1c. Visual Character

Homes along the east side of Bella Vista Avenue in the project vicinity are one and two stories with heights ranging from approximately 15 to 25 feet above street level. As indicated in Figure 9**,** the proposed garage would extend approximately 6.5 feet above street level and the proposed home would be located below the street level. Therefore, only the garage and roof of the proposed home would be visible from Bella Vista. Although the upper deck would be slightly below street level, views of the deck would be obscured by the garage, which would be oriented at an angle to the street. Since the proposed garage would be lower in height than existing adjacent homes and lower than existing adjacent and on-site mature trees to be retained, the proposed home would not substantially alter the existing visual character along Bella Vista.

The project site is located within the area subject to the Town's Hillside Development Standards and Guidelines (HDS&G). The HDS&G requires a "view analysis" for any development project with the potential for being visible from any established viewing platform. Based on photosimulations (Figure 10) prepared by the project applicant's architect and a site visit, it was determined that the proposed home

would not be visible from established viewing platforms. Intervening trees on Caltrans' freeway right-of-way and properties to the west block views of the site from the closest viewing platform located on Los Gatos Saratoga Road at Highway 9. Trees also block views of the site from eastbound Los Gatos Saratoga Road (except for a brief glimpse just west of the Bella Vista overpass).

The proposed project will be subject to design review as part of the Architecture and Site Review process. During this process, the proposed design is evaluated for consistency with the Town's HDS&G. As part of Architecture and Site review, the Town determined that the project would be consistent with the HDS&G policies for site planning, development intensity, architectural design, site elements, and landscape design. The HDS&G emphasizes minimizing grading and preserving natural features (including drainage channels and trees). Three of the site's trees are proposed to be removed to accommodate the proposed home, but trees along the site margins would be retained and landscape screening is proposed along the western project boundary. In addition, the home and outdoor decks/patios would be set into the hill. This design in conjunction with proposed screening would help to minimize the potential for loss of privacy at existing townhomes to the west. For these reasons potential impacts are considered less than significant.

1d. Light or Glare

Outdoor lighting would be provided on the exterior of the home. The proposed home would be located approximately 75 feet from homes to the east (across Bella Vista) and approximately 48 feet from townhomes to the west. Project exterior lighting could illuminate distant nighttime views to the west (overlooking the site) from existing homes to the east, although the 75-foot distance and proposed home's depressed height (below street level) would help minimize the effects of nighttime illumination depending on lighting design. Exterior and interior lighting also could have nighttime illumination effects on existing townhomes to the west, although the intervening distance, home's design (inset into the hill), and proposed landscape screening would minimize the potential for impacts associated with nighttime illumination. Proposed exterior lighting will be specifically reviewed as part of building permit review. To reduce the potential for disturbance due to nighttime lighting, the final plans will need to satisfy Town Code Section 29.10.09035, which prohibits the production of direct or reflected glare (such as that produced by floodlight onto any area outside the project boundary). Therefore, potential impacts from light and glare are considered less than significant.

As shown if Figure 11, the proposed project would not result in any significant change to the patterns of shadows that fall on surrounding properties throughout the year. Most of the shadows are cast north and east away from the existing homes on Maggi Court. The proposed project would not substantially change the existing shadow pattern cast by existing trees (which are higher than the proposed house) on homes along Bella Vista Avenue. Potential impacts from shadows are considered less than significant.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
2. Agriculture and Forestry Resources – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Dept. of Forestry and Fire Protection regarding the state's inventory of forest land, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

2a, 2b, 2c, 2d, 2e. Farmland, Agricultural, and Forestry Uses

The 0.23-acre project site is currently undeveloped, but the site's agricultural and timberland production potential is low due to the small size of the site, existing nearby residential development, and the site's steeply sloping topography. State farmland mapping shows the project site as "Urban and Built-Up Land," indicating that this land has already been converted to non-agricultural use.[1] There are no existing agricultural or forestry uses/operations at or adjacent to the site. The project would have no impact on agricultural or forestry resources.

[1] California Department of Conservation, Division of Land Resources Protection, 2003. *Santa Clara County Important Farmland 2002.* July.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
3. Air Quality - Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

3a. Air Quality Planning

The San Francisco Bay Area Air Basin is classified by the Bay Area Air Quality Management District (BAAQMD) as non-attainment for ozone and inhalable particulates (PM_{10}). To address these exceedances, the BAAQMD, in cooperation with the MTC and ABAG, prepared the Bay Area 2005 Ozone Strategy (BAOS) in September 2005 and Particulate Matter Implementation Schedule (PMIS) in November 2005. The PMIS discusses how the BAAQMD implements the California Air Resources Board's 103 particulate matter control measures. The BAAQMD recently adopted the 2010 Bay Area Clean Air Plan, which updates the BAOS. The consistency of the proposed project with the most recently adopted regional air quality plan, the CAP, is determined by comparing the project's consistency with the Los Gatos General Plan. Since the CAP is based on population projections of the Association of Bay Area Governments (ABAG) that are based on the Town's General Plan in effect at the time the CAP was approved, consistency of the project with the General Plan would indicate consistency with the CAP. The project would be consistent with the use and density allowed on the project site by the Los Gatos General Plan, and therefore, the project would be consistent with the CAP and potential impacts are less than significant.

3b. Air Quality Standards

Regulatory and Planning Framework. The BAAQMD is responsible for attaining and/or maintaining air quality in the San Francisco Bay Area Air Basin (SFBAAB) within Federal and State air quality standards. Specifically, the BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the Basin and to develop and implement strategies to attain the applicable Federal and State standards. In June 2010, the BAAQMD adopted CEQA thresholds of significance and updated its CEQA Air Quality Guidelines, which provides guidance for assessing air quality impacts under CEQA. However, on March 5, 2012, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted the Thresholds. The court issued a writ of mandate ordering the BAAQMD to set aside the Thresholds and cease dissemination of them until the BAAQMD had complied with CEQA. On August 13, 2013, the California Court of Appeal reversed the Alameda County Superior Court judgment that invalidated the BAAQMD's CEQA thresholds of significance. The Court directed that the Superior Court vacate the writ of mandate issued in March

2012, ordering the BAAQMD to set aside its June 2010 resolution (Res. #2010-06) "Adopting Thresholds for Use in Determining the Significance of Projects' Environmental Effects Under the California Environmental Quality Act." Although the California Supreme Court has granted review in the litigation to hear one particular issue of law, the granting of review does not alter the result in the Court of Appeal, though the latter court's decision is no longer a published, citable precedent. And the legal cloud created by the trial court decision no longer exists, local agencies such as the Town of Los Gatos may rely on the BAAQMD thresholds.

Significance Thresholds. Exercising its own discretion as lead agency and similarly to multiple other San Francisco Bay Area jurisdictions, the Town of Los Gatos has decided to rely on the thresholds within the Options and Justification Report (dated October 2009) prepared by the BAAQMD.[2] The BAAQMD Options and Justification Report establishes thresholds based on substantial evidence and are consistent with the thresholds outlined within the 2011 CEQA Air Quality Guidelines. Although BAAQMD failed to comply with CEQA before completing its 2010 recommendations, Town staff believes that these recommendations, which are listed as follows, still represent the best available science on the subject of what constitute significant air quality effects in the SFBAAB:

- NO_X and ROG: 54 pounds/day
- PM_{10}: 82 pounds/day
- $PM_{2.5}$: 54 pounds/day

In addition to establishing the above significance thresholds for criteria pollutant emissions, the BAAQMD also recommended (BAAQMD, 2009) the following quantitative thresholds to determine the significance of construction-related and operational emissions of toxic air contaminants from individual project and cumulative sources on cancer and non-cancer health risks:

- Increased cancer risk of >10.0 in a million for individual projects and >100 in a million (from all local sources) for cumulative sources;
- Increased non-cancer risk of >1.0 Hazard Index (Chronic or Acute) for individual projects and >10.0 Hazard Index (from all local sources) for cumulative sources; and
- Ambient $PM_{2.5}$ increase: >0.3 $\mu g/m^3$ annual average for individual projects and >0.8 $\mu g/m^3$ annual average (from all local sources) for cumulative sources.

Project Emissions. The BAAQMD prepared screening criteria in both the 1999 and 2011 BAAQMD CEQA Guidelines.[3] These screening criteria were developed by the BAAQMD to indicate the minimum development size (by land use category) at which air pollutant emissions could exceed the above significance thresholds and potentially significant air quality impacts could occur. The 1999 BAAQMD CEQA Guidelines indicated that a project with 320 single-family units was identified as the project size which was likely to result in significant operational air quality impacts. The 2011 BAAQMD Guidelines included the following screening criteria for single-family residential use based on the above thresholds: 325 single-family units for operational emissions and 114 units for single-family residences for construction emissions. The 2011 BAAQMD Guidelines also specified that the project must also meet two other criteria: (1) the BAAQMD's Basic Construction Mitigation Measures must be implemented during construction; and (2) the project does not include demolition, simultaneous occurrence of more

[2] Bay Area Air Quality Management District, 2009. *Revised Draft Options and Justification Report.* October. Available online at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx.

[3] Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines.* Updated May 2011 and May 2012. Available online at http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx.

than two construction phases, simultaneous construction of more than one land use type; extensive site preparation; or extensive material transport (more than 10,000 cubic yards of soil). With implementation of Mitigation Measure AQ-1, the project would meet these criteria, and the project's air quality impacts would be less than significant.

3c. Cumulative Air Quality Impacts

To address cumulative impacts on regional air quality, the BAAQMD has established thresholds of significance for construction-related and operational criteria pollutants and precursor emissions. These thresholds represent the levels at which a project's individual emissions of criteria pollutants and precursors would result in a cumulatively considerable contribution to the SFBAAB's existing air quality conditions. If daily average or annual emissions exceed these thresholds, the project would result in a cumulatively significant impact. Since the project's construction-related and operational criteria pollutant emissions would not exceed BAAQMD significance thresholds, the project's contribution is considered to be less than cumulatively considerable.

3d. Exposure of Sensitive Receptors

The California Air Resources Board (CARB) regulates vehicle fuels with the intent to reduce emissions. Diesel exhaust is a serious concern throughout California. The CARB identified diesel engine particulate matter as a toxic air contaminant and human carcinogen. In 2005, the CARB approved a regulatory measure to reduce emissions of toxic and criteria pollutants by limiting the idling of new heavy-duty diesel vehicles, which altered five sections of Title 13 of the California Code of Regulations. The changes relevant to the proposed project are in Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, which limit idling of a vehicle's primary diesel engine for greater than five minutes in any location (with some exceptions) or operation of a diesel-fueled auxiliary power system within 100 feet of residential areas.

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. The CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. Adjacent residences are considered to be the closest sensitive receptors to project construction.

Operation of the proposed residence would not generate toxic air contaminants (TACs) that would pose a health risk to adjacent or nearby uses. However, during project construction, combustion emissions from operation of off-road construction equipment on the project site would be generated and could expose adjacent and nearby receptors to diesel particulate matter (DPM). Based on screening-level health risk analyses completed for larger projects in town, DPM emissions would not exceed the above significance thresholds for cancer and non-cancer health risks. As such, the potential health risks from TACs from construction activities would be less than significant for the adjacent residences and the existing dialysis center located near Alberto Way[4].

In addition to the above project-related construction-related risk and hazard impacts, the BAAQMD CEQA Guidelines recommend that cumulative health risks be evaluated for affected sensitive receptors in

[4] Construction of 22 single-family residences on a 1.9-acre site located at 16213 Los Gatos Boulevard was estimated to generate annual average $PM_{2.5}$ emissions of approximately 0.08 $\mu g/m^3$ (threshold is 0.3 $\mu g/m^3$), pose an excess cancer risk of 0.0002 for infants (threshold is 10), and pose a non-cancer chronic hazard index of 0.015 (threshold is >1.0). (Town of Los Gatos, 2011. *Initial Study, 16213 Los Gatos Boulevard, Los Gatos, California, Planned Development Application PD-10-004, Negative Declaration ND-10-002.* August.)

the project vicinity. The BAAQMD's stationary source tool [5] indicates that there are no stationary sources within 1,000 feet of the project site. With no significant health risks identified from cumulative sources within 1,000 feet of the site, the project's contribution to health risks from DPM emissions would be less than cumulatively considerable, a less than significant impact.

With regard to roadway sources of TACs, Highway 17 is located approximately 1,000 feet west of the project site. The BAAQMD Roadway Screening Analysis Calculator was used to calculate potential health risks based on the BAAQMD thresholds described in Section 3b above. Table 1, *Risk Screening Analysis*, shows the results of the calculation and that potential risks are below the threshold and considered less than significant.

Table 1 - Risk Screening Analysis

Roadway	Lifetime Excess Cancer Risk (in a million)	Chronic Hazard Index	$PM_{2.5}$ Concentration ($\mu g/m^2$)
Highway 17	1.11	0.027	0.025
Total Risk From All Local Sources	1.11	0.027	0.025
Threshold	100	10	0.8
Exceeds Threshold?	No	No	No
Source: BAAQMD 2015			

3e. Odors

According to the BAAQMD CEQA Guidelines, land uses associated with odor complaints typically include wastewater treatment plants, landfills, confined animal facilities, composting stations, food manufacturing plants, refineries, and chemical plants. The project would not include any uses identified by the BAAQMD as being associated with odors. No new or unusual sources of nuisance odors would be associated with the proposed residence. Therefore, the project's potential for nuisance odor problems would be less than significant.

During project construction, however, nuisance diesel odors associated with operation of diesel construction equipment on-site would exist (primarily during initial grading phases), but this effect would be localized, sporadic, and short-term in nature. Therefore, temporary impacts from nuisance diesel odors on adjacent residential receptors would be less than significant.

Mitigation Measures – Air Quality (AQ)

Although the project's construction-related air pollutant emissions would not exceed the BAAQMD's applicable significance thresholds, the following measures are recommended by the BAAQMD to reduce the project's construction emissions:

AQ-1: *To limit the project's construction-related dust and criteria pollutant emissions, the following BAAQMD-recommended Basic Construction Mitigation Measures shall be included in the project's grading plan, building plans, and contract specifications:*

[5] Bay Area Air Quality Management District, 2010. *Recommended Methods for Screening and Modeling Local Risks and Hazards.* May. Available online at http://www.baaqmd.gov/Home/Divisions/Planning%20and%20Research/CEQA%20GUIDELINES/Tools%20and%20Methodology.aspx.

a. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. Recycled water should be used wherever feasible.

b. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

c. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

d. All vehicle speeds on unpaved roads shall be limited to 15 mph.

e. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible.

f. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

g. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

h. Post a publicly visible sign with the telephone number and person to contact at the Town regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4. Biological Resources - Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

4a – 4d. Special-Status Species, Sensitive Habitat/Communities, Wetlands, Fish and Wildlife Movement, Corridors, and Nursery Sites

The project site consists of a steeply sloping hillside vegetated with coast live oaks (*Quercus agrifolia*) and an understory of vinca (*Vinca major*), an ornamental groundcover. A large number of the trees present on the site are the result of regrowth from the stumps of trees previously cut on the property.

Within the project area, oak woodland habitat also provides nesting habitat for special-status bird species, as well as many other migratory bird species. Site clearing activities (*e.g.,* grubbing, grading, trenching, and tree removal or pruning) could result in direct or indirect impacts to nesting birds by causing the destruction or abandonment of occupied nests. Direct and indirect impacts on special-status and migratory bird species would be considered significant under CEQA guidelines. However, implementation of Mitigation Measure BIO-1 would reduce significant impacts on special-status and migratory bird species to a less than significant level.

Construction activities in the vicinity of occupied bat roosts could result in the destruction of the occupied roosts of special-status bat species. In addition, disturbance during the maternity roosting season could result in potential roost abandonment and mortality of young. Direct and indirect impacts to special-status bat species would be considered significant under CEQA guidelines. However, implementation of the Mitigation Measure BIO-2 would reduce significant impacts on special-status bat species to a less than significant level.

4e. Tree and Biological Protection Ordinances

Compliance with the Town's Tree Protection Ordinance would ensure that trees removed or damaged by proposed development would be replaced. With project implementation, there are three protected trees that would be removed (shown in Figure 3), which includes three protected oaks (Trees 1, 2, and 15 as identified in the project Arborist Report dated September 24, 2014. This report is included as Attachment 1 and is on file at the Los Gatos Community Development Department). The project would also require the removal of three protected non-native/non-protected trees.

In accordance with the Town's Trees Protection Ordinance, the proposed removal of seven trees would require planting of approximately thirty 24-inch box-size trees or equivalent. The ordinance allows payment of in-lieu fees for those trees not planted on-site. In addition, the project applicant and future lot owners will be required to comply with the Los Gatos Tree Protection Ordinance, including standard tree protection measures during construction. With the required conformance with the Town's Tree Protection Ordinance, the project would not conflict with any local ordinances or policies protecting trees. Potential impacts are considered less than significant.

4f. Habitat Conservation Plans

The proposed project would not be in conflict with any approved local, regional, or state habitat conservation plan. The project would have no impact on habitat conservation plans.

Mitigation Measures – Biological Resources (BIO)

BIO-1: Special-status and Migratory Bird Species.

In order to avoid impacts to special-status and migratory bird species during project implementation, the measures outlined below shall be implemented. With the incorporation of the following measures, significant impacts on these species would be avoided.

Prior to the issuance of any grading permits or improvements plans, the applicant shall submit to the satisfaction of the Director of Community Development, evidence that the following measures have been completed or have been incorporated into the construction documents.

f. The removal of trees and shrubs shall be minimized to the extent feasible.

g. If tree removal, pruning, grubbing and demolition activities are necessary, such activities shall be conducted outside of the breeding season (i.e., between September 1 and January 31), to avoid impacts to nesting birds.

h. If tree removal, pruning, grubbing and demolition activities are scheduled to commence during the bird breeding season (i.e., between February 1 and August 31), a preconstruction survey shall be conducted by a qualified biologist no more than two weeks prior to the initiation of work. The preconstruction survey shall include the project footprint and up to a 300-foot buffer, access and sight-lines permitting. If no active nests of migratory birds are found, work may proceed without restriction and no further measures are necessary. If work is delayed more than two weeks, the preconstruction survey shall be repeated, if determined necessary by the project biologist.

i. If active nests (i.e. nests with eggs or young birds present, or hosting an actively breeding adult pair) of special-status or migratory birds are detected, the project biologist shall designate non-disturbance buffers at a distance sufficient to minimize disturbance based on the nest location, topography, cover, species, and the type/duration of potential disturbance. No work shall occur within the non-disturbance buffers until the young have fledged, as determined by a qualified biologist. The appropriate buffer size shall be determined in cooperation with the CDFW and/or the USFWS. If, despite the establishment of a non-disturbance buffer it is determined that project activities are resulting in nest disturbance, work shall cease immediately and the CDFW and the USFWS shall be contacted for further guidance.

j. If project activities must occur within the non-disturbance buffer, a qualified biologist shall monitor the nest(s) to document that no take of the nest (i.e., nest failure) will result. If it is determined that project activities are resulting in nest disturbance, work shall cease immediately and the CDFW and the USFWS shall be contacted for further guidance.

BIO-2: Special-status Bats.

In order to avoid impacts to special-status bat species during project implementation, the measures outlined below shall be implemented. With the incorporation of the following measures, significant impacts on these species would be avoided.

Prior to the issuance of any grading permits or improvements plans, the applicant shall submit to the satisfaction of the Director of Community Development, evidence that the following measures have been completed or have been incorporated into the construction documents.

d. Prior to the removal or significant pruning of trees and the demolition of buildings, a qualified bat biologist shall assess them for the potential to support roosting bats. Suitable bat roosting sites include trees with snags, rotten stumps, and decadent trees with broken limbs, exfoliating bark, cavities, and structures with cracks, joint seams and other openings to interior spaces. If there is no evidence of occupation by bats, work may proceed without further action.

e. If suitable roosting habitat is present, the bat biologist shall recommend appropriate measures to prevent take of bats. Such measures may include exclusion and humane eviction (see "c" below) of bats roosting within structures during seasonal periods of peak activity (e.g., February 15 - April 15, and August 15 - October 30), partial dismantling of structures to induce abandonment, or other appropriate measures.

f. *If bat roosts are identified on the site, the following measures shall be implemented:*

- *If non-breeding/migratory bats are identified on the site within a tree or building that is proposed for removal, then bats shall be passively excluded from the tree or building. This is generally accomplished by opening up the roost area to allow airflow through the cavity/crevice, or installing one-way doors. The bat biologist shall confirm that the bats have been excluded from the tree or building before it can be removed.*

- *If a maternity roost of a special-status bat species is detected, an appropriate non-disturbance buffer zone shall be established around the roost tree or building site, in consultation with the CDFW. Maternity roost sites may be demolished only when it has been determined by a qualified bat biologist that the nursery site is not occupied. Demolition of maternity roost sites may only be performed during seasonal periods of peak activity (e.g., February 15 - April 15, and August 15 - October 30).*

- *No additional mitigation for the loss of roosting bat habitat is required.*

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
5. Cultural Resources - Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☒
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐	☒

5a. Historical Resources

The project site is vacant with no structures on the property. Therefore, no significant impacts on historic resources would result from the project implementation.

5b. Archaeological Resources and Human Remains

The project site is undeveloped and the potential for encountering cultural resources during project construction would be low due to the site's relatively steep topography and the site's elevated location away from creeks. There is typically a higher potential for encountering archaeological resources in areas adjacent to or near a river or creek. Therefore, potential impacts are considered less than significant.

5c. Paleontological Resources

Paleontological resources are the fossilized remains of plants and animals, including vertebrates (animals with backbones), invertebrates (e.g., starfish, clams, ammonites, and marine coral), and fossils of microscopic plants and animals (microfossils). The age and abundance of fossils depend on the location, topographic setting, and particular geologic formation in which they are found. Fossil discoveries not only provide a historic record of past plant and animal life, but may assist geologists in dating rock formations. A review of records maintained by the University of California Museum of Paleontology in Berkeley indicates that the closest paleontological resources recorded in Santa Clara County occur approximately 15.5 miles west of Los Gatos. These resources were discovered in geologic strata dating from the Late Pliocene and Miocene epochs of the Tertiary Period (65 to 1.8 million years ago).

The geotechnical investigation for the project site indicates the site is underlain by Pleistocene Older Alluvial Fan deposits. These deposits are younger in age than those containing the recorded paleontological resources. Consequently, the potential for encountering paleontological resources would be low, a less than significant impact.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. Geology and Soils - Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☒	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

6a through 6e: The project site slopes downhill toward the west with slopes averaging 53 percent. The proposed grading plan estimates that approximately 692 cubic yards (cy) would be cut and exported from the project site. Town requirements will include provision of an interim and final erosion control plans. Such measures would reduce potential erosion hazards to a less-than-significant level.

A review of the Town's hazards maps[6] indicates that the project site has no erosion potential (but located adjacent to an area with high erosion potential), moderate shrink-swell potential, slope stability hazard (due to slope steepness), high potential for fault rupture, and moderate potential for seismic shaking. Very low liquefaction and no debris flow hazards were identified for the site. The Town's Fault Map indicates that the site is located approximately 500 feet north of a concealed fault.[7]

A geologic and geotechnical study was completed for the project by Upp Geotechnology.[8] This study is included as Attachment 2 and copies are of this study are on file at the Los Gatos Community Development Department. This study was peer reviewed by the Town's Geotechnical Consultant, AMEC Foster Wheeler. These investigations involved review of available geologic maps and aerial photographs, drill test borings, and laboratory soils testing. These investigations concluded that the site has a low potential for liquefaction and lateral spreading. These studies also indicate that the site does not present any signs of slope instability hazards such as colluvium-filled swales, undercut cliffs or banks, or areas with recent evidence of landsliding. These analyses recommend that a soldier pile retaining/debris wall be constructed on the east side (upslope side) of the building footprints to keep the Bella Vista right-of-way stable during excavation and construction.

The site lies within the seismically active Bay Area, but is not within any of the "Earthquake Fault Zones" established by the Alquist-Priolo Earthquake Fault Zoning Act of 1972. The project would be subject to strong groundshaking in the event of an earthquake, with a low potential for ground rupture at the site. The geotechnical study indicates the closest known faults are traces of the potentially active Shannon and Berrocal fault zones located about 500 feet and 1,000 feet, respectively, southwest of the project site. The active San Andreas fault zone is located about 3.25 miles southwest of the property. The potential for fault ground rupture on the project site is considered to be low because of the distance from these faults. However, the subject property will be subject to very strong to violent ground shaking during a future large earthquake on the nearby San Andreas fault zone, or on one of the other major active faults zones in the region. It should be noted that most of the Bay Area as well as surrounding residences are subject to groundshaking hazards. Compliance with seismic design parameters per the Uniform Building Code would be adequate to address regional seismic safety concerns such as groundshaking. To ensure site specific geotechnical-related design considerations are implemented with project description, mitigation is required to ensure potential seismic and landslide related hazards are reduced to less than significant.

Expansive soils, including those defined in Table 18-1-B of the Uniform Building Code, with the potential to create substantial risk to life and property were not identified on the project site. Potential impacts from expansive soils are considered less than significant.

Additionally, the project will be connected to public sanitary sewer system and will not use onsite septic systems or any other wastewater disposal system and would have no impact on soils onsite with regard to treating wastewater.

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[6] Nolan Associates, 1999. *Draft Erosion Potential Map, Shrink-Swell Potential of Soils, Slope Stability Hazard Map, Debris Flow Hazard Map, Liquefaction Hazard Zones Map, Seismic Shaking Hazards Map, Geologic Map, Fault Rupture Hazard Zones Map for the Town of Los Gatos General Plan Update.* January 17.

[7] Nolan Associates, 1999. *Draft Fault, Lineament & Coseismic Deformation Map for the Town of Los Gatos General Plan Update.* January 17.

[8] UPP Geotechnology, 2015. *Updated Geologic and Geotechnical Study, Proposed Residential Development, Ross Property, 339 and 341 Bella Vista Avenue, Los Gatos, California.* June 25.

Mitigation Measures – Geology and Soils (GEO)

Given the extent of grading proposed and the extensive portion of the home that would be located below grade, the following measure shall be required to reduce identified potentially significant geologic, soils, and geotechnical constraints to less-than-significant levels:

GEO-1: Geotechnical Report Recommendations.

The project applicant shall implement all of the recommendations of the project geotechnical report, and any associated updates or revisions, related to site preparation and grading, foundation design, driveways, retaining walls, and drainage improvements. To ensure correct implementation, the geotechnical engineer shall review project plans and observe geotechnical-relevant aspects of proposed initial construction of roads and infrastructure. The geotechnical engineer shall submit an "as built" letter to the Director of Parks and Public Works stating that the project has been constructed in conformance with the recommendations of the geotechnical report.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
7. Greenhouse Gases - Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

"Greenhouse gases" (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as "global warming." These greenhouse gases contribute to an increase in the temperature of the earth's atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

Significance Thresholds and Criteria. Exercising its own discretion as lead agency and similarly to other San Francisco Bay Area jurisdictions, the Town of Los Gatos has decided to rely on the thresholds within the Options and Justification Report (dated October 2009) prepared by the BAAQMD.[9] The BAAQMD Options and Justification Report establishes thresholds based on substantial evidence and are consistent with the thresholds outlined within the BAAQMD's 2011 CEQA Air Quality Guidelines[10] BAAQMD's recommended thresholds are as follows:

- Compliance with a Qualified Climate Action Plan or

[9] Bay Area Air Quality Management District, 2009. *Revised Draft Options and Justification Report.* October. Available online at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx.

[10] Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines.* Updated May 2011 and May 2012. Available online at http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Updated-CEQA-Guidelines.aspx.

- Meet one of the following thresholds:
  - 1,100 MT CO_2e per year; or
  - 6.7 MT CO_2e per capita per year (residential) / 4.6 MT CO_2e per service population per year (mixed use)

For purposes of this report, project compliance with the 1,100 MT CO_2e/year threshold is used as the primary basis to determine significance. The project's consistency with operative goals and policies of the Sustainability Plan that are designed to avoid environmental impacts also is analyzed as a secondary basis for assessing significance. To fully implement the Sustainability Plan, though, the Town Council must take a number of future steps, such as adopting a Green Building Ordinance and developing GreenPoint Rated Building Guidelines. Consistency of any proposed project or program with the Sustainability Plan is one of the criteria used to determine the significance of a project's GHG emissions under CEQA. Because many of the Plan's most stringent aspects will only become fully operational when such future measures are in place, however, compliance with existing Sustainability Plan requirements, by itself, is not sufficient at this time to support a determination that a project's greenhouse gas emissions are less than significant by definition.

7a. Greenhouse Gas (GHG) Emissions

Implementation of the proposed project would contribute to long-term increases in greenhouse gases (GHGs) from direct sources (traffic increases and minor secondary fuel combustion emissions from space heating). Development occurring as a result of the proposed project would also result in other indirect operational increases in GHG emissions as a result of electricity generation to meet project-related increases in energy demand. Electricity generation in California is mainly from natural gas-fired power plants. However, since California imports about 20 to 25 percent of its total electricity (mainly from the northwestern and southwestern states), GHG emissions associated with electricity generation could also occur outside of California. Space or water heating, water delivery, wastewater processing and solid waste disposal also generate GHG emissions. Short-term GHG emissions would also be generated by project-related construction activities.

The BAAQMD does not have a quantitative significance threshold for construction-related GHG emissions, but the project's construction-related emissions are expected to have a less-than-significant impact on global climate change based on the project's small size and GHG modeling results done for larger projects.[11] The proposed project would also be subject to the existing CARB regulation (Title 13 of the California Code of Regulations, Section 2485), which limits idling of diesel-fueled commercial motor vehicles, and compliance with this regulation would further reduce GHG emissions associated with project construction vehicles (compliance with idling limits is required under Mitigation Measure AQ-1 in Section 3, Air Quality).

Operational GHG emissions associated with the proposed single-family residences is also expected to be less than significant given the project's small size and GHG modeling results done for larger projects.[12] In

[11] GHG modeling completed in November 2013 for an 8-unit residential project on 0.75 acres located at 258 Union Avenue indicated that construction activities would generate up to approximately 63.3 metric tons of CO_2-equivalents (MT CO_2e), well below the BAAQMD's operational threshold of 1,100 MT CO_2e per year, indicating that the project's construction-related GHG emissions would be less than significant. (Source: Town of Los Gatos, 2011. *Initial Study, 258 Union Avenue, Los Gatos, California, Conditional Use Permit Application U-13-012, Negative Declaration ND-13-002.* November.)

[12] GHG modeling completed in November 2013 for an 8-unit residential project on 0.75 acres located at 258 Union Avenue indicated that project operation would generate up to approximately 114 MT CO_2e, well below the BAAQMD's operational threshold of 1,100 MT CO_2e per year, indicating that the project's operational GHG emissions would be less than significant.

the 2011 BAAQMD CEQA Guidelines, the BAAQMD developed screening criteria to indicate the minimum development size (by land use category) at which GHG emissions could exceed the above thresholds and a potentially significant GHG impact could occur. In the 2011 Guidelines, the BAAQMD's operational GHG screening criterion for single-family residences was 56 units, and the proposed project would fall well below this criterion. Therefore, the project's operational GHG emissions are considered to be less than significant.

7b. Greenhouse Gas Reduction Plans, Policies, and Regulations

California has passed a number of bills related to GHG emissions and the Governor has signed at least three executive orders regarding greenhouse gases. The Governor's Office of Planning and Research has not yet established CEQA significance thresholds for GHG emissions. GHG statutes and executive orders (EO) include EO S-1-07, EO S-3-05, EO S-13-08, EO S-14-08, EO S-20-04, EO S-21-09, AB 32, AB 341, AB 1493, AB 3018, SB 97, SB375, SB 1078 and 107, SB 1368, and SB X12. AB 32 establishes regulatory, reporting, and market mechanisms to reduced statewide GHG emissions to 1990 levels by 2020. Pursuant to this requirement, the California Air Resources Board (CARB) adopted its Scoping Plan, which contains the main strategies to achieve required reductions by 2020.

In October 2012, the Town of Los Gatos adopted a Sustainability Plan, which outlines communitywide GHG emission reduction measures necessary to achieve the goals of AB 32 for the entire community. The Plan contains measures that are projected to reduce GHG emissions in Los Gatos. However, because the Town has not yet established additional new requirements for discretionary projects that would ensure consistency with GHG reduction measures listed in the Sustainability Plan (i.e., under Measure GB-1, the Town has not yet adopted a Green Building Ordinance that would require projects to achieve energy efficiencies that are 30% greater than those required by the 2008 version of Title 24, nor has it established new requirements under Measure WW-1 regarding watering timing, water-efficient irrigation equipment, water-efficient fixtures, and offsetting demand so that there is no net increase in imported water use). Therefore, only measures that would pertain to the proposed residential project and could be implemented at this time are considered in this report and they are listed as follows:

Green Building Quantified Measures

- *GB-2 – GreenPoint Rated Building Guidelines: Require all new and significantly remodeled homes to follow the Town's adopted GreenPoint Rated Building Guidelines. Significantly remodeled homes include remodels of 50 percent or more of the square footage or wall area of the home, and additions of 50 percent or more of the square footage or wall area of the home.*

Green Building Non-Quantified Measures

- *GB-4 Solar Orientation: Require measures that reduce energy use through solar orientation by taking advantage of shade, prevailing winds, landscaping, and sun screens.*

Energy Conservation Quantified Measures

- *EC-1 – Energy-Efficient Appliances and Lighting: Require new development to use energy-efficient appliances that meet ENERGY STAR standards and energy-efficient lighting technologies that exceed Title 24 standards by 30 percent.*

Water and Wastewater Non-Quantified Measures

- *WW-3 – Bay Friendly Landscaping: Require new development to use native plants or other*

(Source: Town of Los Gatos, 2011. *Initial Study, 258 Union Avenue, Los Gatos, California, Conditional Use Permit Application U-13-012, Negative Declaration ND-13-002.* November.)

appropriate non-invasive plants that are drought-tolerant, as described in the Bay Friendly Landscaping Guidelines, available at StopWaste.org and BayFriendlyCoalition.org.

A GreenPoint Rated Checklist was completed for the project. The checklist was created and currently administered by a third party non-profit organization with the mission of promoting healthy and energy and resource efficient buildings in California. The checklist tracks green building features in the following categories, Community, Energy, Indoor Air Quality/Health, Resources, and Water. For a new single family home a minimum number of 50 points mush be achieved including a certain minimum number of points for each category. The proposed project scored 70 points and met all of the category minimums. A copy of the checklist is included as Attachment 3 and is on file at the Los Gatos Community Development Department.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
8. Hazards and Hazardous Materials - Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

8a – 8g. Transport, Use, or Disposal of Hazardous Materials, Release of or Exposure to Hazardous Materials, Hazardous Emissions or Use of Extremely Hazardous Materials within ¼-mile of a School, Airports/Airstrips, Emergency Plans, Wildland Fire Hazards

The project site is not included on any Hazardous Wastes and Substances Sites List.[13] No significant public health risks are anticipated since the project site is undeveloped. There are no known previous uses on the site that would pose the potential for public health risks or presence of contaminants at the site. The proposed project would be developed as a single-family residential development and is not expected to transport, use, or dispose of significant amounts of hazardous materials. Once the proposed project is constructed, hazardous materials would be limited to those associated with property maintenance and residential operations. These include household common fertilizers, pesticides, paint, solvent, and petroleum products. Because these materials would be used in very limited quantities, they are not considered a significant hazard to the public. Potential impacts associated with the proposed project are, therefore, considered less than significant.

Any future school developed within the surrounding area would be subject to the oversight of the California Department of Toxic Substances Control, as required by State law. There are no airport-related facilities in the existing Town limits. No impact would occur in regards to an airport safety hazard for people residing and working in the project area since no such facilities exist within the project vicinity.

The proposed project would not impair or physically interfere with an adopted emergency response or evacuation plan because the project does not include any actions that would interfere with emergency response and evacuation plan policies adopted by the Town or other emergency agency responsible for emergency preparedness. Furthermore, primary access to all major roads would be maintained during construction of the proposed project. Therefore, no associated impacts would occur.

The proposed project would not expose people or structures to a risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands. The proposed project is located in an urban area, surrounded by existing development including mostly irrigated vegetation. There is only a limited fire threat to the project site and the proposed project would not increase the risk of wildland fires. Therefore, the project would have no impact on increasing wildland fire risk.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
9. Hydrology and Water Quality - Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒

[13] Town of Los Gatos Development Application Supplement, Hazardous Wastes and Substances Statement for 339 Bella Vista Avenue (APN 529-23-015), Los Gatos, May 11, 2006.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☐	☒
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

9a – 9j. Water Quality, Groundwater Resources, Drainage, Flood Hazards

Storm Drainage. According to the Erosion Control Plan prepared for the proposed project, potential water quality impacts could include short-term construction-related erosion/sedimentation and long-term operational stormwater discharge. If not managed properly, grading and construction activities could cause soils and other pollutants to enter the storm drain system. During heavy rains, this may degrade stormwater quality at downstream locations. To minimize water quality impacts associated with the proposed project, construction activities would be required to comply with a Storm Water Pollution Prevention Plan (SWPPP) consistent with the General Permit for Stormwater Discharge Associated with Construction Activity (Construction Activity General Permit). Additionally, the proposed project would also implement at least one of six stormwater control measures such as Low Impact Development (LID) and Best Management Practices (BMP's) per the Town's Municipal Regional Permit (MRP) Section C.3.iii.

At present, the 0.23-acre project site is undeveloped. The proposed residence would result in development of 3,083 s.f. of impervious surfaces (building, driveway, and porch), covering 30.4 percent of the site. Such a small increase in extent of impervious surfaces would not be expected to result in a significant change in downstream peak surface flows or runoff volumes from the project site.

Runoff from the roof of the proposed residence and garage would collect in gutters and discharge via downspouts to splashblocks at the base of the residence. All surface flows would be directed away from buildings into drainage swales, storm drain inlets, and drainage systems. Project drainage plans indicate that overland flows would collect in six storm drain inlets around the residence. Six-inch PVC drain pipe

on the north side of the site would convey accumulated drainage flows westward to detention trench consisting of a shallow gravel basin on the lower hillside of project site for on-site percolation. An overflow pumpwell would pump any excess accumulated runoff flows to an energy reduction box on Bella Vista Avenue for discharge by overland flow on the street.

This storm drainage methodology is consistent with requirements on similar properties and proposes to direct drainage to public facilities and limit impact on adjacent properties. Although runoff from the proposed residence would be collected in a pipe system, storm flows would be discharged slowly into subsoils through the use of on-site infiltration areas, protecting surface water quality. Design and sizing of on-site percolation areas would be subject to review and approval by the Town, and such approval would reduce the potential for downstream flooding and erosion hazards. To ensure that the erosion control features are in place prior to any ground disturbance and prior to any significant rainfall mitigation has been required to reduce potential impacts to less than significant.

Groundwater. The proposed project would be supplied with water from the San Jose Water Company and does not propose to use any groundwater. For this reason the proposed project would not use any groundwater resources or lower the local groundwater table. The project would incrementally increase the amount of impervious area on the project site. Therefore, the project would not impact groundwater recharge, impacts would be considered less than significant.

Drainage Patterns. The proposed project would not substantially alter the existing drainage patterns of the site or vicinity. The site does not include any streams or rivers, which could be altered by the proposed project resulting in substantial erosion and siltation on- or offsite. Six-inch PVC drain pipe on the north side of the site would convey accumulated drainage flows westward to detention trench consisting of a shallow gravel basin on the lower hillside of the project site for on-site percolation. Because the proposed project would not alter any existing streams or drainage patterns, and surface water runoff is controlled onsite, the project would have no impact on existing drainage patterns.

Flood Hazards. According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps for the project area, the project site is not within the 100-year floodplain. The Santa Clara Valley Water District's Maps of flood control facilities and limits of one percent flooding as well as the Town of Los Gatos Safety Element Flood Plain maps show the project site does not lie within a flood zone. Therefore, no significant flood hazard impacts would be anticipated.

Water Quality. New, more stringent water quality regulations of the Clean Water Act have recently been triggered because the NPDES (National Pollution Discharge Elimination System) permit program has failed to protect beneficial uses of Santa Clara County's creeks and the South San Francisco Bay. Evidence includes violations of ambient water quality criteria, high concentrations of toxic substances, and fish consumption health advisories.

These new regulations require that all discharges shall comply with Provision C.3, New and Redevelopment Performance Standards of Order No. R2-2009-0074 of the NPDES permit program. However, single-family home projects that are not a part of a larger plan of development are not considered Regulated Projects per the provisions of C.3.[14] Therefore potential impacts are considered less than significant.

Inundation. The proposed project is not located in close proximity to an area subject to flooding due to tsunamis or seiches resulting in levee failure, and would not be subject to mudflows as a result of a seiche because the project is approximately 1 mile west of the Vasona Reservoir and approximately 20 feet

[14] C.3.b.ii (2) Other Development Projects.

higher in elevation. Additionally, due to the flat topography of the areas surrounding the project site, mudflows are not anticipated. As a result, the no impact would occur from inundation.

Mitigation Measures – Hydrology and Water Quality (HWQ)

The following measure shall be required to ensure temporary erosion control measures are installed during construction:

MM HWQ-1*: Construction Erosion Control Measures.*

Prior to the issuance of grading permits or improvement plans in lieu of grading permits, the applicant shall:

Demonstrate to the satisfaction of the Town Engineer that the project's stormwater quality control measures, including the erosion control features described in the project's final Erosion Control Plan have been incorporated into the project design.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
10. Land Use and Planning - Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

10a – 10c. Divide an Established Community, Project Consistency with Land Use Plans and Policies, Conflict with Habitat Conservation or Natural Community Conservation Plans

The proposed project is consistent with the existing General Plan designation of "Medium Density Residential, 5 - 12 units per acre." This designation allows for residential uses at densities of up to 12 units per acre. The proposed residence would be developed on a 0.23-acre site, which would be within allowable densities. The minimum lot size in the R-1:8 zone is 8,000 square feet for each dwelling unit, and the proposed project would be located on a 10,155 square-foot lot.

The project site is located adjacent to residential uses. Access is from Bella Vista Avenue and the project parcel is a residential lot that is undeveloped, located adjacent to developed residential properties to the west and east. The proposed single-family residential use would be consistent with existing adjacent and nearby single-family residential uses on Bella Vista Avenue.

The Los Gatos General Plan does not identify any habitat conservation plans or natural community conservation plans that apply to the project site.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
11. Mineral Resources - Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

11a, 11b. Mineral Resources

The Los Gatos General Plan does not identify any regionally or locally-important mineral resources on the project site or in its vicinity.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
12. Noise - Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

12a. Noise Compatibility of Proposed Uses

The project site's noise environment at the project site can be characterized as a quiet, rural noise environment with no major noise sources. Therefore, noise compatibility would not be an issue (no impact).

12b. Groundborne Noise and Vibration

Since construction of project facilities would not involve the use of impact equipment (i.e. pile drivers) or extensive construction of subsurface facilities (i.e. tunnels), generation of substantial construction-related groundborne vibration and noise levels would not occur. The closest residences are located approximately

45 feet or more feet away, construction-related vibration from operation of construction equipment is not expected to cause any cosmetic or architectural damage to any adjacent structures. Therefore, potential groundborne noise and vibration generated by project-related construction activities would be less than significant.

12c. Long-term Noise Increases

Long-term noise increases associated with the proposed single-family residence would result from increased traffic along local roadways and residential activities on the project site (i.e., operation of appliances and maintenance equipment such as lawnmowers, blowers, etc.). Traffic increases associated with the project would be minor and would not significantly or measurably increase ambient noise levels in the project vicinity. Noise generated by project residential activities would be similar to noise generated by adjacent or nearby residences and would not conflict with the existing residential noise environment in the neighborhood. Therefore, long-term noise increases associated with project implementation would be less than significant.

12d. Short-Term Noise Increases

The Town Noise Ordinance (Chapter 16) restricts construction activities to the hours of 8:00 a.m. to 8:00 p.m. on weekdays and 9:00 a.m. to 7:00 p.m. on weekends and holidays. This ordinance also limits noise generation to 85 dBA at the property line or 85 dBA at 25 feet. Project construction would result in temporary short-term noise increases due to the operation of heavy equipment. Construction noise sources range from about 82 to 90 dBA at 25 feet for most types of construction equipment, and slightly higher levels of about 94 to 97 dBA at 25 feet for certain types of earthmoving and impact equipment. If noise controls are installed on construction equipment, the noise levels could be reduced to 80 to 85 dBA at 25 feet, depending on the type of equipment. With controls, construction noise levels could be made to comply with the Town Noise Ordinance.

Residential uses are generally considered to be noise-sensitive uses or sensitive receptors. The closest single-family home is approximately 45 feet to the east and at this distance, the ordinance noise limit (85 dBA at 25 feet) would result in maximum noise levels of up to 79 dBA at this residence. Temporary disturbance (e.g., speech interference) can occur if the noise level in the interior of a building exceeds 45 to 60 dBA.[15] To maintain such interior noise levels, exterior noise levels at the closest residence (with windows closed) should not exceed 70 to 80 dBA and this exterior noise level is used as a significance threshold. Therefore, even with compliance with the Noise Ordinance limit of 85 dBA at 25 feet, construction noise levels could result in periodic speech interference effects when heavy equipment is operated within the project site or on Bella Vista Avenue. Due to the small size of this project and limited duration of construction, this temporary impact is considered to be less than significant with enforcement of time restrictions and noise level standards contained in the Town Noise Ordinance.

12e. Airport-Related Issues

The project site is not located within an airport land use plan. There is no public airport, public use airport, or private airstrip located within the Town's boundaries or within two miles of the project site. For air travel, the closest international airports are San Jose International Airport (SJC), San Francisco International Airport (SFO), and Oakland International Airport. The proposed project would not expose

[15] In indoor noise environments, the highest noise level that permits relaxed conversation with 100 percent intelligibility throughout the room is 45 dBA. Speech interference is considered to become intolerable when normal conversation is precluded at 3 feet, which occurs when background noise levels exceed 60 dBA (U.S. Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Condensed Version),* 1974).

people residing or working in the area to excessive airport-related noise levels. Therefore, there would be no impact.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
13. Population and Housing - Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

13a – 13c. Growth-Inducement Impacts and Displacement of Housing or Residents

The proposed project would consist of one single-family residence on two parcels. Since the Town will require consolidation of these two lots into one as a condition of project approval, the project would incrementally decrease (by one unit) the Town's future housing supply and population. With such a small project and decrease of one future housing unit, the project would not result in intensification of residential uses or significantly increase local or regional population. Since the project would not extend new roadways or utilities to any adjacent undeveloped lands, the project would not induce new growth. The project site is currently undeveloped and no existing housing units would be displaced by the project.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
14. Public Services -				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☐	☒

14a. Public Services

Services are currently provided to residential uses surrounding the project site. The Los Gatos Monte Sereno Police Department and the Santa Clara County Fire Department provide emergency and public safety services in the project area. The project would not significantly increase demand for public services since this is an in-fill development and services are already provided to the surrounding area.

The Santa Clara County Fire Department provides fire protection services to the project area. The Department has reviewed the proposed project only with respect to site access and water supply as they pertain to fire department operations. The Department will require that the proposed residence be equipped with an automatic residential fire sprinkler system.[16] The proposed residence also would be subject to formal plan review by the Department requirements and will be required to comply with adopted model codes as well as water supply and construction site fire safety requirements.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
15. Recreation -				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

15a, 15b. Demand for Recreational Facilities and Impacts Related to Construction of Recreational Facilities

The proposed addition of one residential unit would incrementally add new population to the area, and thereby increase the demand for recreational services. This incremental increase would be less than significant given the small size of the project.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
16. Transportation/Traffic - Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒

[16] Santa Clara County Fire Department, 2013. Development Review Comments, 341 Bella Vista Avenue. Plan Review Number 13 2416. September 25.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

16a, b, c, f. Impacts on the Circulation System and Conflicts with Congestion Management Program, Air Traffic Patterns, Conflicts with Alternative Transportation (Pedestrian, Bicycle, and Transit Access)

The Town's Traffic Impact Policy (Resolution 2014-59)[17] specifies that a project with a traffic impact of 19 or less additional AM or PM peak hour trips does not require a comprehensive traffic report. The proposed single-family residence would result in a net increase of 10 trips per day, with 1 trip occurring during the AM peak hour and 1 trip occurring during the PM peak hour. According to the Town's traffic determination, traffic generated by the proposed project would represent a minor impact on the circulation system and would not conflict with the Congestion Management Program. No additional traffic studies would be required by the Town. However, the project would be subject to payment of a traffic mitigation fee in accordance with the Traffic Impact Policy.

The project site is not located in the vicinity of an airport and the project would not affect air traffic levels or cause any safety risks associated with air traffic patterns.

At present, there are sidewalks on both sides of Los Gatos Boulevard and a discontinuous sidewalk on the east side of Bella Vista Avenue to the north and south of the site, but none in the immediate project vicinity. Currently, there are bike lanes along Los Gatos Boulevard in the project vicinity, but none along Bella Vista Avenue. Bus Line 49 runs along Los Gatos Boulevard in the vicinity of the project site. The nearest bus stop for Line 49 is located on Los Gatos Boulevard at Caldwell Avenue, about ¼ mile from the project site. Given the project's small size, the project would have no significant impact on or conflict with alternative transportation modes.

16d. Traffic Safety Hazards

Construction. To accommodate the proposed house and driveway, a net total 692 cubic yards (c.y.) would be excavated and hauled from the site. Export of 692 c.y. of material off-site could generate up to 58 truckloads or a total of 116 one-way truck trips (assuming 12 c.y. per haul truck). Since the Town will prohibit haul truck operations on local roads between 7 a.m. and 9 a.m. as well as 4 p.m. and 6 p.m., trucks operations would occur 6.5 to 7 hours per day. However, the limiting factor in the number of daily haul trips would be determined by the rate that small bobcats working on-site could transport the excavated material up to haul trucks located on Bella Vista Avenue. Shovel capacity of bobcats range from 0.16 to 0.34 c.y. and assuming two bobcats could complete 1 round trip every 7 minutes (17 loads per hour with two bobcats), approximately 1 truck could be filled every 2 to 4 hours, resulting in up to 3

[17] http://www.losgatosca.gov/DocumentCenter/View/857

to 4 truckloads or up to 6 to 8 truck trips per day over a period of approximately 4 weeks. The duration would vary depending on whether hourly truck volumes were ultimately lower or higher.

As a condition of project approval, the project applicant will be required to work with the Engineering Division of the Parks and Public Works Department to devise a traffic control plan for incorporation into the construction bid documents (specifications) to ensure safe and efficient traffic flow during periods when soil is hauled off the project site. The plan shall include, but not be limited to, the following measures:

- Hauling and delivery activities and designated truck routes shall be strategically selected, timed and coordinated to minimize traffic disruption to schools, residents, businesses, special events, and other projects in the area. The schools located on the haul route shall be contacted to help with the coordination of the trucking operation to minimize traffic disruption.
- Flag persons shall be placed at locations as necessary. All flag persons shall have the capability of communicating with each other to coordinate the operation.
- Prior to construction, advance notification of all affected residents and emergency services shall be made regarding one-way operation, specifying dates and hours of operation.
- Hauling of soil on or off-site shall not occur during the morning or evening peak periods (between 7:00 a.m. and 9:00 a.m. and between 4:00 p.m. and 6:00 p.m.).

With implementation of this condition of approval, potential safety hazards during project construction would be less than significant.

Operation.

No traffic safety hazards have been identified as a result of the project. However, to ensure that the proposed driveway has adequate horizontal stopping sight distance once it has been constructed, mitigation is required to demonstrate that adequate sight distance is available for cars entering and existing the proposed driveway as well as cars on Bella Vista Avenue. Potential impacts are considered less than significant with the implementation of mitigation for adequate sight distance.

16e. Emergency Access

The project site is presently accessible from Bella Vista Avenue. With access available from the south (via Charles Street or Simon Way) and north (via Caldwell Avenue), there is currently adequate emergency access and the proposed project would have no impact on emergency access.

Mitigation Measures – Transportation and Traffic (TR)

The following measure shall be required to ensure adequate sight distance from the project driveway:

MM TR-1*: Horizontal stopping sight distance.*

Prior to the issuance of a building permit, the applicant shall:

Demonstrate to the satisfaction of the Town Engineer that adequate horizontal stopping sight distance exists for the project driveway in each direction on Bella Vista Avenue. The applicant shall prepare an exhibit that has been stamped by a registered engineer or a professional land surveyor stating that adequate sight distance is provided. The horizontal stopping sight distance requirements shall be consistent with the Caltrans Highway Design Manual as specified in the Town's Street Design Standards.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
17. Utilities and Service Systems – Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the projects solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Utilities are currently provided to adjacent residential uses. While some utility extensions may be required onto the site, no major off-site utility improvements would be expected to be required for project development since this is an in-fill development and involves development of one residence on two existing parcels.

Issues (and Supporting Information Sources)	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
18. Mandatory Findings of Significance -				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

18a, 18c. Significant Impacts on the Natural and Man-Made Environments

The potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory were considered in the response to each question in the respective sections (Sections 4 and 5) of this checklist. In addition to project specific impacts, this evaluation considered the project's potential for significant cumulative effects. There is no substantial evidence that there are biological or cultural resources that are affected or associated with this project.

The potential for adverse direct or indirect impacts to human beings were considered in the response to certain questions in sections 1. Aesthetics, 3. Air Quality, 6. Geology and Soils, 8. Hazards and Hazardous Materials, 9. Hydrology and Water Quality, 12. Noise, 13. Population and Housing, and 16. Transportation and Traffic. As a result of this evaluation, there is no substantial evidence that there are adverse effects on human beings associated with this project.

Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

18b. Cumulative Impacts

No cumulative impacts resulting from the proposed development of one single family residence in combination of future remodels/additions to existing residences allowed by the Town's General Plan and Municipal Code requirements have been identified. As such, the project's contribution to cumulative effects would be less than cumulatively considerable. Therefore, this project has been determined not to meet this Mandatory Finding of Significance.

REFERENCES

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REPORT PREPARATION

Town of Los Gatos

Joel Paulson AICP, Interim Director, Community Development Department

Marni Moseley AICP, Associate Planner, Community Development Department

Jessy Pu, Traffic Engineer, Parks and Public Works Department

Mike Weisz, Associate Civil Engineer, Parks and Public Works Department

Town Consultants

Kimley-Horn and Associates – Initial Study Preparation

AMEC Environment & Infrastructure – Geotechnical Peer Review

Debbie Ellis – Arborist Peer Review

Eisenberg, Olivieri & Associates – Stormwater Management Peer Review

Applicant's Technical Consultants

The applicant retained the following consultants to complete technical studies that were peer reviewed by Town consultants and included in this report:

Geotechnical Report

Jennifer Buckley, Project Geologist, UPP Technology

ATTACHMENT 1

ARBORIST REPORT –

PROVIDED ELECTRONICALLY UNDER SEPARATE COVER

ATTACHMENT 2

GEOLOGICAL AND GEOTECHNICAL STUDY –

PROVIDED ELECTRONICALLY UNDER SEPARATE COVER

ATTACHMENT 3

GREENPOINT NEW HOME RATING SYSTEM

PROVIDED ELECTRONICALLY UNDER SEPARATE COVER

341 BELLA VISTA AVENUE
LOS GATOS, CALIFORNIA

Architecture and Site Application S-12-103
Subdivision Application M-12-008
Mitigated Negative Declaration ND-16-001

INITIAL STUDY AND ENVIRONMENTAL CHECKLIST

ATTACHMENT 1
ARBORIST REPORT

For
Attachment 1
See
Exhibits 9-10

341 BELLA VISTA AVENUE
LOS GATOS, CALIFORNIA

Architecture and Site Application S-12-103
Subdivision Application M-12-008
Mitigated Negative Declaration ND-16-001

INITIAL STUDY AND ENVIRONMENTAL CHECKLIST

ATTACHMENT 2
GEOLOGIC AND GEOTECHNICAL STUDY

UPDATED GEOLOGIC AND GEOTECHNICAL STUDY
PROPOSED RESIDENTIAL DEVELOPMENT

ROSS PROPERTY
339 AND 341 BELLA VISTA AVENUE
LOS GATOS, CALIFORNIA

Prepared For:

Mr. Dan Ross
233 West Main Street
Los Gatos, California

25 June 2015
Document Id. 15068C-01R1

UPP GEOTECHNOLOGY
a division of C2EARTH, INC.

UPP GEOTECHNOLOGY
Engineering Geology • Geotechnical Engineering
a division of C2EARTH, INC.

25 June 2015
Document Id. 15068C-01R1
Serial No. 17200

Mr. Dan Ross
233 West Main Street
Los Gatos, CA 95030

SUBJECT: UPDATED GEOLOGIC AND GEOTECHNICAL STUDY
PROPOSED RESIDENTIAL DEVELOPMENT
ROSS PROPERTY
339 AND 341 BELLA VISTA AVENUE
LOS GATOS, CALIFORNIA

Dear Mr. Ross:

As you requested, we have performed an updated geologic and geotechnical study for the proposed residential development of your property at 339 and 341 Bella Vista Avenue in Los Gatos, California. We understand that you are merging the two lots and plan on constructing a single residence on the combined site. The property is in a geologically sensitive area; the nearest trace of the potentially active Shannon fault is mapped southwest of the property. In addition, the site is partially mapped within a State Seismic Hazard Zone for earthquake-induced landsliding. In summary, we conclude that, from a geologic and geotechnical engineering perspective, the site is suitable for the proposed residential development. We judge that there is a low potential for surface fault rupture to manifest on the site from an earthquake or coseismic event, or for slope instability to affect the proposed improvements.

The accompanying report presents the results of our study, and our conclusions and recommendations concerning the geologic and geotechnical engineering aspects of the project. The findings and recommendations presented in this report are contingent upon our review of the final grading, foundation, and drainage control plans; our observation of the grading; and the installation of the foundation and drainage control systems. This report includes information that is vital to the success of your project. We strongly urge you to thoroughly read and understand its contents. Please refer to the text of the report for detailed findings and recommendations.

Sincerely,
Upp Geotechnology
a division of C2Earth, Inc.

Jennifer Buckley
Project Geologist

Christopher R. Hundemer, Principal
Certified Engineering Geologist 2314
Certified Hydrogeologist 882

Craig N. Reid, Principal
Certified Engineering Geologist 2471
Registered Geotechnical Engineer 3060

REGISTERED PROFESSIONAL ENGINEER
CRAIG N. REID
No. 3060
GEOTECHNICAL
STATE OF CALIFORNIA

THIS DOCUMENT HAS BEEN DIGITALLY SIGNED

Distribution: Addressee (3 hard copies to be picked up and via e-mail to dan.ross@wellsfargo.com)

TABLE OF CONTENTS

1. INTRODUCTION

This report presents the results of our updated geologic and geotechnical study for the proposed residential development of your property at 339 and 341 Bella Vista Avenue in Los Gatos, California (see Figure 1, Site Location Map). The purposes of our study were: to become the geotechnical and geologic consultant of record for the project; update the geologic and geotechnical findings from prior studies performed for the development of the subject property; and develop updated geotechnical recommendations for the earthwork and foundation engineering aspects of the proposed development.

We understand that you are merging the two parcels into one combined lot and you plan to construct one single-family residence on the southern portion of the merged lot. The residence will be a three-story structure, partially set into the northwest-facing hillside, with the lower two levels daylighting to the northwest. The uppermost level will consist of a two-car garage and roof-top deck. We understand that a bridge will be constructed to serve as a driveway and provide access to the garage from Bella Vista Avenue.

We issue this report with the understanding that the owner or owner's representative is responsible for ensuring that the information and recommendations contained in this report are brought to the attention of the project architect and engineer, and are incorporated into the plans and specifications of the residential development. The owner must also ensure that the contractor and sub-contractors follow the recommendations during construction.

2. SCOPE OF SERVICES

We conducted this study in accordance with the scope and conditions presented in our proposal dated 10 June 2015 (Document Id. 15068C-01P1). The methodology of our evaluation is discussed in the body of this report. We make no other warranty, either expressed or implied. Our scope of services for this study included:

- Reviewing selected geologic literature, aerial photographs, our prior reports of the area and previous consultants' reports of the subject property and site vicinity to evaluate the prevailing geologic and geotechnical conditions;
- consulting with the Town's reviewing geologist, Mr. Bob Wright of AMEC Foster Wheeler, about his concerns with the site and vicinity;
- performing engineering geologic reconnaissance and mapping of the site in the area of the proposed improvements;
- preparing an updated site plan and an updated geologic cross-section;
- analyzing geologic and geotechnical engineering properties from previously collected data; and
- preparing this report.

We have prepared this report as a product of our service for the exclusive use of Mr. Dan Ross for the proposed residential development of the subject property. Other parties may not use this report, nor may the report be used for other purposes, without prior written authorization from Upp Geotechnology, a division of C2Earth, Inc (C2).

Because of possible future changes in site conditions or the standards of practice for geotechnical engineering and engineering geology, the findings and recommendations of this report may not be considered valid beyond three years from the report date, without review by C2. In addition, in the event that any changes in the nature or location of the proposed improvements are planned, the conclusions and recommendations of this report may not be considered valid unless we review such changes, and modify or verify in writing the conclusions and recommendations presented in this report.

Our study excluded an evaluation of hazardous or toxic substances, corrosion potential, chemical properties, and other environmental assessments of the soil, subsurface water, surface water, and air on or around the subject property. The lack of comments in this report regarding the above does not indicate an absence of such substances and/or conditions.

3. GEOLOGY AND SEISMICITY

We reviewed selected geologic and geologic hazard maps, aerial photographs, our prior reports, and other consultant's reports for studies performed for the subject site and nearby sites to evaluate the prevailing geologic conditions of the site and vicinity. Regional and local geologic and geologic hazard maps are presented on Figures 2 through 8.

3.1. Geology

The subject property lies within the Coast Ranges geomorphic province, which is characterized by northwest-southeast trending valleys and ridges. The subject property is sited on a moderately steep, northwest-facing slope of a deeply-incised fluvial terrace riser. (see Figure 1).

According to the Geologic Map of the Los Gatos Quadrangle (McLaughlin et al., 2001), the subject site is underlain by Pleistocene age (approximately 10,000 to 2.6 million years old) alluvial fan deposits (see Figure 2, Regional Geologic Map). The alluvial fan deposits generally consist of silts, clays, sands, and gravels deposited by stream flow from mountains onto adjacent lowlands. Within the site vicinity, the alluvium is several tens of feet thick and overlies bedrock of the Franciscan assemblage, Monterey formation, and Santa Clara formation. The Pleistocene age alluvium within the incised valley northwest of the site is locally overlain by younger, Holocene age (approximately 10,000 year old to present) alluvium.

Locally, the alluvial fan deposits are overlain by a relatively thin veneer of slope debris (colluvium) on the subject property and across most of the hillside areas in the site vicinity. Where the colluvium is located on moderate to steep slopes, it is subject to downhill creep, a process by which the soil moves downslope at an imperceptibly slow rate as a result of gravity.

3.2. Landsliding

Our site reconnaissance, review of prior studies, and review of stereo-paired aerial photographs revealed no evidence of recent landslides in the vicinity of the proposed improvements. The topography across the subject property descends moderately toward the northwest. According to the Regional Geologic Map, no landslides are mapped on the site or in the site vicinity (see Figure 2).

While there is no evidence of landsliding in the site vicinity, the northwestern edge of the site is mapped within a State of California Seismic Hazard Zone for earthquake-induced landsliding (see Figure 3, Regional Seismic Hazard Zones Map). The same area is also mapped near a zone designated as having a "landslide potential" on the Town's Landslide Hazard Areas map (see Figure 4, Local Landslide Hazard Areas Map). These zones were established to minimize the loss of life and property by identifying and mitigating seismic hazards related to landslides. Consequently, we have conducted a qualitative slope stability evaluation of the northwest-facing slope to evaluate the risk of landsliding.

3.3. Seismicity

Geologists and seismologists recognize the greater San Francisco Bay Area as one of the most active seismic regions in the United States. The seismicity in the region is related to activity within the San Andreas fault system, a major rift in the earth's crust that extends for at least 700 miles along the California Coast. Faults within this system are characterized predominantly by right-lateral, strike-slip movement. The four major faults that pass through the Bay Area in a northwest direction have produced approximately 12 earthquakes per century strong enough to cause structural damage. These major faults are the San Andreas, Hayward, Calaveras, and San Gregorio faults.

The site can be expected to experience periodic minor earthquakes or even a major earthquake (Moment magnitude 6.7 or greater) on one of the nearby active or potentially active faults during the design life of the proposed project. The Moment magnitude scale is directly related to the amount of energy released during an earthquake and provides a physically meaningful measure of the size of an earthquake event.

The U.S. Geological Survey (2015) estimates that by 2044, the probability of a Moment magnitude 6.0 earthquake occurring on one of the active faults in the San Francisco region is 98%. The probability of a Moment magnitude 6.7 or greater earthquake occurring on one of the active faults in the San Francisco region is 72%. The following table provides corresponding estimates for the probability of a major earthquake (Moment magnitude 6.7 or greater) for three major faults in the Bay Area.

Fault	Probability (%)
Hayward	14.3
Calaveras	7.4
San Andreas	6.4

30-Year Probability of Magnitude 6.7 or Greater Earthquake

The San Andreas fault has a regional trend of approximately N34W; however, the segment of the San Andreas fault located within the central Santa Cruz Mountains southwest of the site strikes approximately N44W, forming a restraining bend. This restraining bend has created a compressional zone along the eastern side of the Santa Cruz Mountains, resulting in the formation of the Frontal thrust system, comprised of reverse and right-reverse faults, including the Berrocal, Monte Vista, and Shannon faults within the eastern foothills and the alluvial plain

adjacent to the foothills (Angell et al., 1997). This thrust fault system bounds the southwest margin of the Santa Clara Valley.

According to geologic mapping by McLaughlin et al., (2001), the site is situated near a concealed trace of the potentially active Shannon fault (see Figure 2). Because of the proximity to this and other faults within the region, the site is mapped within a zone of high fault rupture potential by the Town of Los Gatos (see Figure 5, Local Fault Rupture Potential Map). These zones were created based upon the Faults, Folds, and Zones of Lineaments Map by William Lettis and Associates, Inc., 1994 (see Figure 6) and the Fault, Lineament, and Coseismic Deformation Map by Nolan Associates, 1999 (see Figure 7).

A concentration of coseismic ground deformation associated with the Loma Prieta Earthquake is mapped about 500 feet southeast of the site (see Figure 7). According to mapping by Schmidt et al., 1995, this deformation generally consisted of fresh pavement breaks or buckles suggestive of contractional deformation and pavement breaks with an unspecified sense of deformation (see Figure 8, Map of Observed Distress from the 1989 Loma Prieta Earthquake).

The following table indicates the approximate distance and direction from the central portion of the site to active and potentially active faults.

Fault	Approx. Distance From Fault	Direction From Site
Shannon (nearest trace)	500 feet	Southwest
Shannon (second trace)	1,600 feet	Northeast
Berrocal	2,000 feet	Southwest
San Andreas	3¼ miles	Southwest
Hayward	12½ miles	Northeast
Calaveras	15 miles	Northeast
San Gregorio	19½ miles	Southwest

Regional Fault Distances and Directions

According to the California State Special Studies Zones Map by the California Division of Mines and Geology, the site is mapped outside of the current Alquist-Priolo Earthquake Fault Zone for areas prone to earthquake ground rupture.

Because of the site's proximity to the San Andreas fault and the site's geology, maximum anticipated ground shaking intensities for the area are characterized as very strong and equal to a Modified Mercalli (MM) intensity of VIII (Borcherdt, et. al., 1975). An earthquake having a MM intensity of VIII generally causes considerable damage to well-built, ordinary structures and partial collapse to poorly built structures (Yanev, 1974) (see Table I, Modified Mercalli Scale of Earthquake Intensities).

The intensity of an earthquake differs from the Moment magnitude, in that intensity is a measure of the effects of an earthquake, rather than a measure of the energy released. These effects can vary considerably based on the earthquake magnitude, distance from the earthquake's epicenter, and site geology.

Since 1800, four major earthquakes have been recorded on the San Andreas fault. In 1836, an earthquake with an estimated maximum intensity of VII on the MM scale occurred east of the Monterey Bay on the San Andreas fault (Toppozada and Borchardt, 1998). The estimated Moment magnitude (M_w) for this earthquake is about 6.25. In 1838, an earthquake occurred with an estimated intensity of about VIII-IX (MM), corresponding to a M_w of about 7.5. The San Francisco Earthquake of 1906 caused the most significant damage in the history of the Bay Area in terms of lives lost and cost of property damage. This earthquake created a surface rupture along the San Andreas fault from Shelter Cove to San Juan Bautista, about 290 miles in length. It had a maximum intensity of XI (MM), a M_w of about 7.9, and was felt as far away as Oregon, Nevada, and Los Angeles. The most recent earthquake to affect the Bay Area was the Loma Prieta earthquake of 17 October 1989, occurring in the Santa Cruz Mountains, which had a M_w of about 6.9. Ground shaking equal to an MM intensity of VII was felt at the site during the Loma Prieta Earthquake (Stover, et al., 1990).

In 1868 an earthquake with an estimated maximum MM intensity of X and M_w of about 7.0 occurred on the southern segment of the Hayward fault, between San Leandro and Fremont. In 1861, an earthquake of unknown magnitude (likely having an M_w of about 6.5) was reported on the Calaveras fault. The most recent significant earthquake on this fault was the 1984 Morgan Hill Earthquake, that had an M_w of about 6.2.

3.4. Liquefaction and Lateral Spreading

Liquefaction is the temporary transformation of soil from a solid to a liquefied state. During cyclic loading, especially earthquake-induced loading, excess pore water pressure builds up causing saturated soil to temporarily lose its shear strength. Soils susceptible to liquefaction include saturated loose to medium dense sand and gravel, low-plasticity silt, and some low-plasticity clay deposits. Lateral spreading is a phenomenon in which surficial soil displaces along a slip surface that forms within an underlying liquefied layer. Upon reaching mobilization, the surficial blocks are transported downslope or in the direction of a free face by earthquake and gravitational forces. The subject site is not mapped within a State Seismic Hazard Zone for earthquake-induced liquefaction (see Figure 3), and in our opinion the potential for liquefaction to affect the proposed development is negligible.

4. PRIOR REPORTS

As part of our study, we reviewed prior geologic and geotechnical reports prepared by us and other consultants for the subject site and for other properties in the site vicinity that overlie nearby, concealed traces of the Shannon fault. The locations of the properties for which the studies were performed are shown on Figure 2. The following subsections present summaries of the reports that we reviewed.

4.1. ADCO Engineering, 1998

ADCO Engineering (ADCO) prepared a Soil and Foundation Investigation report, dated 12 June 1998, for the subject property. During their study, ADCO drilled one boring in the upper, central portion of the property to a depth of approximately 20 feet below ground surface (bgs) and

performed Plasticity Index (PI) testing on a sample obtained between 1 and 2 feet bgs. The test results revealed a PI of 14 percent, which is considered to be slightly expansive. The location of the test boring is shown on Figure 9, Updated Site Plan and Engineering Geologic Map. The boring log and plasticity index test results are presented in the Appendix. ADCO recommended that the residence be supported on a pier and grade beam foundation system.

4.2. Cotton, Shires, and Associates, 1999

Cotton, Shires, and Associates (CSA) performed a geological evaluation at 16641 Kennedy Road in 1999, approximately 2,700 feet east of the subject property. According to CSA's report, *"There is no geomorphic evidence to indicate that the Shannon fault passes through the Bowman parcel...we conclude that the risk of surface faulting at this site to be low."*

4.3. AIBM Soil Testing Engineers, 2002

AIBM Soil Testing Engineers (AIBM) prepared a Soil and Foundation Investigation report, dated 25 November 2002, for the subject property. As part of their study, AIBM performed a quantitative slope stability analysis. The results of their analysis revealed a minimum factor of safety of 1.26 under pseudo-static (seismic) conditions. They observed no slope failures on the subject property and provided updated geotechnical recommendations for site development.

4.4. Pacific Geotechnical Engineering, 2005

Pacific Geotechnical Engineering (PGE) prepared an Engineering Geologic Investigation report (2005) for the property at 16661 Kennedy Road, about 2,600 feet east of the subject property. During their study, they excavated an approximately 135-foot long by 10-foot deep fault exploration trench. They encountered essentially flat-lying alluvial deposits. According to PGE, a *"thin, fairly continuous bed of gravelly sand at a depth of about 7 feet traversed the entire trench. Its lateral continuity and uninterrupted horizontality provide clear evidence for the absence of vertical faulting...since our observations indicate the sedimentary layers of the recent alluvium exposed in the trench are almost perfectly flat, it can be inferred that there has not been tectonic deformation at the site within the recent geologic past."*

4.5. Ali M. Oskoorouchi, 2005

Ali M. Oskoorouchi, Ph.D., P.E., G.E. (AMO) submitted an Updated Geotechnical Investigation report (2005) for the subject property. As part of his study, AMO reviewed the two older reports for the subject property prepared by AIBM (2002) and ADCO (1998). In order to substantiate ADCO's subsurface exploration, AMO hand-augured a boring to approximately 6 feet bgs and found that the material encountered in their boring correlated with the material found in ADCO's boring. According to AMO, both borings encountered brown sandy gravel with cobbles, silt, and clay. No groundwater was encountered in either boring. In addition, AMO performed a gradation test of the sample obtained from their boring at a depth of about 2 to 2½ feet bgs (see Appendix).

AMO concluded the risk for earthquake-induced ground rupture to occur across the property to be low. They recommended that the residence be structurally supported by a pier and grade beam foundation system.

4.6. Steven F. Connelly, 2007

Steven F. Connelly, C.E.G (SFC) submitted a Limited Fault Investigation report (2007) for 16621 Kennedy Road, located about 2,800 feet east of the subject property. Connelly suggested, based upon geomorphic evidence, that a trace of the Berrocal (Shannon) fault may be located south of the site and *"it is unlikely that primary ground rupture due to faulting will impact the existing residence or the proposed addition and remodel."*

4.7. Gilpin Geosciences, Inc., 2007

Gilpin Geosceinces, Inc. (GGI) performed an Updated Geological and Geotechnical Investigation for the subject property. The results of their study was presented in a draft report dated 23 April 2007, and a final report dated 31 July 2007. As part of their study, GGI logged four borings drilled to depths of between about 14½ and 22½ feet bgs. The boring locations are presented on Figure 9 and the boring logs are presented in the appendix.

According to GGI, they *"did not identify any shallow landsliding or evidence for deep seated slope instabilities on the site."* They also concluded that *"the risk of fault offset at the site from a known active fault is low, however the risk of coseismic distributed ground surface deformation is moderate to high. To accommodate the effects of distributed ground rupture the new structures should be constructed on concrete pier and grade beam foundations."*

4.8. Ali M. Oskoorouchi, 2007

Ali M. Oskoorouchi (AMO) submitted an Updated Geological and Geotechnical Investigations report, dated 1 August 2007, for the subject property. The study addressed the potential hazard for earthquake-induced landsliding in accordance with the Guidelines for Evaluating and Mitigating Seismic Hazards in California (Special Publication 117). AMO found no evidence of landsliding on the site. In addition, AMO performed several additional gradation tests on samples obtained from the GGI borings. The gradation test results are presented in the Appendix. AMO provided updated geotechnical recommendations for the project.

4.9. Treadwell & Rollo, 2008

Treadwell and Rollo (T&R) prepared a Revised Fault Hazard Investigation report (2008) for a site located at 50 Los Gatos-Saratoga Road. The central portion of this site is located about 700 feet southwest of the subject property and overlies the nearest mapped concealed trace of the Shannon fault. During their study, T&R drilled and logged six borings to depths of between 69½ and 84 feet deep. The borings encountered alluvium to depths of between 62 and 78 feet bgs. The alluvium was underlain by Monterey formation bedrock. T&R observed a six-foot vertical offset of the bedrock between two of the borings and interpreted the offset as a thrust fault. In order to evaluate if the offset observed in the bedrock horizon extended into recent deposits, T&R excavated a 100-foot long by 12-foot deep fault exploration trench. According to T&R, *"the contacts between alluvial layers were distinct, and were not offset by faulting."* In addition, T&R obtained two samples of carbon (charcoal/wood fragments) from two layers of alluvium in the trench for age dating. The results of the carbon dating revealed one sample to be approximately 11,000 years old and the other to be older than 11,000 years.

T&R concluded that "the upper 12 feet of alluvium at the site has not experienced active faulting. Considering the thickness of the alluvium, and the results of the age dating from the carbon samples obtained from the trench, we conclude there is no evidence that this splay of the Shannon fault has been active during Holocene time (the past 11,000 years). Furthermore, there is no evidence that the fault has broken the ground surface. Therefore, we conclude that the potential from fault offset through the property is negligible, and a setback from this fault should not be required." T&R determined that if the fault splay were to move as sympathetic (coseismic) movement during a large earthquake on the San Andreas fault, the movement would dissipate through the alluvial gravels, and would result in maximum differential settlement of the alluvium on either side of the fault of ¾ -inch, per event.

4.10. C2Earth, Inc. 2013

We reviewed our prior Geologic and Geotechnical Study report, dated 26 April 2013, that was prepared for the residential redevelopment of a site approximately 1,500 feet northeast of the subject property, APN 529-20-055, on Pine Avenue in Los Gatos, California. During our study, we drilled and logged three test borings to depths of approximately 21 feet or less bgs. Our subsurface exploration revealed uniform layers of alluvial fan deposits, with no evidence suggestive of fault offset through the subject site. The alluvial deposits are potentially 100 feet thick or more beneath the site. We concluded that even if the fault were to be located at depth beneath the site, the thick alluvium overlying the bedrock would disperse and realign during a seismic event, resulting in a dispersal of ground rupture energy and minimal fault offsets or rupture at the site. We provided recommendations for supporting the residence on shallow foundations bearing in the alluvium.

4.11. C2Earth, 2014

We reviewed our prior Geologic and Geotechnical Study report, dated 5 February 2014, that was prepared for the residential redevelopment of a site approximately 2,100 feet east-northeast of the subject property at 16600 Englewood Avenue in Los Gatos, California. During that study, we logged three test borings drilled to depths of approximately 19½ feet or less bgs. Our subsurface exploration revealed uniform layers of alluvial fan deposits, with no evidence substantiating the mapped location of a fault trace beneath the site. Furthermore, we concluded that fault movements that resulted in displacements within the bedrock beneath the alluvial fan deposits would propagate upward in a flower pattern, causing shifting and realignments of the uncemented alluvial deposits. This would disperse the amount of deformation at the ground surface. We concluded that there was minimal risk for fault related ground deformation and provided recommendations for supporting the residence on the alluvial deposits.

4.12. Achievement Engineering Corp., 2014

Achievement Engineering Corp. (AEC) provided a Geotechnical Upgrade Report (2014) for the subject property in which they accepted the prior findings and recommendations by GGI and AMO and provided updated 2013 California Building Code seismic design criteria for the project.

5. SITE CHARACTERIZATION

5.1. Site Description

On 17 June 2015, our principal geologist performed a site reconnaissance and geologic mapping on the subject property. We updated a prior site geology map and geologic cross-section by GGI based upon an architectural site plan (Provis, Inc., dated 13 November 2014) depicting the current residential development concept that you provided, supplemented by tape and compass mapping techniques (see Figure 9, Updated Site Plan and Engineering Geologic Map and Figure 10, Updated Geologic Cross-Section A-A'). The updated site plan and profile are only as accurate as implied by the mapping techniques used. The following is a summary of the surficial site characteristics.

The roughly rectangular-shaped site is situated along a moderately steep northwest-facing slope. The site is elongated, with its long axis oriented in the northeast-southwest direction. The undeveloped subject property is bound to the northwest by a townhouse subdivision, by Bella Vista Avenue on the southeast, and by undeveloped properties on the remaining sides.

Bella Vista Avenue was created using cut and fill grading techniques. Fill was placed along the downslope edge of the southeastern property boundary to create a level area for the road. The fill slope varies between about 5 to 9 feet tall and extends laterally about 10 to 19 feet from the break in slope along the road's edge. The topography across the subject property generally descends toward the northwest, with overall slope gradients of about 2:1 (horizontal to vertical) and localized areas with gradients approaching 1¾:1.

Drainage across the site is generally characterized as uncontrolled sheet flow to the northwest. The subject property is vegetated with mature oak and almond trees, and associated grasses, brush, and poison oak.

5.2. Subsurface

We reviewed logs of borings that were presented in the prior reports by ADCO, AMO, and GGI. The approximate locations of the prior borings are shown on Figure 9. We determined the approximate boring locations by overlaying prior site plans with our updated site plan; these locations are only as accurate as implied by the mapping technique used. The logs of the borings are presented in Appendix I.

A total of six borings were drilled on the site to depths of 22½ feet or less. In general, the excavations encountered a similar sequence of subsurface materials, including fill and/or colluvium (a soil material that is deposited on or at the base of a slope from sheet flow runoff) underlain by alluvial fan deposits.

Borings 1 and 2 by GGI were drilled in the immediate vicinity of the proposed improvements. Boring 1 was located near the southern corner of the property, near the proposed bridge, and Boring 2 was located near the northern portion of the proposed residence. Boring 1 encountered about 4 feet of fill consisting of medium dense, gravelly clayey sand, underlain by colluvium. Boring 2 encountered colluvium at the ground surface. The colluvium is up to approximately 3½

feet thick and consists of medium dense, gravelly clayey sand. The colluvium is underlain by alluvial fan deposits that persisted to the bottoms of the borings. The alluvial fan deposits are comprised of medium dense to very dense, sandy silty gravel. Our interpretations of subsurface conditions are depicted on Figure 10.

5.3. Groundwater

According to the prior reports and boring logs, groundwater was not encountered in any of the borings on the subject property. Additionally, according to T&R, the borings on the site that is southwest of the subject property, at a lower elevation, encountered water at about 21 to 24 feet bgs. Fluctuations in the level of subsurface water could occur due to variations in rainfall, temperature, and other factors not evident at the time the observations were made.

5.4. Laboratory Testing

As discussed above in the "Prior Reports" section, moisture content, dry density, gradation, and plasticity index testing was performed by other consultants on samples obtained from the prior borings. The results of the moisture content and dry density tests are presented on the boring logs and the results of the other tests are included in Appendix I.

6. LANDSLIDE SCREENING EVALUATION

As noted above, the northwestern edge of the subject site is mapped within the State Seismic Hazard zone for earthquake-induced landsliding (see Figure 3). The purpose of this qualitative screening evaluation is to evaluate the severity of the potential for earthquake-induced landsliding to occur on the subject site and to determine if further analysis is warranted (CDMG, 1996). In accordance with Special Publication 117A by the California Geological Survey (2008), our screening analysis includes an evaluation of the following questions:

- ***Are existing landslides, active or inactive, present on, or adjacent (either uphill or downhill) to the project site?*** No. Our study and the prior studies for the subject site revealed no mapped landslides within the site or immediate vicinity and we observed no evidence of landslides on the subject property during our site reconnaissance.
- ***Are there geologic formations or other earth materials located on or adjacent to the site that are known to be susceptible to landslides?*** No. According to the geologic map, Pleistocene age alluvial fan deposits underlie the subject site and immediate site vicinity. These materials are not known to be susceptible to landsliding in the general site area.
- ***Do slope areas show surface manifestations of the presence of subsurface water (springs and seeps), or can potential pathways or sources of concentrated water infiltration be identified on or upslope of the site?*** No. Slope areas on the site are generally uniform. We did not observe any evidence of springs or seeps in areas that could affect the proposed building site.

- ***Are susceptible landforms and vulnerable locations present? These include steep slopes, colluvium-filled swales, cliffs or banks being undercut by stream or wave action, areas that have recently slid.*** No. The site slopes are generally uniform and moderately steep, with general slope gradients of about 2:1 that are comprised of a thin veneer of fill and colluvium over alluvial fan deposits. In our opinion, these slopes and underlying materials do not represent susceptible landforms.
- ***Given the proposed development, could anticipated changes in the surface and subsurface hydrology (due to watering of lawns, on-site sewage disposal, concentrated runoff from impervious surfaces, etc.) increase the potential for future landsliding in some areas?*** No. In our opinion, the current development concept will not increase the potential for landsliding on the subject site.

7. FINDINGS

Based upon the results of our updated study, it is our opinion that, from engineering geologic and geotechnical engineering perspectives, the subject property may be developed as planned, provided the recommendations presented in this report are incorporated into the design and construction of the proposed improvements. In our opinion, the primary constraints to the proposed development include the presence of undocumented fill and/or colluvium blanketing the supportive alluvial fan deposits on the moderately steep site slopes, and the site's seismic setting.

7.1. Proposed Building Site

Prior subsurface exploration revealed that the proposed building site is underlain at depth by alluvial fan deposits. The supportive alluvial fan deposits within the building area are blanketed by up to approximately 7 feet of non-supportive undocumented fill and/or colluvium. Where located on moderate to steep slopes, these non-supportive materials can experience imperceptibly slow downhill creep under the force of gravity. The underlying, supportive alluvial fan deposits are comprised of medium dense to very dense, sandy silty gravel. In our opinion, the alluvial fan deposits should provide adequate support for the foundations of a proposed residence and associated improvements.

Standard penetration test results suggest that cobbles and boulders within the alluvial fan deposits at the site can be very hard locally. We recommend that the contractor plan for this condition in choosing the appropriate means and methods of excavating the foundations for the proposed improvements.

7.2. Slope Stability

Based upon our site reconnaissance, review of stereo-paired aerial photographs, and our review of prior reports, our study revealed no evidence of recent landsliding on the subject property. Because of the moderately steep slopes and fill and colluvium that blanket the alluvial fan deposits on the subject property, the occurrence of a new, shallow landslide within or adjacent to

the subject property cannot be excluded. A new, shallow landslide (approximately less than 10 feet deep) in this area could be triggered by excessive precipitation or strong ground shaking associated with an earthquake. In our opinion, a landslide of this nature should not constitute an immediate threat to the integrity of the proposed residence and associated improvements, provided they are designed and constructed in accordance with the recommendations of this report.

Based upon our review of the subsurface conditions defined by prior studies that revealed very dense alluvial deposits at depth and our interpretation of the geologic setting in the site vicinity, it is our opinion that the potential for deep-seated landsliding is negligible.

The long-term stability of many hillside areas is difficult to predict. A hillside will remain stable only as long as the existing slope equilibrium is not disturbed by natural processes or by the acts of Man. Landslides can be activated by a number of natural processes, such as the loss of support at the bottom of a slope by stream erosion or the reduction of soil strength by an increase in groundwater level from excessive precipitation. Artificial processes caused by Man include improper grading activities, the introduction of excess water through excessive irrigation, improperly designed or constructed leachfields, and poorly controlled surface runoff.

Although our knowledge of the causes and mechanisms of landslides has greatly increased in recent years, it is not yet possible to predict with certainty exactly when and where all landslides will occur. At some time over the span of thousands of years, most hillsides will experience landslide movement as mountains are reduced to plains. Therefore, a small but unknown level of risk is always present to structures located in hilly terrain. Owners of property located in these areas must be aware of, and willing to accept, this unknown level of risk.

7.3. Seismicity

Our review of prior studies on the subject property revealed a relatively uniform layer of alluvial fan deposits, with no evidence suggestive of fault offset through the subject site. Lineaments shown on Figure 7 (Nolan Associates, 1999) do not correlate with the trend of the concealed fault trace that was mapped southwest of the subject site by Mclaughlin et. al., 2001 (see Figure 2). We encountered no evidence suggesting that the fault trace crosses beneath the subject site.

Based upon our reconnaissance and review of published geologic maps, literature, aerial photographs, and other consultants' reports, we conclude that even if a trace of the Shannon fault exists near the subject property, there is no evidence that subsurface fault rupture has occurred at the site within the last 11,000 years.

As discussed above, the site is underlain by a thick section of alluvial deposits. Based upon borings performed by T&R and the site's regional settings, we anticipate the alluvial deposits to be several tens of feet thick below the subject site. We conclude that fault movement resulting in displacements within the bedrock beneath the alluvial deposits would propagate upward through uncemented alluvial deposits in a flower pattern. The uncemented alluvial materials would shift and realign, dispersing the amount of deformation at the ground surface. We conclude that there is a low risk for fault related ground deformation to adversely affect the structural integrity of the proposed improvements.

It is reasonable to assume that the site will be subjected to very strong ground shaking from a major earthquake on at least one of the nearby active faults during the design-life of future improvements. During such an earthquake, it is our opinion that the danger from surface fault rupture through the site is low. Ground deformation may occur as the alluvial materials shift and realign, yet we anticipate total deformations of less than 6 inches across a horizontal distance of several hundred feet. This amount of potential deformation should not pose a safety risk to ordinary structures that are designed and constructed in accordance with current standards.

8. RECOMMENDATIONS

Because the proposed project is still in a relatively early phase of development, it is conceivable that changes and additions will be made to the proposed development concept following submission of this report. We recommend that as various changes and additions are made, you contact us to evaluate the geotechnical aspects of these modifications.

As currently planned, a new three-story, single-family residence will be constructed into the northwest-facing hillside, with the two lower levels of the home daylighting toward the northwest. The uppermost level will consist of a two-car garage and roof-top deck. We understand that a bridge will be constructed to serve as a driveway to allow access to the roof-top garage from Bella Vista Avenue. In addition, current project plans indicate that several site and building retaining walls will be constructed. Concrete slabs-on-grade may be used to construct patios, walkways, and the approach portion of the driveway leading from Bella Vista Avenue to the bridge.

The following recommendations must be incorporated into all aspects of future development.

8.1. Location of Proposed Improvements

The proposed improvements must be confined to the approximate building area shown on Figure 9. Do not construct improvements outside of this generalized area without written approval from C2. If other structures are planned in the future, we must evaluate their locations to provide appropriate geotechnical engineering design criteria.

8.2. Seismic Design Criteria

We recommend that the project structural design engineer provide appropriate seismic design criteria for proposed foundations and associated improvements. The following information is intended to aid the project structural design engineer to this end and is based on criteria set forth in the 2013 California Building Code (CBC). The mapped spectral accelerations and site coefficients were computed using the USGS Seismic Design Maps tool with the 2010 ASCE 7 design code reference (updated 2013).

Design Parameters

Latitude = 37.2262º
Longitude = -121.9706º
Site Class = C
S_s = 2.654 S_1 = 1.012
F_a = 1.0 F_v = 1.3

Experience has shown that earthquake-related distress to structures can be substantially mitigated by quality construction. We recommend that a qualified and reputable contractor and skilled craftsmen build the associated improvements. We also recommend that the project structural design engineer and project architect monitor the construction to make sure that their designs and recommendations are properly interpreted and constructed.

8.3. Earthwork

At the time of this study, the full extent of any proposed earthwork had not been finalized. We anticipate that a moderate amount of grading will be required to construct the proposed improvements. Any proposed earthwork should be performed in accordance with the recommendations provided below.

8.3.1. Clearing and Site Preparation

- Clear all obstructions, including brush, trees not designated to remain, and debris on any areas to be graded.
- Clear and backfill any holes or depressions resulting from the removal of underground obstructions below proposed finished subgrade levels with suitable material compacted to the requirements for engineered fill given below.
- After clearing, strip the site to a sufficient depth to remove all surface vegetation and organic-laden topsoil. This material must not be used as engineered fill; however, it may be used for landscaping purposes.

8.3.2. Fill Material

- Based on our review of the boring logs and laboratory data from prior studies, it is our opinion that the materials encountered in the borings should be suitable for use as fill. The on-site materials meeting the requirements specified below may be used as engineered fill.
- Materials used for engineered fill must meet the following requirements:
  1) They must have an organic content of less than 3% by volume,
  2) no rocks or lumps greater than 6 inches in maximum dimension, and
  3) no more than 15% of the fill may be greater than 2½ inches in maximum dimension.
- If on-site materials do not meet the requirements given above, they may be off-hauled or used for landscaping purposes only.
- In addition to the requirements above, any imported fill must have a plasticity index (PI) of 15% or less.

8.3.3. Benches

- Fill placed on slopes in excess of 5:1 must be benched into the underlying, supportive alluvial fan deposits to provide a firm, stable surface for support of the fill.
- Benches generally must be a minimum of 8 feet wide and must be excavated entirely into the supportive alluvial fan deposits.
- Temporary backslopes may be vertically excavated, provided they are constructed in the dry season and meet Cal OSHA requirements.
- Any required benches must be excavated near level in the direction parallel to the natural slope and must be provided with an approximately 2% gradient sloping into the hillside to provide resistance to lateral movement and to facilitate proper subdrainage.
- **C2 must evaluate the actual location, size, and depth of the required keyway and benches at the time of construction**.

8.3.4. Compaction Procedures

- Prior to fill placement, scarify the surface to receive the fill to a depth of 6 inches.
- Moisture condition the imported fill to the materials' approximate optimum moisture content.
- Spread and compact the fill in lifts not exceeding 8 inches in loose thickness.
- Compact the fill to at least 90% relative compaction by the Modified Proctor Test method, in general accordance with the ASTM Test Designation D1557 (latest revision).
- **C2 must observe the placement and test the compaction of engineered fill.** Provide at least two working days notice prior to placing fill.

8.3.5. Trench Backfill

- Backfill all utility trenches with compacted engineered fill.
- Place suitable on-site soil into the trenches in lifts not exceeding 8 inches in uncompacted thickness, and compact it to at least 90% relative compaction by mechanical means only.
- If imported sand is used, compact it to at least 90% relative compaction. Do not use water jetting to obtain the minimum degree of compaction in imported sand backfill.
- Compact the upper 6 inches of trench backfill to at least 95% relative compaction in all pavement areas.
- **Contact C2 to observe and test compaction of the fill.**

8.3.6. Daylighting Basement Excavation

- Excavate the basement using shoring or an OSHA approved benching or sloping cut configuration selected by an OSHA "Competent Person".
- The contractor is solely responsible for the means and methods of construction and should designate appropriate personnel to act as the Competent Person.
- To aid the Competent Person in their selection of construction means and methods, consider the on-site alluvial fan deposits to be an OSHA Soil Type A. This soil classification must be evaluated and validated by the Competent Person during construction.

8.4. Foundations

Because the basement will be excavated into the hillside, we anticipate that the excavation will expose supportive alluvial deposits. Thus, we recommend that the residence be supported on a mat-slab foundation at the basement level, gaining support in the underlying alluvial deposits. We understand that some areas of the main level may extend laterally uphill or downhill of the basement. We recommend that these areas be structurally cantilevered to be fully supported by the basement walls.

Additionally, we recommend that the northwestern portion of the proposed bridge be structurally connected to the house and the southeastern abutment be supported by drilled, cast-in-place, straight-shaft concrete friction piers gaining support in the underlying alluvial fan deposits.

We understand that three patios are planned within light wells on the downslope side of the home. We recommend that the floor of the patios be constructed either as concrete slabs-on-grade or be integral with the mat-slab foundation for the home. Site retaining walls must be supported on either drilled pier foundations or conventional spread footings, in accordance with the recommendations provided below under the section headed "Retaining Walls."

We recommend that your engineer design and your contractor construct the proposed foundation elements in accordance with the following recommendations.

8.4.1. Mat-Slab

- Support the proposed basement on a mat-slab embedded a minimum of 12 inches into the underlying alluvial deposits, below the plane at which there is a minimum of 5 feet horizontal separation between the downhill face of the excavation and the surface of the alluvial deposits.
- Design support for the mat-slab in the alluvial deposits for an allowable bearing pressure of 2,500 psf for dead plus live loads, with a 1/3 increase for transient loads, including wind and seismic.
- Lateral loads may be resisted by friction between the concrete mat bottom and the supporting subgrade using a friction coefficient of 0.35. If a waterproofing membrane will be placed between the bottom of the mat and the supportive

subgrade, the friction coefficient will be compromised and lateral loads must be resisted by passive pressure or other means.

- As an alternative, a passive pressure equal to an equivalent fluid weight of 350 pcf may be used for the mat if it is poured neat in excavations into the supportive material, below the plane at which there is a minimum of 5 feet horizontal separation between the downhill face of the excavation and the surface of the alluvial deposits.
- Use either passive pressure or the friction coefficient to design for lateral loading. Lateral loads resistance must not combine the use of the friction coefficient and passive pressure.
- We anticipate differential and total settlement of the mat slab founded in supportive material to be less than 1 inch.
- Concrete reinforcing must be provided in accordance with the recommendations of the structural design engineer.
- Provide the mat-slab with appropriate damp proofing. Damp proofing may affect the lateral load resistance (see above).
- **Contact C2 to observe the excavations prior to placing reinforcing steel** to evaluate depth into supportive material.

8.4.2. Drilled Piers

- Drill piers with a minimum diameter of 16 inches and embed them a minimum of 8 feet, or the depth of overburden (whichever is greater), into the underlying alluvial deposits, below the plane at which there is a minimum of 5 feet horizontal separation between the downhill face of the pier and the surface of the alluvial deposits.
- Total pier depth will vary across the building site depending on the depth of the non-supportive soil and the extent of grading. Based on our subsurface exploration, we anticipate that pier depths in the vicinity of the proposed bridge abutment may reach 20 feet below the existing ground surface.
- Design the portion of the piers in the alluvial deposits using a skin friction value of 400 psf for dead plus live loads, with a 1/3 increase for transient loads, including wind and seismic.
- Neglect any portion of the piers in fill and non-supportive colluvium and any point-bearing resistance for support.
- Figure active loads on the upper portion of the piers in the fill and colluvium on the basis of an equivalent fluid weight of 40 pcf taken over **2 times** the pier diameter. The depth of the active loads will vary across the building site depending on the depth of grading. Where the fill and surficial soil is removed by

grading, active loads will be negligible. Where proposed structures are built at existing grades, active loads may extend to depths of approximately 7 feet.

- Design for resistance to lateral loads using a passive pressure equal to an equivalent fluid weight of 350 pcf to a maximum of 3,000 psf taken over **1½ times** the pier diameter for the length of the piers in the alluvial deposits, below the plane at which there is a minimum of 5 feet horizontal separation between the downhill face of the pier and the surface of the alluvial deposits (see Figure 11, Conceptual Pier Pressure Diagram).
- Consider active and passive pressure loading to be negligible within the upper 2 feet of the alluvial deposits in order to account for the orientation to achieve the recommended 5 feet of horizontal separation.
- Anticipate differential and total settlement for piers founded in supportive material to be less than 1 inch.
- Because the alluvial deposits contain large boulders that can be locally very hard, it may be difficult to drill. The contractor should plan for this condition and choose the appropriate means and methods of drilling.
- Clear the bottoms of the pier excavations of loose cuttings and soil fall-in prior to the installation of the reinforcing steel and the placement of concrete.
- Remove any accumulated water in the excavations prior to the placement of steel and concrete.
- Use sono tubes in the tops of the holes to prevent overpour (mushrooming) of the concrete.
- Reinforce the piers with a full-length cage containing a minimum of four No. 5 steel reinforcing bars.
- The structural engineer must determine the actual number, size, location, depth, spacing, and reinforcement of the piers, based on the anticipated bridge and retaining wall loads and the soil engineering design parameters provided above.
- **Contact C2 to observe the piers as they are being drilled** to verify that the piers are founded in material of sufficient supporting capacity.

8.4.3. Bridge Abutment Grade Beams

- Reinforce grade beams with top and bottom reinforcement to provide structural continuity and to permit the spanning of local irregularities.
- Provide good structural continuity between the grade beam and the piers.
- The structural design engineer must determine the actual size and reinforcement of the grade beams.
- Remove any concrete overpour before the concrete has achieved its design strength.

8.4.4. Spread Footing

- Embed spread footings for site retaining walls a minimum of 12 inches into the underlying, supportive alluvial deposits, below the plane at which there is a minimum of 5 feet horizontal separation between the downhill face of the footing and the surface of the alluvial deposits.
- Design the spread footings supported in the alluvial deposits for an allowable bearing pressure of 2,500 psf for dead plus live loads, with a 1/3 increase for transient loads, including wind and seismic.
- All footings adjacent to utility trenches must have their bearing surface below an imaginary plane projected upward from the bottom edge of the trench at a 1:1 (horizontal to vertical) slope.
- Lateral loads may be resisted by friction between the foundation bottoms and the supporting subgrade using a friction coefficient of 0.35.
- As an alternative, a passive pressure equal to an equivalent fluid weight of 350 pcf may be used for footings poured neat in excavations into the alluvial deposits, below the plane at which there is a minimum of 5 feet horizontal separation between the downhill face of the footing and the surface of the alluvial deposits.
- Use either passive pressure or the friction coefficient to design for lateral loading. Lateral loads resistance must not combine the use of the friction coefficient and passive pressure.
- The structural design engineer must determine concrete reinforcing, but as a minimum, all continuous footings must be provided with at least two No. 4 steel reinforcing bars, one placed at the top and one placed at the bottom of the footing, to provide structural continuity and to permit the spanning of any local irregularities.
- Design for differential and total settlement for footings founded in supportive material of less than 1 inch.
- Clear the bottoms of the footing excavations of loose cuttings and soil fall-in prior to the placement of concrete.
- **C2 must observe the footing excavations prior to placing reinforcing steel** to evaluate depth into supportive material.

8.4.5. Retaining Walls

We anticipate that site and building retaining walls will be used to develop the property. The following recommendations are for cantilever type walls. Contact us to provide appropriate recommendations if you consider other types of walls.

- Support residential basement retaining walls on mat-slab foundations designed in accordance with the recommendations given above for the support of the

proposed residence. Support site retaining walls on pier or spread footing foundations.

- Design retaining walls to resist both lateral earth pressures and any additional lateral loads caused by surcharge loads on the adjoining ground surface.
- Deflection of cantilever retaining walls will occur in response to lateral loading. Anticipate horizontal deflections at the top of the wall to be 2 percent of the wall height or less.
- Design unrestrained (active condition) walls with level backfill to resist an equivalent fluid pressure of 40 pcf. Design walls that are restrained from movement at the top or sides (at-rest condition) with level backfill to resist an equivalent fluid pressure of 62 pcf (see Figure 12, Conceptual Retaining Wall Pressure Diagram).
- Add an additional equivalent fluid pressure increment to the active and at-rest condition for sloping backfill, in accordance with the following:

  +5 pcf for slopes up to 4:1 (horizontal to vertical)

  +8 pcf for slopes between 3:1 and 4:1

  +12 pcf for slopes between 2:1 and 3:1

  Contact us to provide additional recommendations for slopes steeper than 2:1
- Design for seismic-loading as the structural engineer deems appropriate. In our opinion, the requirements for seismic design of retaining walls are not clearly defined. If the structural engineer considers seismic loading based upon the procedures presented by Sitar, et. al. (2012), design unrestrained (active condition) residential retaining walls to resist an additional earthquake equivalent fluid pressure (seismic increment) of 25 pcf.
- If seismic loading is considered, design basement retaining walls to resist the most critical loading: either the at-rest condition if the walls are restrained, or the active condition plus the seismic increment if the walls are unrestrained.
- Site walls are not subject to additional earthquake loading requirements.
- Wherever the walls will be subjected to surcharge loads, they must be designed for an additional uniform lateral pressure equal to 1/2 or 1/3 the anticipated surcharge load for restrained or unrestrained walls, respectively.
- The preceding pressures require that sufficient drainage be provided behind the walls to prevent the buildup of hydrostatic pressures from surface or subsurface water infiltration.
- Provide a backdrain system consisting of an approximately 1-foot thick curtain of drainrock (crushed rock or gravel) placed behind the wall.

- Separate the drainrock from the backfill by a geotextile filter fabric, such as Mirafi 140 or an alternative, approved by C2. A 4-inch diameter, heavy-duty, rigid, perforated subdrain pipe (Schedule 40, SDR 21 or equivalent), approved by C2, must be placed with the perforations down on a 2- to 3-inch layer of drainrock at the base of the drain. Where subdrain pipes will be buried deeper than 10 feet, Schedule 80 or equivalent pipe should be used. **Do not use flexible corrugated pipe.**
- As an alternative, back drainage may consist of an approved drainage mat placed directly against the wall. The bottom of the drainage mat must be in contact with the rigid, 4-inch diameter, perforated drainpipe embedded in gravel. The mat's filter fabric must be placed around the drainpipe and between the pipe and the soil.
- The backdrains should extend up the height of the back of the retaining walls to within 1 foot of the height of the retained soil and then be covered with a compacted clay soil cap.
- Details of backdrain options are presented on Figure 13, Conceptual Retaining Wall Backdrain Diagram.
- Perforated retaining wall subdrain pipes must be dedicated pipes and must not connect to the surface drain system. Install the subdrain pipes with a positive gradient of at least 1% and provide them with clean-out risers at their up-gradient ends and at all sharp changes in direction. Changes in pipe direction must be made with "sweep" elbows to facilitate future inspection and clean-out. The perforated pipes must be connected to buried solid pipes to convey collected runoff to discharge onto an energy dissipater at an appropriate downhill location, approved by C2.
- Energy dissipaters may consist of a short "T" fitting placed in a shallow trench and covered with a mound of cobbles (see Figure 14, Conceptual Energy Dissipater Diagram). The discharge must not be located on, or adjacent to, steep, potentially unstable terrain or where runoff will adversely impact adjacent parcels.
- Compact the backfill placed behind the walls to at least 90% relative compaction, using light compaction equipment, in accordance with the compaction procedures given above. If heavy compaction equipment is used, the walls should be appropriately temporarily braced, as the situation requires. If backfill consists entirely of drainrock, it should be placed in approximately 2-foot lifts and must be compacted with several passes of a vibratory plate compactor.
- Perform annual maintenance of retaining wall backdrain systems. This maintenance must include inspection and flushing to make sure that subdrain pipes are free of debris and are in good working order, and inspection of subdrain outfall locations to verify that introduced water flows freely through the discharge pipes and that no excessive erosion has occurred.

- If erosion is detected, C2 must be contacted to evaluate its extent and to provide mitigation recommendations, if needed.
- Provide retaining walls that are adjacent to living spaces and site walls with decorative facing with appropriate damp proofing. We are not qualified to recommend specific damp proofing materials or their applications. Any damp proofing product must be applied in **strict** compliance with the manufacturer's and/or architect's specifications.
- If you select an alternative retaining wall type, you should contact C2 to provide additional recommendations.

8.4.6. Flatwork

We anticipate that concrete slabs-on-grade may be used for the approach portion of the driveway, patios, and walkways. Where located on undocumeted fill and/or colluvium, the overlying flatwork will be subject to downslope migration and/or differential movement. We believe that this condition will result in minor, ongoing cosmetic damage to the flatwork. To mitigate the risk of differential movement of the flatwork, we recommend the following options:

- Option 1: Construct the flatwork using a flexible pavement system that can accommodate differential movement, such as pavers.
- Option 2: Remove and replace the colluvium and/or artificial fill with engineered fill, benched into the supportive alluvial deposits in accordance with the recommendation provided above.
- Option 3: Construct the flatwork to be structually supported on foundations gaining support within the alluvial deposits in accordance with the pier and/or footing recommendations provided above.

For concrete slabs-on-grade, we recommend the following minimum requirements:

- Support concrete slabs-on-grade on a minimum of 6 inches of non-expansive fill compacted to the requirements for compacted fill given above.
- Proof-roll the surface of the non-expansive fill to provide a smooth, firm surface for slab support prior to placement of reinforcing steel.
- Design slab reinforcement in accordance with anticipated use and loading, but at a minimum, reinforce slabs with No. 3 rebar on 18-inch centers each way, placed mid-height in the slab.
- Support the reinforcing from below on concrete blocks (or similar) during concrete pouring to make sure that it remains mid-height in the slab.
- Place grooves in the concrete slabs at 10-foot intervals, or in accordance with the structural design engineer's recommendations, to help control cracking.

Where floor wetness is undesirable:

- The building designer or qualified waterproofing consultant must provide moisture barrier requirements.
- The following recommendations are typical moisture barrier standards. We do not guarantee that these measures will prevent all future moisture intrusion. If necessary, you should contact a qualified waterproofing consultant to provide waterproofing design.
- Traditionally, designers have specified the following: place 4 inches of free-draining gravel beneath the floor slab to serve as a capillary barrier between the subgrade soil and the slab. Following gravel placement, place a heavy-duty membrane over the gravel in order to minimize vapor transmission and then place 2 inches of sand over the membrane to protect it during construction. Just prior to placing concrete, lightly moisten the sand.
- More recent standards suggest using a puncture resistant, heavy-duty membrane (such as a minimum of 15 mil Stego Wrap, or equivalent) in direct contact with the floor slab and underlain by 6 inches of free-draining gravel.
- The structural designer must evaluate moisture conditions related to concrete slab curing and performance. The builder must provide appropriate drying time as determined by the designer.
- Use the gravel, heavy-duty membrane, and/or sand (if specified) in lieu of the upper 6 inches of recommended non-expansive fill.

8.5. Drainage

Based upon our review of a preliminary grading and drainage plan by TS Civil Engineering, we understand that the site surface drainage will be collected and will discharge into a detention system planned for the lower, central-northwestern portion of the property.

Control of surface drainage is critical to the successful performance of the proposed improvements. The results of improperly controlled runoff may include foundation heave and/or settlement, erosion, gullying, ponding, and potential slope instability. To mitigate the risk of improperly controlled runoff, we recommend that you implement the following:

- Prevent surface water from ponding in pavement areas and adjacent to the foundation of the proposed residence and associated improvements.
- Construct pavement areas for proper drainage by sloping them away from structures and by providing area drains.
- Provide the ground surface with a positive gradient sloping away from structures to mitigate ponding water adjacent to the foundations, or as an alternative, install area drains to collect surface runoff.
- Provide roof gutters and downspouts on the structures.

- Do not allow water collected in the gutters to discharge freely onto the ground surface adjacent to the foundation.
- Convey water from downspouts away from the residence via buried, closed conduits or lined surfaces.
- Discharge collected water in an appropriate manner and at an appropriate location approved by C2. Do not locate the discharge on, or adjacent to, steep, potentially unstable terrain.
- Use buried conduits consisting of rigid, smooth-walled pipes (PVC). **Do not use flex-pipes.**
- Provide downspouts with slip-joint connectors or clean-outs, where they are connected to buried pipes, to facilitate maintenance (see Figure 15, Conceptual Downspout Clean-Out Diagram).
- Convey all collected water away from the structures via buried, closed conduit or hard surfaced drainage way and discharge into the on-site detention system at an appropriate downslope location approved by C2. The discharge must not be located on, or adjacent to, steep, potentially unstable terrain or where runoff will adversely impact adjacent parcels.
- Perform annual maintenance of the surface drainage systems, including:

    1. inspecting and testing roof gutters and downspouts to make sure that they are in good working order and do not leak;
    2. inspecting and flushing area drains to make sure that they are free of debris and are in good working order; and
    3. inspecting surface drainage outfall locations to verify that introduced water flows freely through the discharge pipes and that no excessive erosion has occurred.

- Contact C2 if erosion is detected so that we may evaluate its extent and provide mitigation recommendations, if needed.

9. PLAN REVIEW AND CONSTRUCTION OBSERVATION

We must be retained to review the final grading, foundation, and drainage control plans in order to verify that our recommendations have been properly incorporated into the proposed project. **WE MUST BE GIVEN AT LEAST ONE WEEK TO REVIEW THE PLANS AND PREPARE A PLAN REVIEW LETTER.**

We must also be retained to observe the grading and the installation of foundations and drainage systems in order to:

- verify that the actual soil conditions are similar to those encountered in our study;
- provide us with the opportunity to modify the foundation design, if variations in conditions are encountered; and
- observe whether the recommendations of our report are followed during construction.

Sufficient notification prior to the start of construction is essential, in order to allow for the scheduling of personnel to insure proper monitoring.

WE MUST BE NOTIFIED AT LEAST TWO WEEKS PRIOR TO THE ANTICIPATED START-UP DATE. IN ADDITION, WE MUST BE GIVEN AT LEAST TWO WORKING DAYS NOTICE PRIOR TO THE START OF ANY ASPECTS OF CONSTRUCTION THAT WE MUST OBSERVE.

The phases of construction that we must observe include, but are not necessarily limited to, the following.

1. **EARTHWORK:** During site grading to observe benching into supportive material and test the compaction of engineered fill
2. **MAT-SLAB:** Near completion of the mat-slab excavation to evaluate depth to supportive material
3. **DRILLED PIER EXCAVATION:** During drilling to evaluate depth to supportive material and final pier depths
4. **FOOTING EXCAVATION:** Prior to placement of reinforcing steel to evaluate depth to supportive material
5. **RETAINING WALL BACKDRAIN:** During installation
6. **RETAINING WALL BACKFILL:** During backfill to observe and test compaction
7. **SLABS-ON-GRADE:** Prior to and during placement of non-expansive fill to observe the subgrade preparation and to test compaction of non-expansive fill
8. **SURFACE DRAINAGE SYSTEMS:** Near completion to evaluate installation and discharge locations

* * * * * * * * *

A Bibliography, a List of Aerial Photographs, and the following Figures and Table are attached and complete this report.

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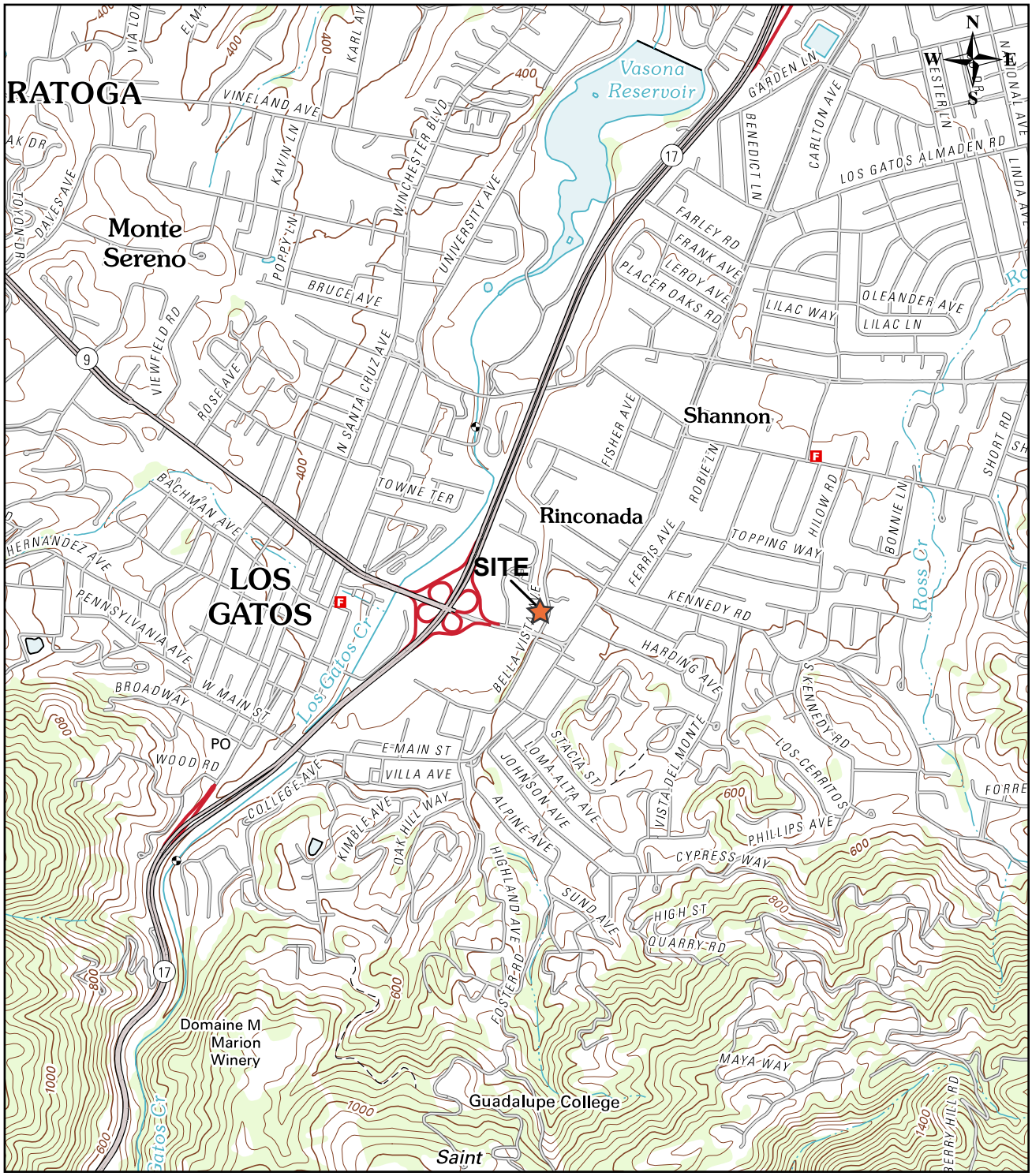
"BAY AREA TRANSPORTATION STUDY", black and white, dated May 15, 1965, at a scale of 1" = 1,000', Aerial Survey Contract No. 67615, Serial Nos. SCL 9-117 and SCL 9-118, State of California Highway Transportation Agency, Division of Highways.

FIGURES AND TABLE

FIGURE NO.

APPENDIX

TABLE NO.



BASE: The National Map US Topo; UNITED STATES GEOLOGICAL SURVEY; 2012

SITE LOCATION MAP

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ROSS PROPERTY
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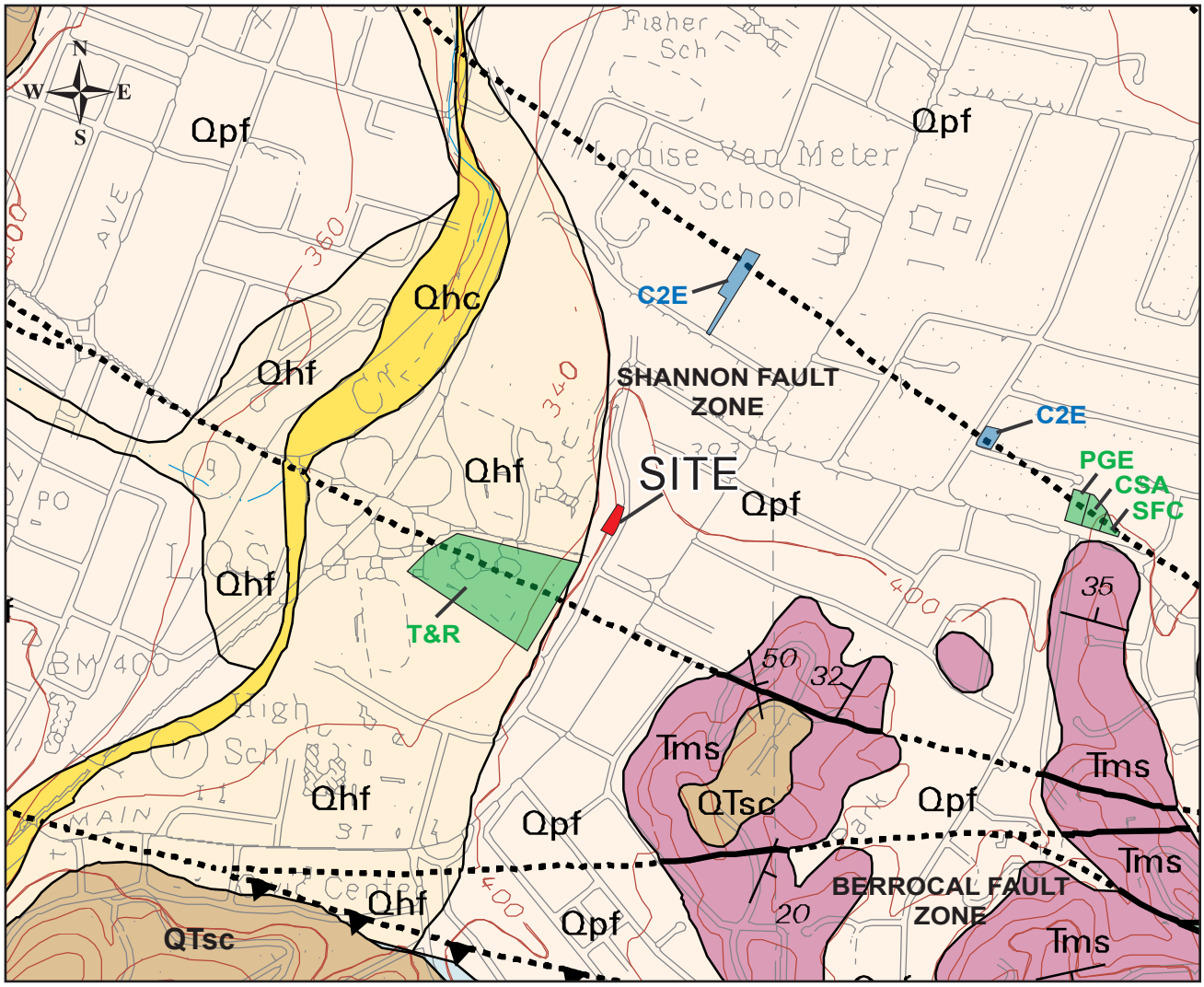
Los Gatos, California

DRAFTED/REVIEWED	SCALE	DOCUMENT ID.	DATE	
JB/CH	1" = 2,000'	15068C-01R1	June 2015	Figure 1



EXPLANATION

Qhf	- Alluvial fan deposits (Holocene)		
Qhc	- Stream channel deposits	15 Strike and dip	
Qpf	- Alluvial fan deposits (Pleistocene)		
QTsc	- Santa Clara formation	Geologic contact	
Tms	- Monterey shale	Fault	
Jos	- Serpentinized ultramafic rock	dashed where approximate and dotted where concealed	
fm	- Melange		
fpv	- Volcanic rocks	Thrust fault	barbs on upper plate

C2E	- Studies by C2Earth, Inc.
	Studies by Other Consultants:
T&R	- Treadwell & Rollo, 2008
PGE	- Pacific Geotechnical Engineering, 2005
CSA	- Cotton, Shires & Associates, Inc., 1999
SFC	- Steven F. Connelly, C,E.G., 2007

BASE: Sheet 1: Los Gatos Quadrangle, Geologic Maps and Structure Section of the Southwestern Santa Clara Valley and Southern Santa Cruz Mountains, Santa Clara and Santa Cruz Counties, California; MCLAUGHLIN, ET AL.; 2001

REGIONAL GEOLOGIC MAP

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JB/CH	1" = 1,000'	15068C-01R1	June 2015	Figure 2

EXPLANATION

- **Earthquake-Induced Landslides;** Areas where previous occurence of landslide movement, or local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements.

- **Liquefaction;** Areas where historic occurence of liquefaction, or local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements.

BASE: Seismic Hazard Zones; Los Gatos Quadrangle; California Geological Survey; 9-23-02

REGIONAL SEISMIC HAZARD ZONES MAP

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JB/CH	1" = 1,000'	15068C-01R1	June 2015	Figure 3

EXPLANATION

- Town Boundary
- Creek
- Severe Landslide Hazard
- Landslide Potential

BASE: Town of Los Gatos General Plan Update; Landslide Hazard Areas, Figure 16-4; SANTA CLARA COUNTY; 2006

LOCAL LANDSLIDE HAZARD AREAS MAP

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JB/CH	1" = 1,000'	15068C-01R1	June 2015	Figure 4

EXPLANATION

Fault Rupture Potential

- Town Boundary
- Creek
- High
- Moderate

BASE: Town of Los Gatos General Plan Update; Fault Rupture Hazard Zones, Figure 16-2; NOLAN ASSOCIATES; 1999

LOCAL FAULT RUPTURE POTENTIAL MAP

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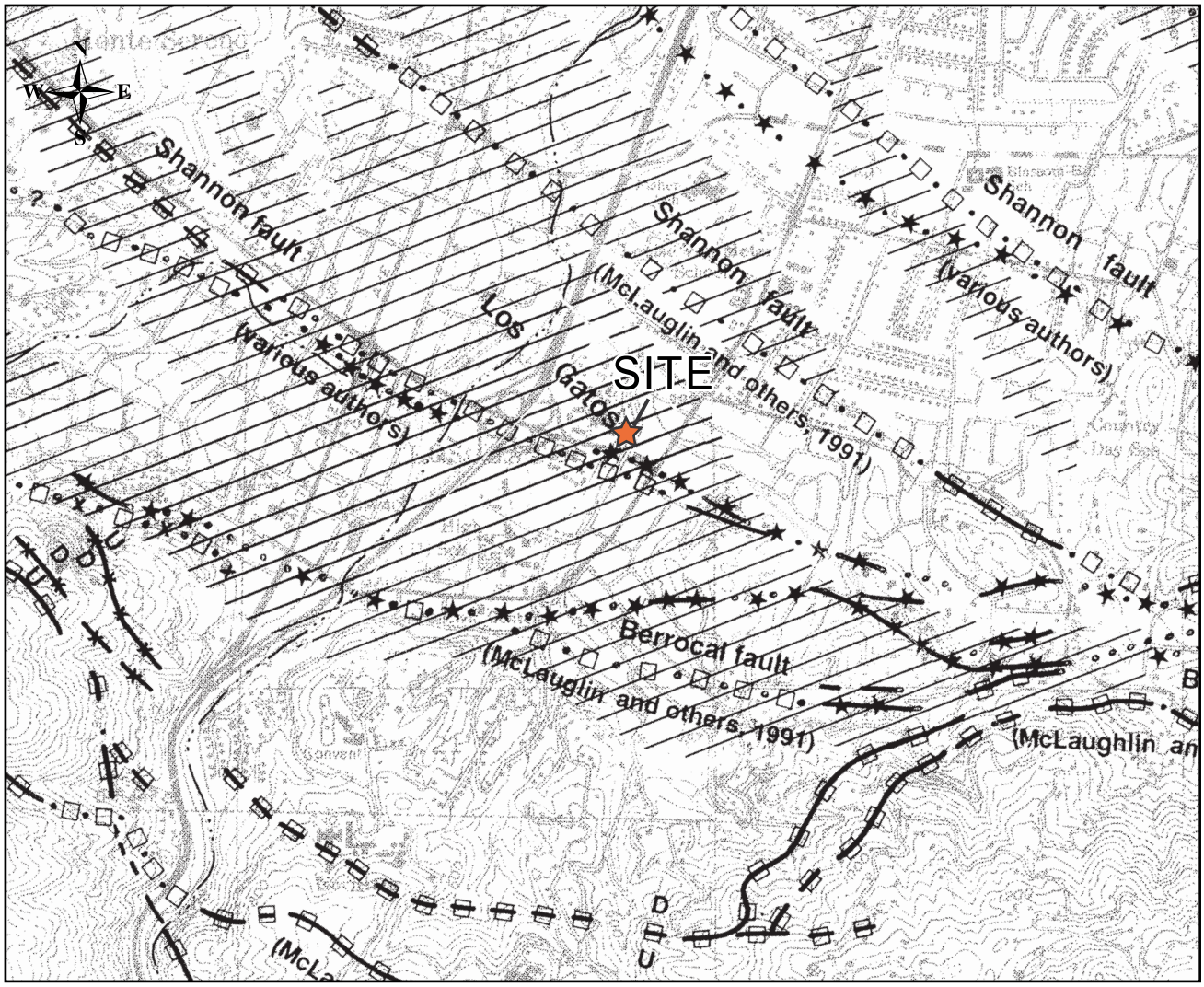
JB/CH	1" = 1,000'	15068C-01R1	June 2015	Figure 5



EXPLANATION

- **Zone of lineaments**

- **Fault**
  dashed where approximately located
  dotted where concealed
  U = up D = down

Previously identified faults:

Bailey and Everhart (1964)

Mc Laughlin and others (1991)

BASE: Faults and Folds Mapped During Previous Investigations and Zones of Lineaments Between Los Altos Hills and Los Gatos, California; Plate #1; WILLIAM LETTIS & ASSOCIATES, INC.; March 1994

FAULTS, FOLDS, AND ZONES OF LINEAMENTS MAP

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JB/CH	1" = 2,000'	15068C-01R1	June 2015	Figure 6

EXPLANATION

- Concentration of coseismic ground deformation

- Fault trace
  dashed where uncertain
  dotted where concealed

s - Lineation indicative of faulting. Interpreted from aerial photograph analysis.
  v = vegetation
  t = tonal
  ld = linear depression
  lf = linear front
  s = saddle

BASE: Town of Los Gatos General Plan Update; Fault, Lineament & Coseismic Deformation Map; Plate #3; NOLAN ASSOCIATES; 1/17/99

FAULT, LINEAMENT, AND COSEISMIC DEFORMATION MAP

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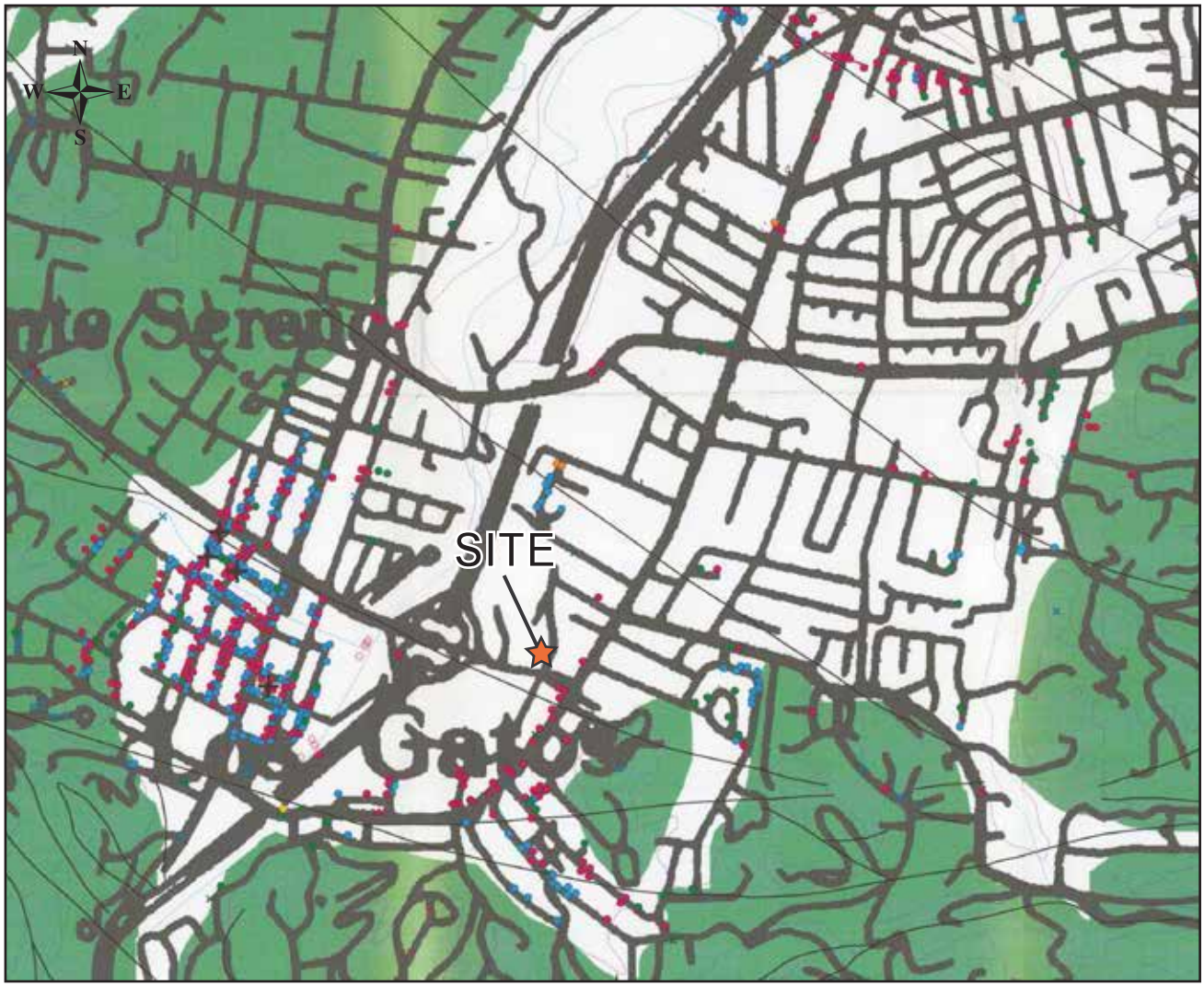
JB/CH	1" = 2,000'	15068C-01R1	June 2015	Figure 7



EXPLANATION

- Fresh pavement break or buckle suggestive of contractional deformation (reported by USGS; some also reported by local governments)
- Apparently fresh pavement break with unspecified sense of deformation (reported by USGS; some also reported by local governments)
- Pavement break with unspecified sense of deformation (reported by local governments)
- Combination of pre-earthquake and coseismic break in pavement (reported by USGS and local governments)

BASE: Map of Pavement and Pipe Breaks As Indicators of Range-Front Faulting Resulting From the 1989 Loma Prieta Earthquake; SCHMIDT ET AL; 1995

MAP OF OBSERVED DISTRESS FROM THE 1989 LOMA PRIETA EARTHQUAKE

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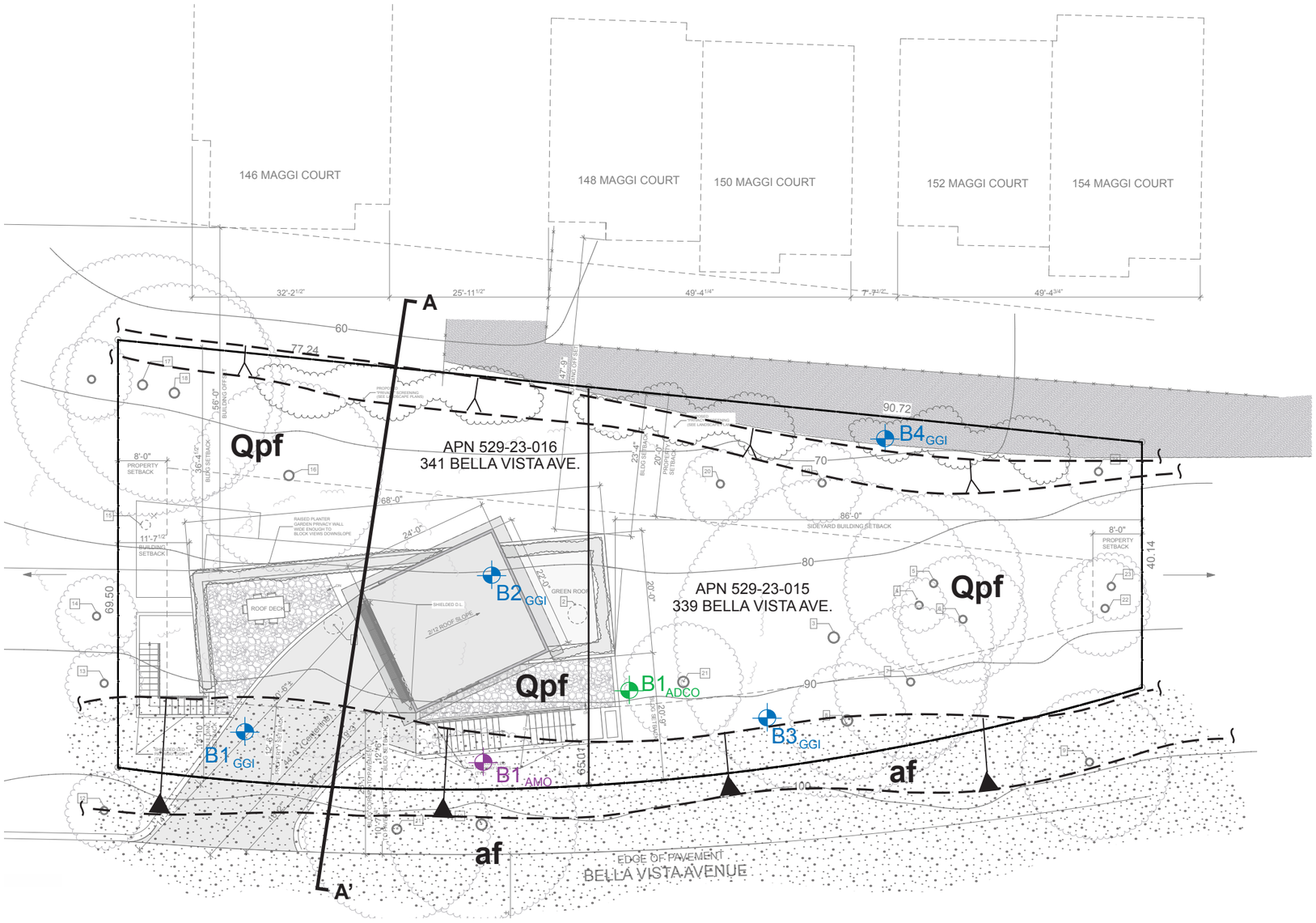
JB/CH	1" = 2,000'	15068C-01R1	June 2015	Figure 8



EXPLANATION

- af - Artificial Fill
- Qpf - Alluvial Fan Deposits
- TOP / TOE - Fill Slope
- TOP / TOE - Cut Slope
- A A' - Geologic Cross-Section Location
- $B1_{GGI}$ - Test Boring Location and Number (Gilpin Geosciences, Inc., 2007)
- $B1_{AMO}$ - Test Boring Location and Number (Ali M. Oskooroouchi, 2005)
- $B1_{ADCO}$ - Test Boring Location and Number (ADCO Engineering, 1998)
- Proposed Residence and Bridge / Driveway

SCALE

20 0 20 40 FEET

NOTE: This plan is a conceptual illustration of observed geotechnical and geologic features and should not be used for any other purpose.

BASE: Site Plan; Sheet A-1.2; 13 November 2014

UPDATED SITE PLAN AND ENGINEERING GEOLOGIC MAP

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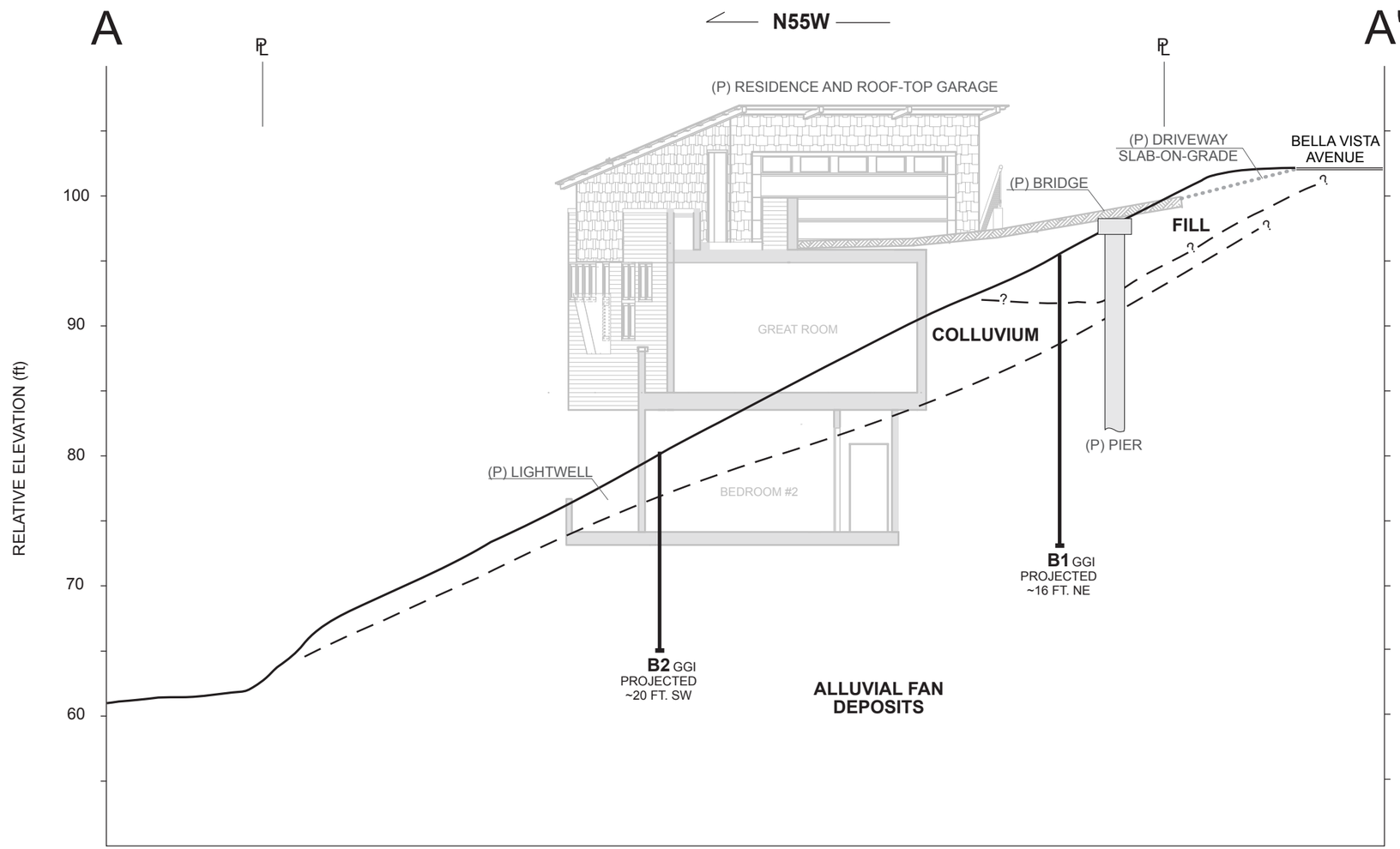
JB/CH	As Shown	15068C-01R1	June 2015	Figure 9



NOTE: This cross-section is a conceptual illustration of general geologic relationships and should not be used for any other purpose.

BASE: Geologic Cross-Section A-A'; Figure 4; GILPIN GEOSCIENCES, INC.; 14 March 2007
Building Section 2; Sheet A-4.2; 7 November 2014

UPDATED GEOLOGIC CROSS-SECTION A-A'

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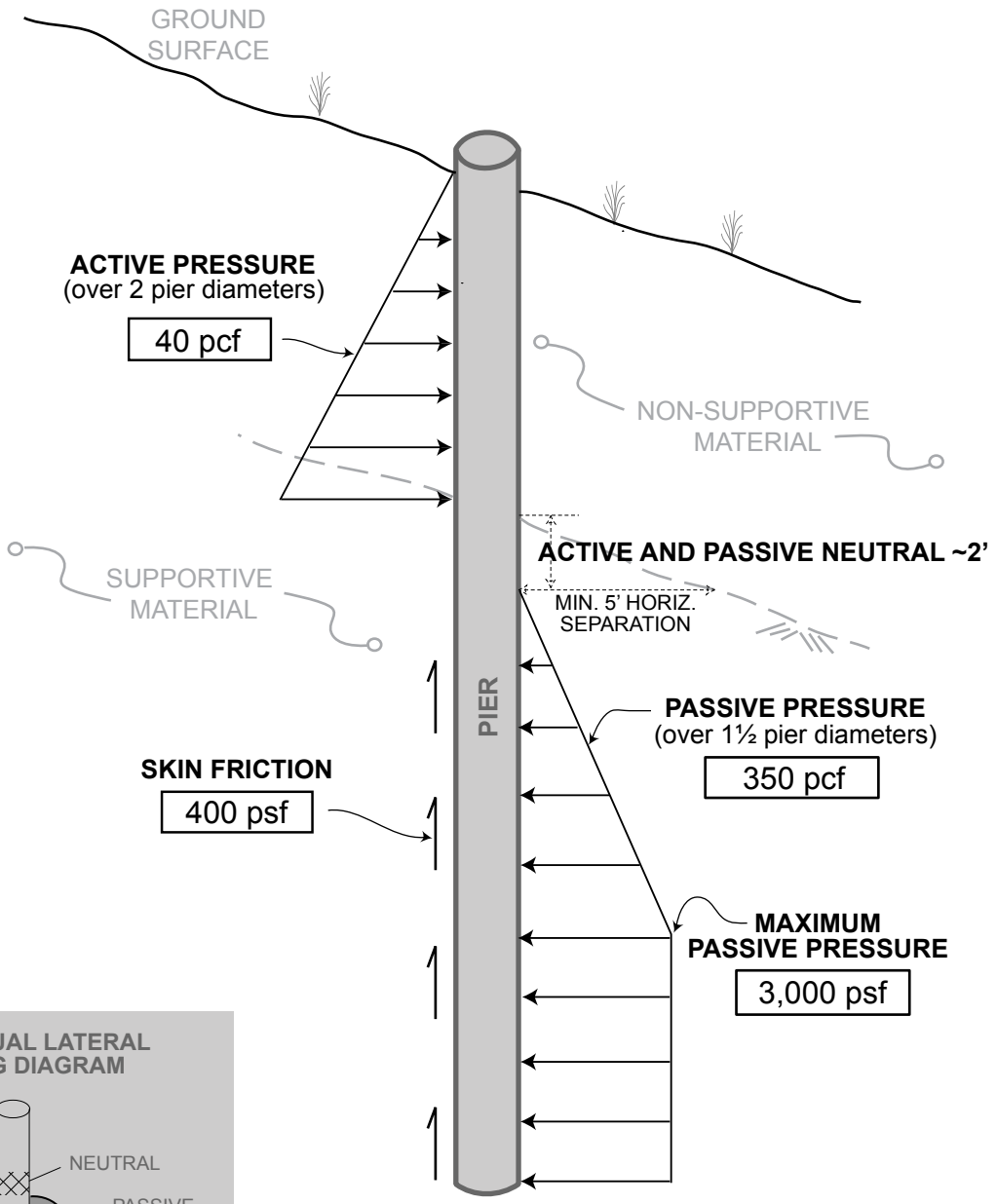
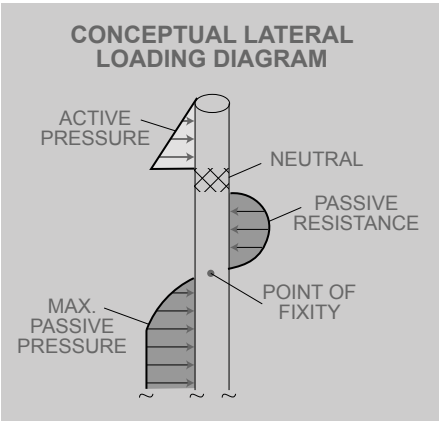
JB/CH	1"= 10'	15068C-01R1	June 2015	Figure 10





CONCEPTUAL PIER PRESSURE DIAGRAM

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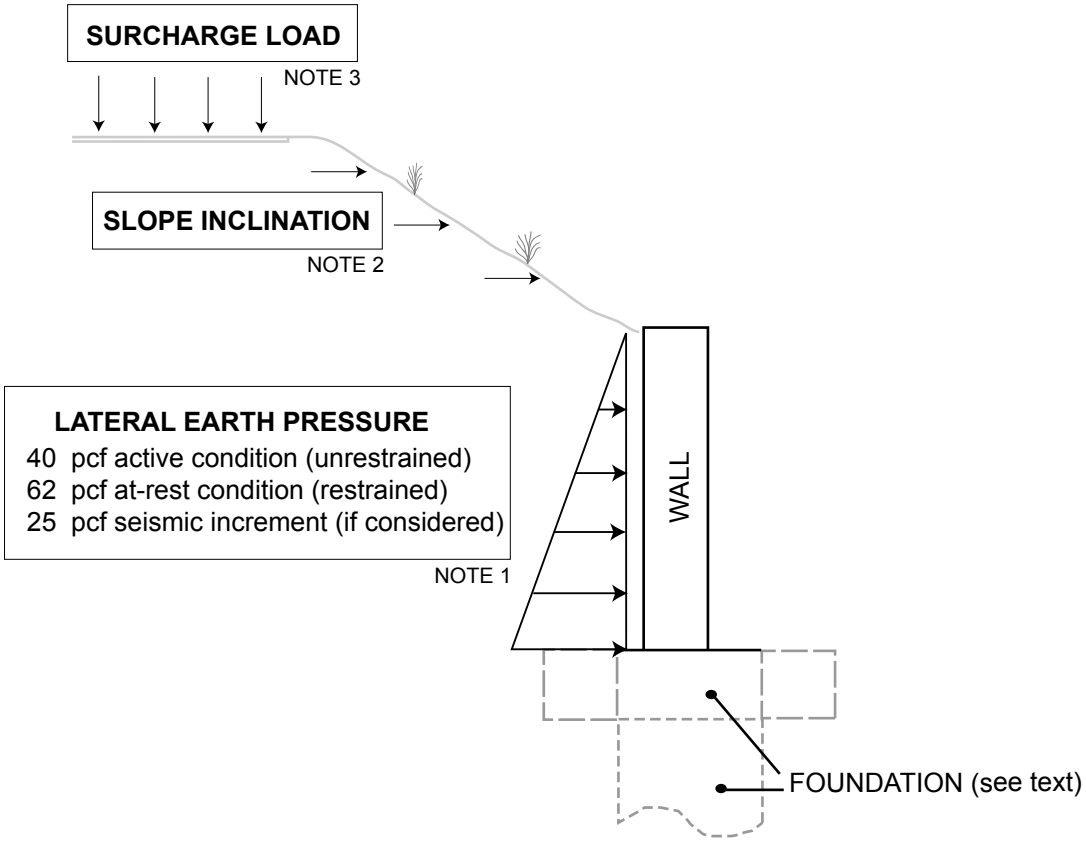
JB/CH	Not Applicable	15068C-01R1	June 2015	Figure 11



Note 1: Lateral earth pressures are shown for drained retaining walls. Contact us to provide additional recommendations if undrained walls are planned.

Note 2: Add an additional equivalent fluid pressure increment to the active and at-rest condition for sloping backfill above the wall:

+5 pcf for slope inclinations up to 4:1 (horizontal to vertical)
+8 pcf for slope inclinations between 3:1 and 4:1
+12 pcf for slope inclinations between 2:1 and 3:1

Note 3: Additional lateral load equal to 1/3 (unrestrained) or 1/2 (restrained) the anticipated surcharge load.

CONCEPTUAL RETAINING WALL PRESSURE DIAGRAM

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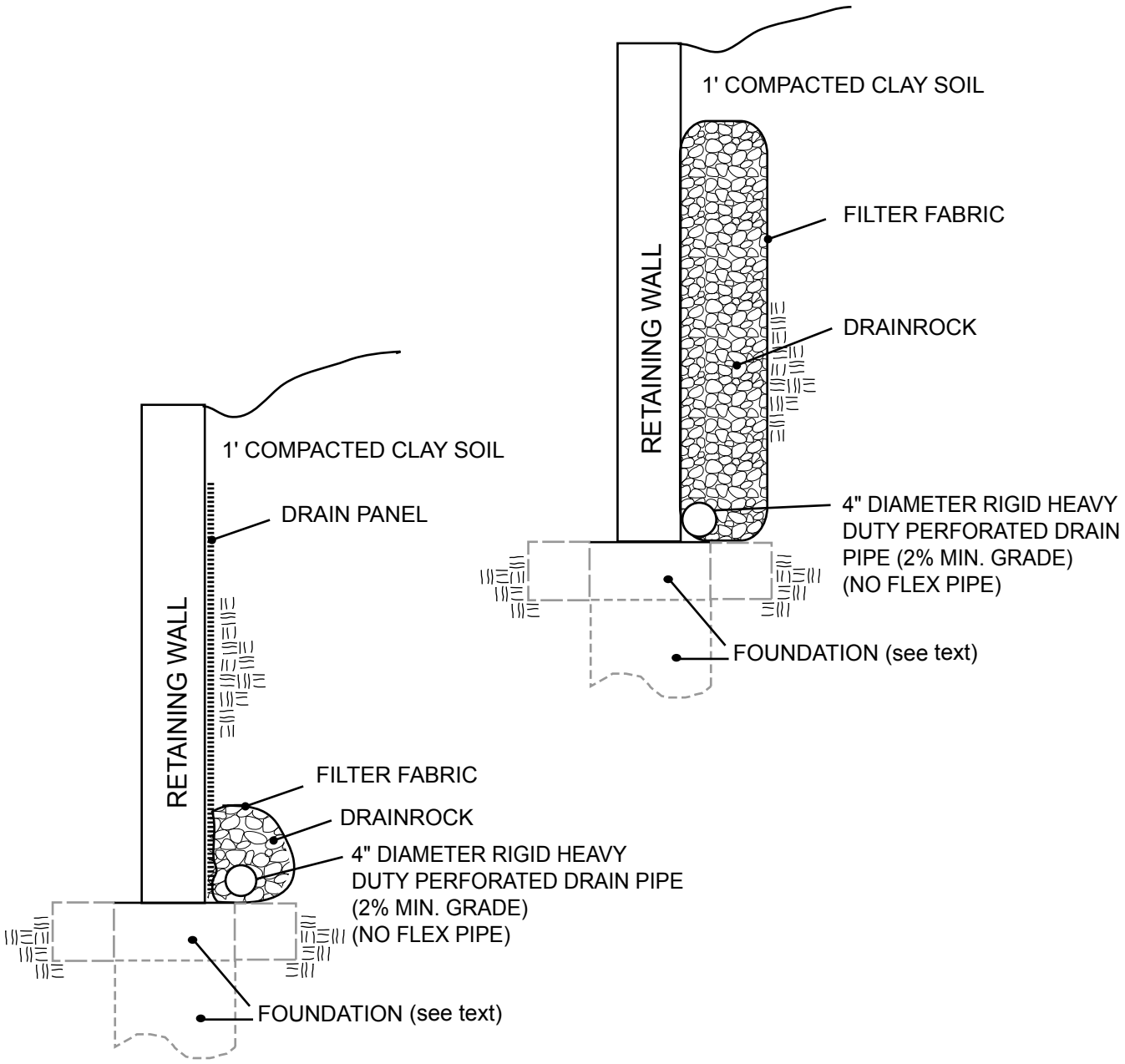
JB/CH	Not Applicable	15068C-01R1	June 2015	Figure 12



CONCEPTUAL RETAINING WALL BACKDRAIN DIAGRAM

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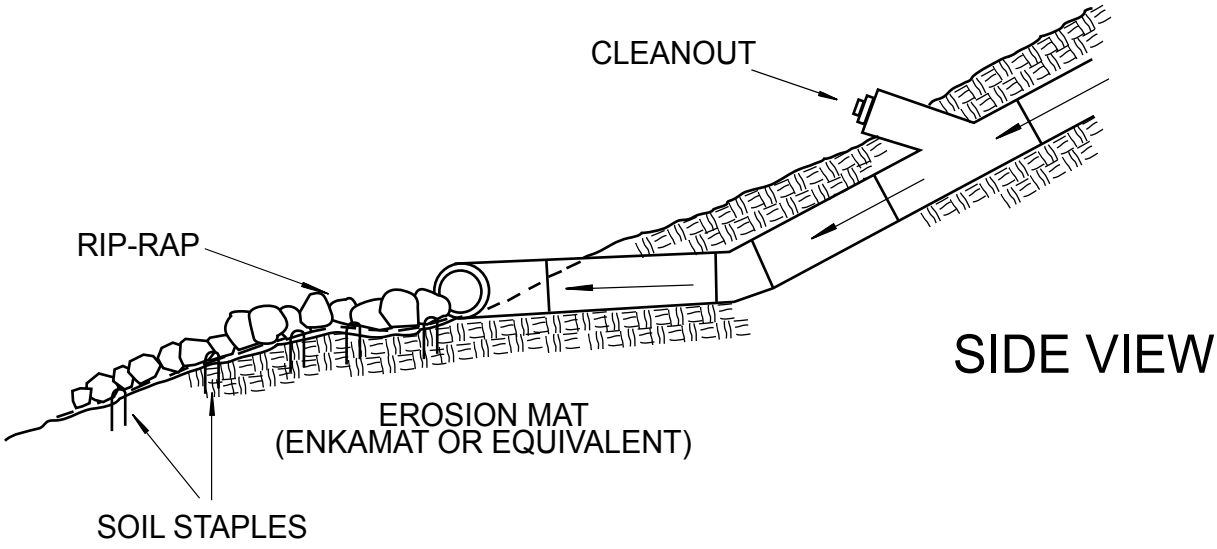
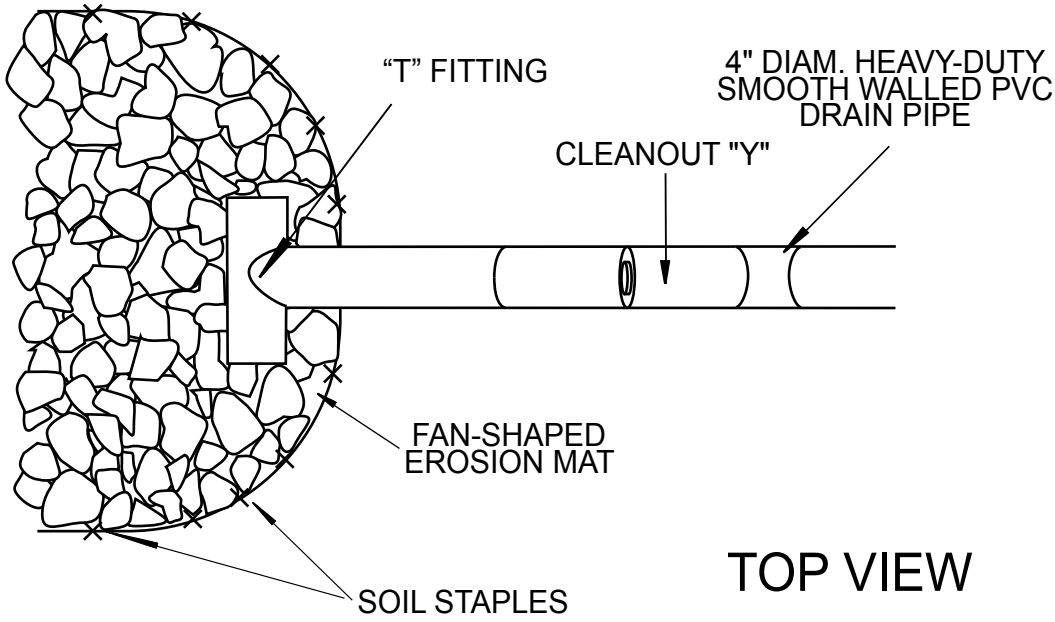
JB/CH	Not Applicable	15068C-01R1	June 2015	Figure 13





CONCEPTUAL ENERGY DISSIPATER DIAGRAM

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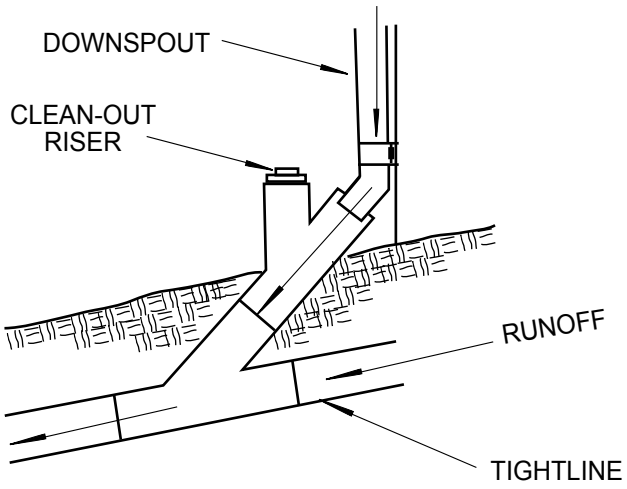
JB/CH	Not Applicable	15068C-01R1	June 2015	Figure 14



CONCEPTUAL DOWNSPOUT CLEAN-OUT DIAGRAM

UPP GEOTECHNOLOGY
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ROSS PROPERTY
339 and 341 Bella Vista Avenue
Los Gatos, California

DRAFTED/REVIEWED	SCALE	DOCUMENT ID.	DATE	
JB/CH	Not Applicable	15068C-01R1	June 2015	Figure 15

APPENDIX I

BORING LOGS AND LABORATORY TEST DATA
FROM PRIOR STUDIES

Logged By: J.B.

Exploratory Boring Log

Hole No. B-1

Job No. 98-1179-S1

Dry Density p.c.f.	Moisture Content %	Penet. Resist. Blows/ft.	Unconf. Comp. Strenght, k.s.f.	Direct Shear Test "C" k.s.f.	Direct Shear Test "O" Degree	Sample Number	Depth in Feet	Boring Log	DESCRIPTION
121.3	12.5	56		1.3	22	1-1	5		DARK SANDY SILT WITH LARGE ROCK, STIFF, MOIST VERY HARD TO DRILL
							10		
							15		
							20		Boring terminated @ 20'

Remarks:

Figure 4 – Logs of Test Borings

ADCO ENGR.

EXPLORATORY BORING LOG

No. B-B-1

PROJECT: **BELLA VISTA DEVELOPMENT**	DATE: 5/25/2005	LOGGED BY: AMO
DRILL COMPANY: Powered Hand Augur	BORING DIA.: 8 1/4"	BORING ELEV.: ---
GROUNDWATER DEPTH: Not Encountered	SAMPLER: **L=3" O.D.; M=2" O.D.; *= SPT; B=BULK; S=SLOUGH**	

NOTES: Sunny at 92 F, Boring at 4 feet from the edge of A/C pavement

DESCRIPTION	USCS SOIL TYPE	DEPTH (feet)	SAMPLE	BLOWS PER FOOT	POCKET PEN. (tsf)	DRY DENSITY (pcf)	WATER CONTENT (%)	FINES (%)	SANDS (%)	GRAVELS (%)	LIQUID LIMIT	PLASTIC LIMIT	DIRECT SHEAR: FRIC. ANG. f (deg.)	DIRECT SHEAR: COHESION, c (ksf)
Sandy Gravel mixed with Top Soil, Roots, and Organic Materials		1												
		2												
		3	B				10.4	8.0	32	40				
Brown Sandy Gravel with fines and cobbles Shear strength did not drop significantly upon saturation in field. Permeability is estimated to be 10^{-3} cm/sec (field test)		4												
		5	B											
		6												
Boring terminated at 6 feet		7												
		8												
		9												
		10												
		11												
		12												
		13												
		14												
		15												
		16												
		17												
		18												
		19												
		20												
		21												
		22												
		23												
		24												
		25												

PROJECT NO.: BL-01-05 — Ali Oskoorouchi, Ph.D., P.E., G.E. — PAGE 1 OF 1

PROJECT: **Bella Vista Development**
339-341 Bella Vista Avenue, Los Gatos

Log of Boring B-1

Boring location: 17 feet west of and 7 feet downslope of Bella Vista Ave.
Logged by: Rick Ford

Date started: 02-20-07 | Date finished: 02-20-07

Drilling method: Minute Man/Portable Rig 4" solid stem/Cathead

Hammer weight/drop: 140 lbs./ 30 inches | Hammer type: Manual

LABORATORY TEST DATA

Sampler: Sprague & Henwood split-barrel, SPT, CAL 2"

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/foot[1]	LITHOLOGY	MATERIAL DESCRIPTION	Gravels %	Sands %	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
					Ground Surface Elevation: 94.0 feet [2]					
1–4	S&H		13	FILL	GRAVELLY CLAYEY SAND (SC), brown, loose to medium dense, slightly moist, sub-angular to rounded pebbles to cobbles, roots to .25 inches dia. (FILL)				7.4	109
						34.6	49.5	15.9	6.5	116
4–5	SPT		19	Qc	light yellowish brown, medium dense, dry, (COLLUVIUM)				5.4	
6–7					Harder drilling					
8	SPT		58	Qpf	SANDY SILTY GRAVEL (GC), light brown and brown mottled, sand matrix, medium dense to dense, dry, clasts consist of reddish-orange to buff weathered sandstone and gray mudstone, sub-angular to rounded pebbles to cobbles, roots to .125 inches dia.(Alluvium)	35.9	45.9	18.2	4.9	
9–10	SPT		60		sub-rounded pebbles in cuttings					
11–13										
14	SPT		53							
15–18										
18	CAL		60/6"							
19	SPT		65							
20	CAL		50/6"			67.3	27.4	5.3	5.9	
21	SPT		94							
22	SPT		87		Refusal in boulder (?)	40.6	48.2	11.2	6.1	
23–30					Boring Terminated at 22.5 feet No ground water encountered at time of drilling Boring backfilled with soil.					

1. Blow counts converted to approximate SPT N-values.
2. Approximate elevation from SMP Engineers, 2006.

PROJECT: **Bella Vista Development**
339-341 Bella Vista Avenue, Los Gatos

Log of Boring B-2

Boring location: App. 58 feet west of and 20 feet downslope of Bella Vista Ave.
Logged by: Rick Ford

Date started: 02-20-07 | Date finished: 02-20-07

Drilling method: Minute Man/Portable Rig (no auger) continuous drive

Hammer weight/drop: 140 lbs./ 30 inches | Hammer type: Manual

Sampler: Sprague & Henwood split-barrel, SPT,

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/foot[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Gravels %	Sands %	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
					Ground Surface Elevation: 81.0 feet [2]					
1–3				Qc	GRAVELLY CLAYEY SAND (SC), brown, loose to medium dense, moist, sub-angular to rounded pebbles to cobbles, organic material, roots to .25 inches dia. (COLLUVIUM)	43.9	38.7	17.4	4.4	
4–6	S&H		24	Qpf	SANDY SILTY GRAVEL (GC), light yellowish brown and brown mottled, medium dense to dense, dry, clasts consist of reddish-orange to buff weathered sandstone and gray mudstone, sub-angular to rounded pebbles to cobbles, (ALLUVIUM)	36.8	47.3	15.9	5.4	108
7–9									4.7	107
10–11	SPT		63			46.3	43.2	10.5	4.9	
12–13										
14	SPT		117		Refusal in boulder (?)					
15–30					Boring Terminated at 14.5 feet No ground water encountered at time of drilling Boring backfilled with soil.					

1. Blow counts converted to approximate SPT N-values.
2. Approximate elevation from SMP Engineers, 2006.

PROJECT: **Bella Vista Development**
339-341 Bella Vista Avenue, Los Gatos

Log of Boring B-3

Boring location: App. 35 feet west of and 10 feet downslope of Bella Vista Ave.
Logged by: Rick Ford

Date started: 02-21-07 | Date finished: 02-21-07

Drilling method: Minute Man/Portable Rig (no auger) continuous drive

Hammer weight/drop: 140 lbs./ 30 inches | Hammer type: Manual

Sampler: Sprague & Henwood split-barrel, SPT,

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/foot[1]	LITHOLOGY	MATERIAL DESCRIPTION	LABORATORY TEST DATA: Gravels %	Sand %	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
					Ground Surface Elevation: 91.0 feet [2]					
1–2				Qc	GRAVELLY CLAYEY SAND/SANDY CLAYEY GRAVEL (SC/GC), brown, loose to medium dense, slightly moist, sub-angular to rounded pebbles to cobbles, organic material, roots to .125 inches dia. (COLLUVIUM)					
3	S&H		37			60.5	31.9	7.6	4.0	
4–5			26	Qpf	SANDY SILTY GRAVEL (GC), light yellowish brown and brown mottled, medium dense to dense, dry, clasts consist of reddish-orange to buff weathered sandstone and gray mudstone, sub-angular to rounded pebbles to cobbles, (ALLUVIUM)	58.7	32.5	8.8	7.3	
6–8										
9	SPT		72			31.1	49.9	19.0	6.7	
10	SPT		57/6"							
11–13					Pebbly lense					
14	SPT		80		Refusal in boulder (?)					
15–30					Boring Terminated at 14.5 feet No ground water encountered at time of drilling Boring backfilled with soil.					

1. Blow counts converted to approximate SPT N-values.
2. Approximate elevation from SMP Engineers, 2006.

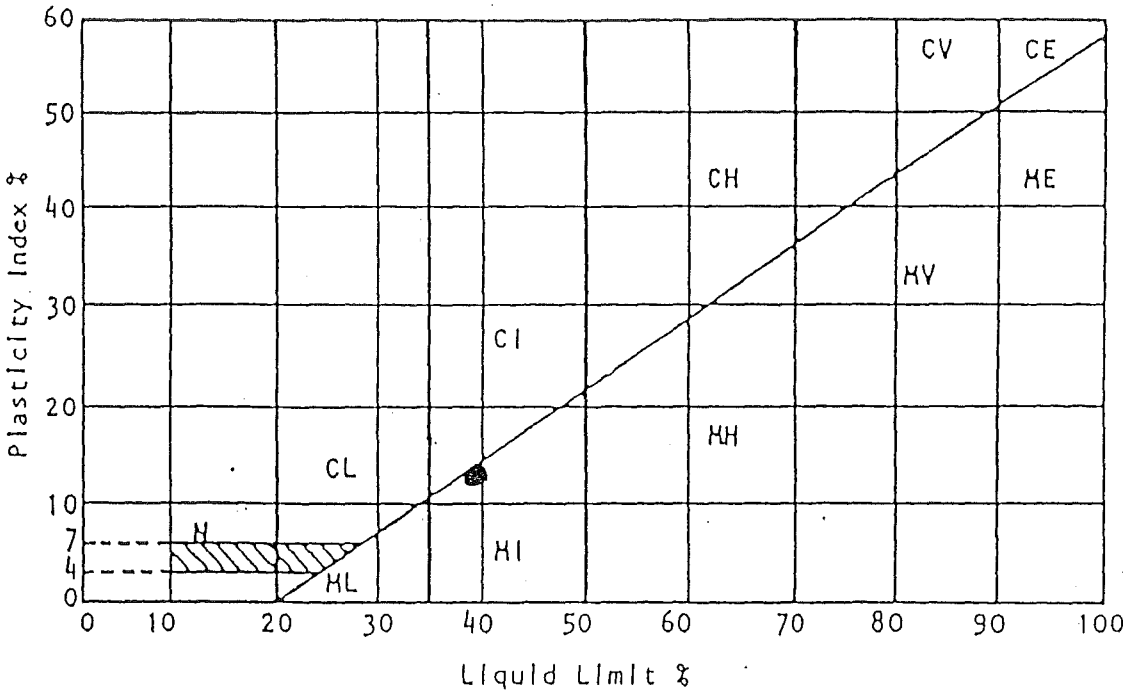
PROJECT: **Bella Vista Development**
339-341 Bella Vista Avenue, Los Gatos

Log of Boring B-4

Boring location: Gravel path on west side of property (see site plan)
Logged by: Rick Ford
Date started: 02-20-07 | Date finished: 02-20-07
Drilling method: Minute Man/Portable Rig 4" solid stem/Cathead
Hammer weight/drop: 140 lbs./ 30 inches | Hammer type: Manual
Sampler: Sprague & Henwood split-barrel, SPT,

DEPTH (feet)	SAMPLES: Sampler Type	SAMPLES: Sample	SAMPLES: Blows/foot[1]	LITHOLOGY	MATERIAL DESCRIPTION (Ground Surface Elevation: 67.0 feet [2])	LABORATORY TEST DATA: Gravels %	Sands %	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
					Asphalt					
1				FILL	SANDY CLAY (CL), brown with orange mottling, stiff, moist, organic material. (FILL)					
2										
3				Qpf	GRAVELLY CLAYEY SAND / SANDY SILTY GRAVEL (SC/GC), light-brown, brown, reddish-brown mottled, medium dense, moist, clasts consist of reddish-orange to buff weathered sandstone and gray mudstone, sub-angular to rounded pebbles to cobbles, roots to .125 inches dia. (ALLUVIUM)					
4	S&H		25							
5						64.8	30.1	5.1	9.3	
6	SPT		36		more clayey					
7										
8	SPT					49.3	38.7	12.0	7.5	
9			66							
10	SPT		44	Qpf		50.6	34.9	14.5	7.7	
11					pebble lense					
12	SPT		29							
13	SPT		16							
14										
15	SPT		50		sandy					
16	SPT		54/6"							
17	SPT		53/6"							
18					inrease in moisture and cementation					
19	SPT		88			34.8	50.6	14.6	9.5	
20	SPT		115/6"		Refusal in boulder (?)					
21					Boring Terminated at 20 feet No ground water encountered at time of drilling Boring backfilled with soil.					
22										
23										
24										
25										
26										
27										
28					1. Blow counts converted to approximate SPT N-values. 2. Approximate elevation from SMP Engineers, 2006.					
29										
30										

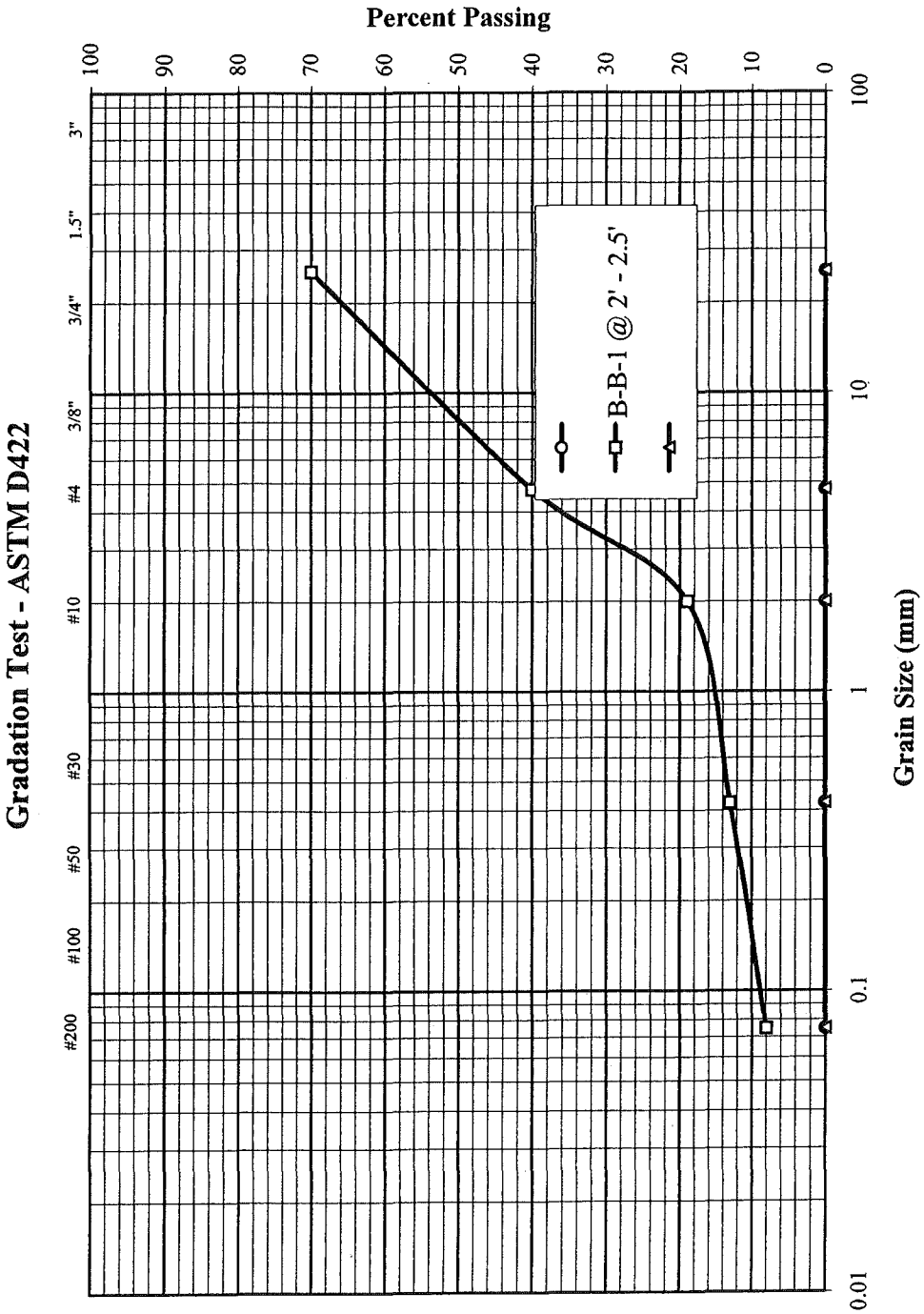
PLASTICITY CHART



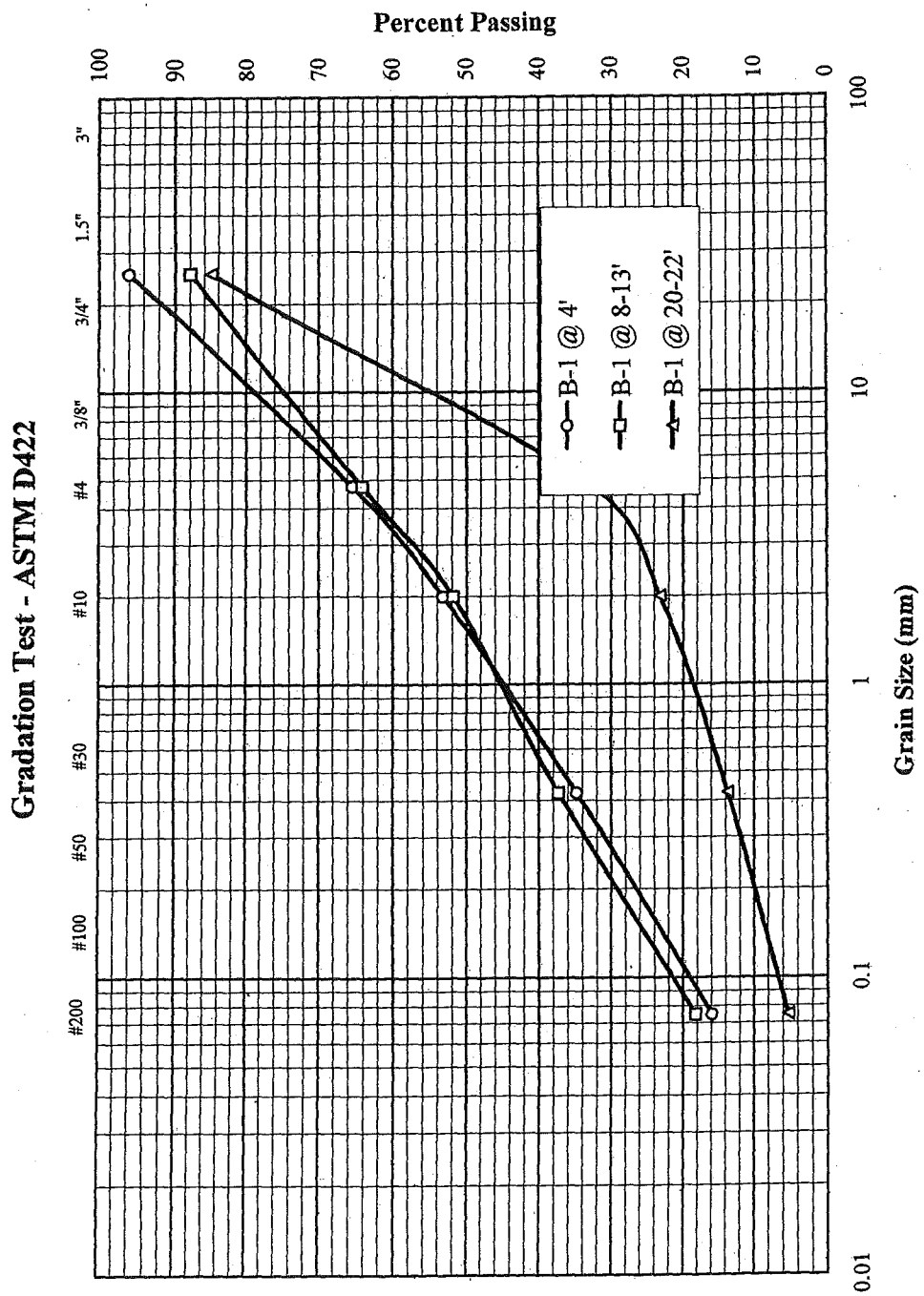
PLASTICITY DATA

Key Symbol	Hole No.	Depth Ft.	Liquid Limit %	Plasticity Index %	Unified Soil Classification Symbol
●	Bag Sample	1-2	38	14	MI

Figure 5 Plasticity Chart

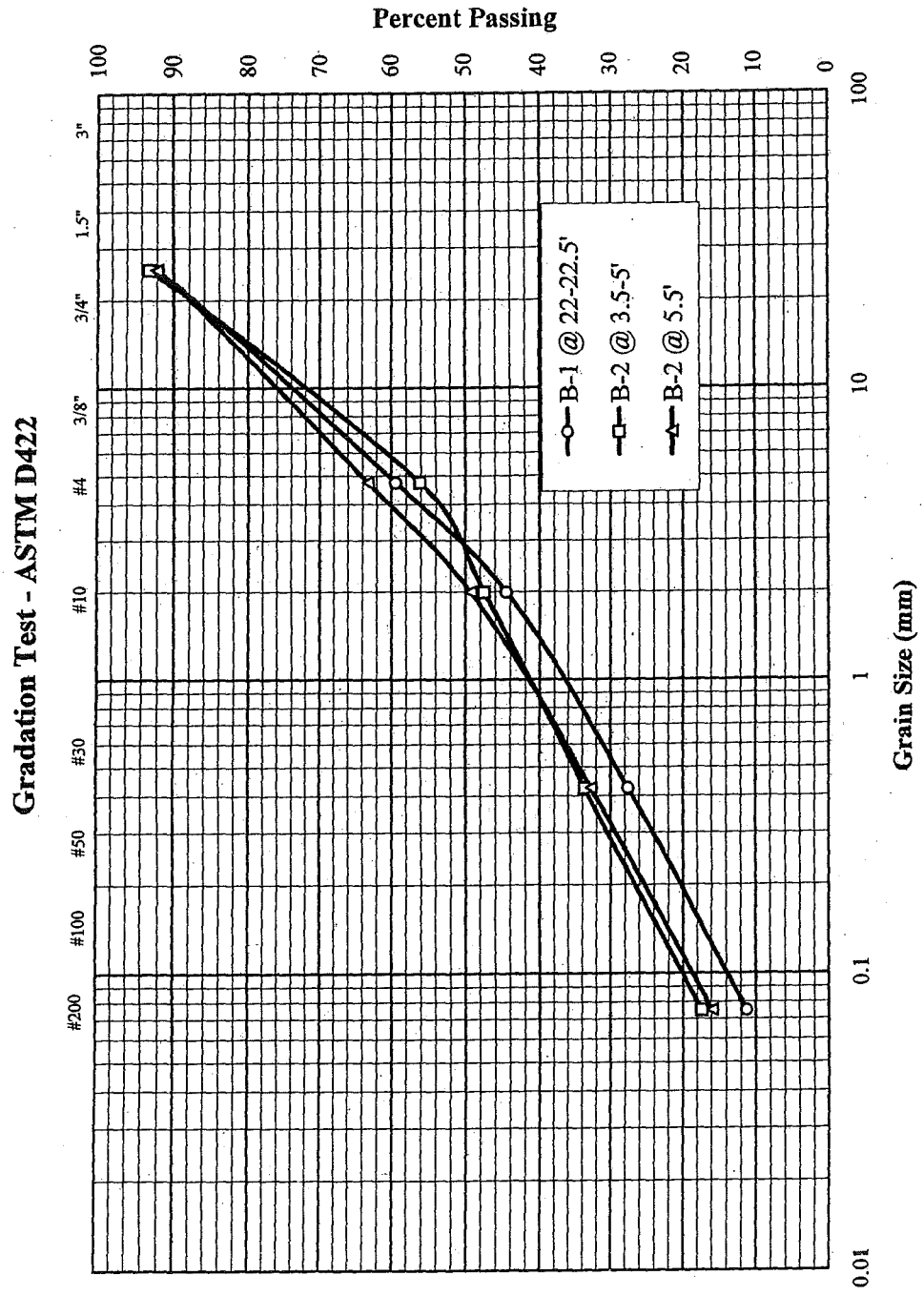


Ali M. Oskoorouchi, Ph.D., P.E., G.E. P.O. Box 3494 Freedom, California 95019	**Gradation Test ASTM D1140** Bella Vista Development Los Gatos, California	Figure No. 4 Project No. BL_01-05 Date 06/28/2005



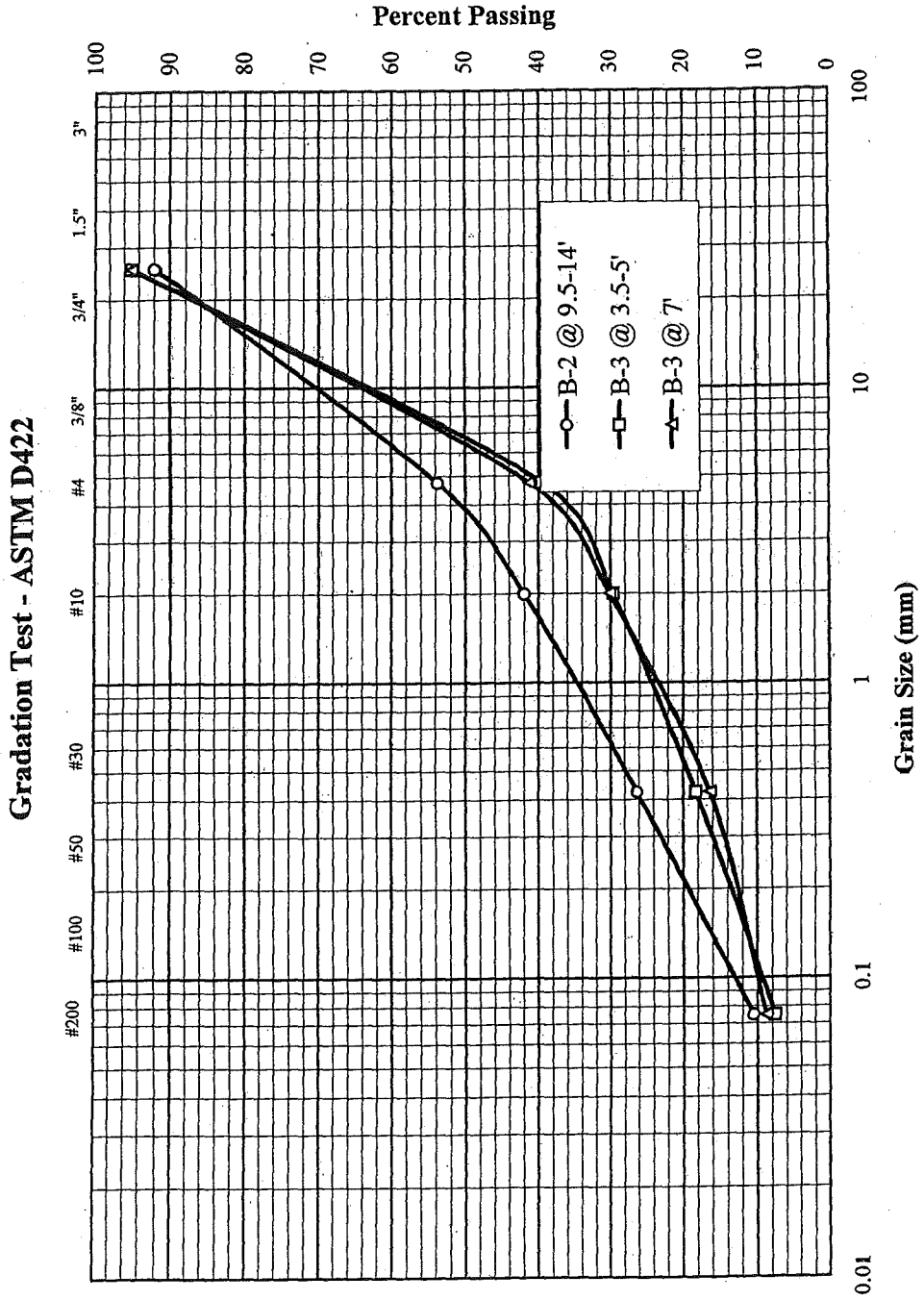
Note: Some gravel cobbles and boulders are broken during drilling and it impacted the grain size distribution

Ali M. Oskoorouchi, Ph.D., P.E., G.E. **P.O. Box 66245** **Scotts Valley, California 95067**	**Gradation Test ASTM D1140** Bella Vista Development Los Gatos, California	Figure No. 4_1 Project No. BL-01-07 Date 03/10/2007



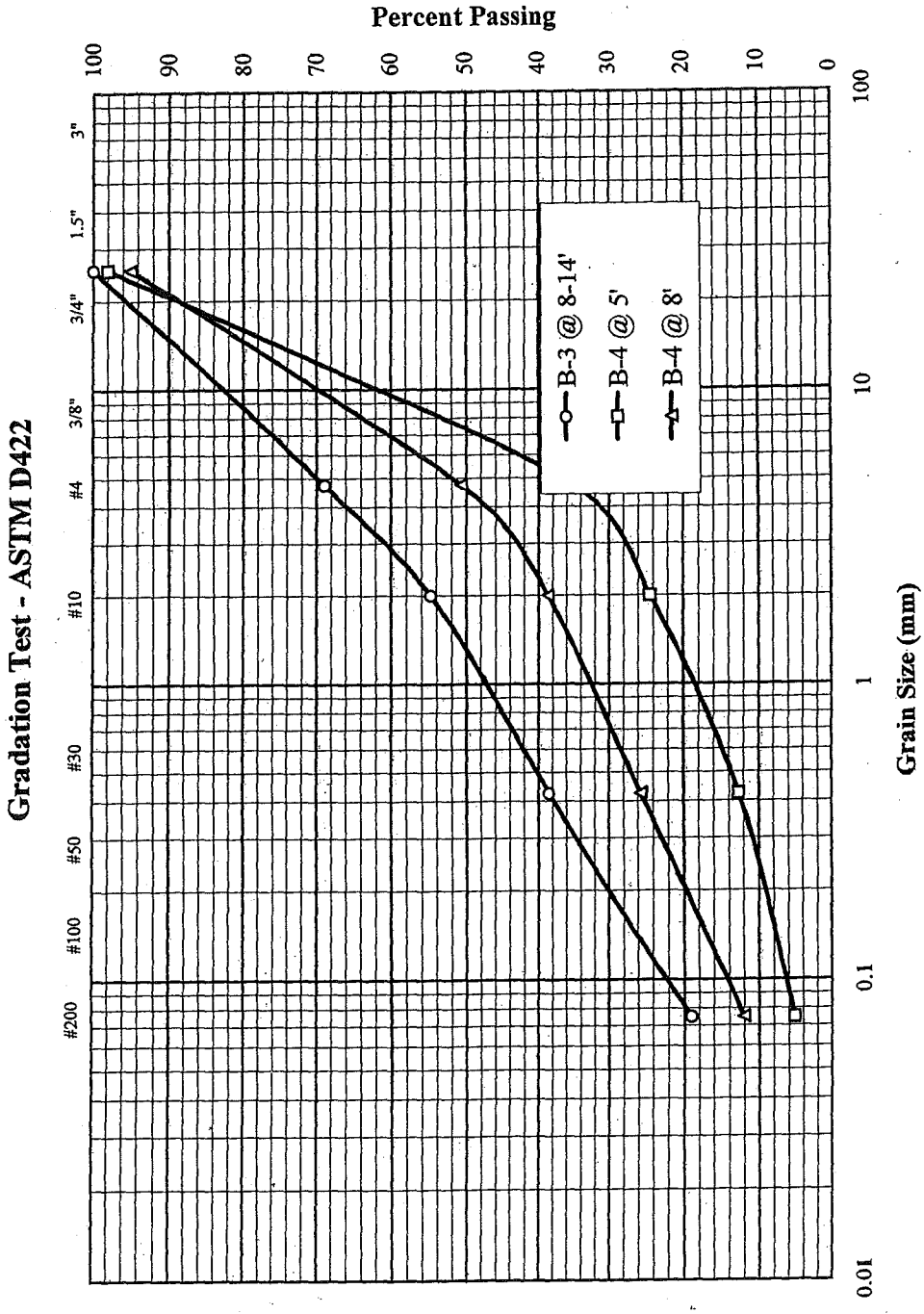
Note: Some gravel cobbles and boulders are broken during drilling and it impacted the grain size distribution

Ali M. Oskoorouchi, Ph.D., P.E., G.E. **P.O. Box 66245** **Scotts Valley, California 95067**	**Gradation Test ASTM D1140** Bella Vista Development Los Gatos, California	Figure No. 4_2 Project No. BL-01-07 Date 03/10/2007



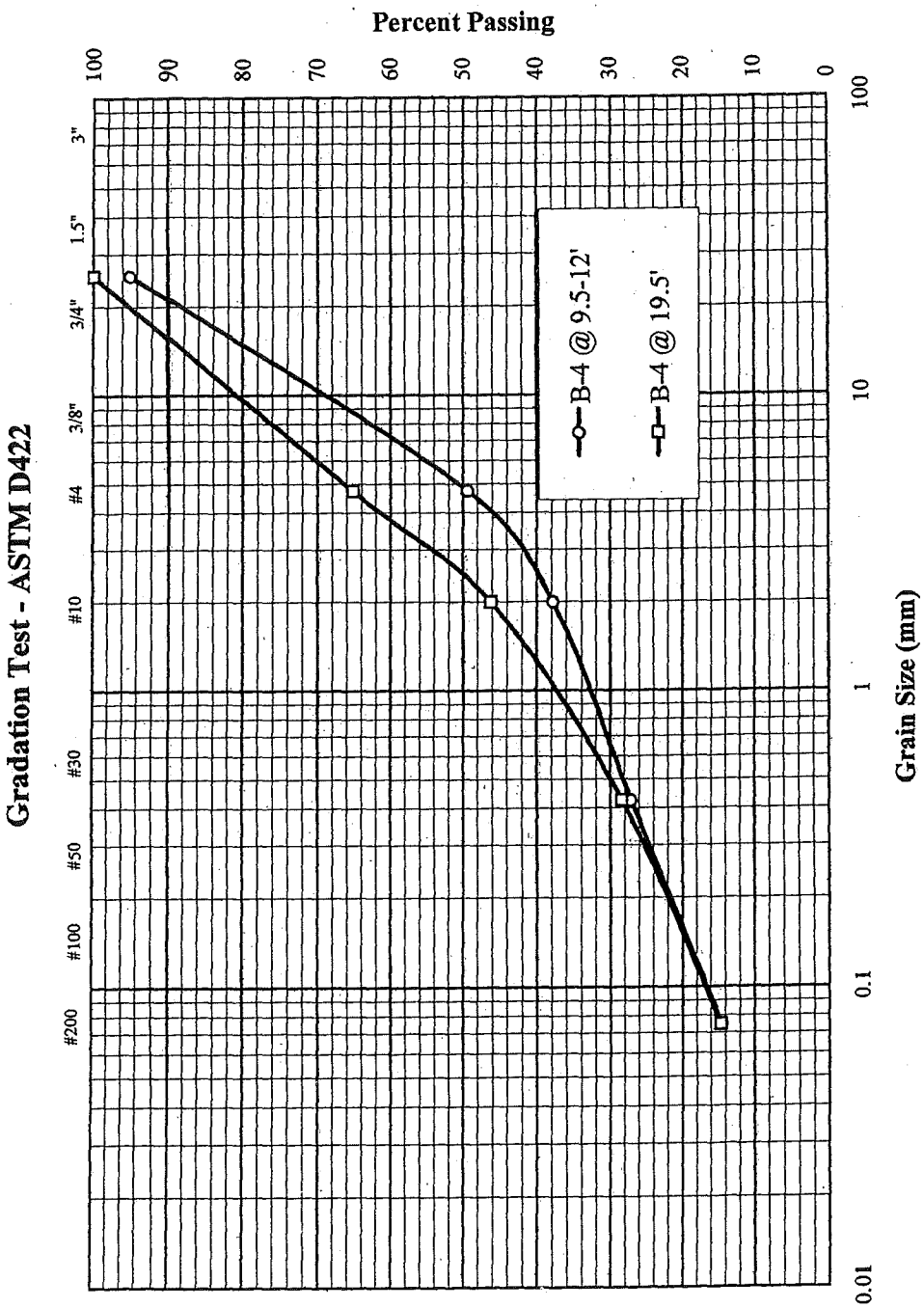
Note: Some gravel cobbles and boulders are broken during drilling and it impacted the grain size distribution

Ali M. Oskoorouchi, Ph.D., P.E., G.E. **P.O. Box 66245** **Scotts Valley, California 95067**	**Gradation Test ASTM D1140** Bella Vista Development Los Gatos, California	Figure No. 4_3 Project No. BL-01-07 Date 03/10/2007



Note: Some gravel cobbles and boulders are broken during drilling and it impacted the grain size distribution

Ali M. Oskoorouchi, Ph.D., P.E., G.E. **P.O. Box 66245** **Scotts Valley, California 95067**	**Gradation Test ASTM D1140** Bella Vista Development Los Gatos, California	Figure No. 4_4 Project No. BL-01-07 Date 03/10/2007



Note: Some gravel cobbles and boulders are broken during drilling and it impacted the grain size distribution

Ali M. Oskoorouchi, Ph.D., P.E., G.E. **P.O. Box 66245** **Scotts Valley, California 95067**	**Gradation Test ASTM D1140** Bella Vista Development Los Gatos, California	Figure No. 4_5 Project No. BL-01-07 Date 03/10/2007

TABLE I

MODIFIED MERCALLI SCALE OF EARTHQUAKE INTENSITIES

I. Not felt by people, except under especially favorable circumstances.

II. Felt only by persons at rest on the upper floors of buildings. Some suspended objects may swing.

III. Felt by some people who are indoors, but it may not be recognized as an earthquake. The vibration is similar to that caused by the passing of light trucks. Hanging objects swing.

IV. Felt by many people who are indoors, by a few outdoors. At night some people are awakenad. Dishes, windows and doors are disturbad: walls make creaking sounds; stationary cars rock noticeably. The sensation is like a heavy object striking a building; the vibration is similar to that caused by the passing of heavy trucks.

V. Felt indoors by practically everyone, outdoors by most people. The direction and duration of the shock can be estimated by people outdoors. At night, sleepers are awakened and some run out of buildings. Liquids are disturbed and sometimes spilled. Small, unstable objects and some furnishings are shifted or upset. Doors close or open.

VI. Felt by everyone, and many people are frightened and run outdoors. Walking is difficult. Small church and school bells ring. Windows, dishes, and glassware are broken; liquids spill; books and other standing objects fall; pictures are knocked from walls; furniture is moved or overturned. Poorly built buildings may be damaged, and weak plaster will crack.

VII. Causes general alarm. Standing upright is very difficult. Persons driving cars also notice the shaking. Damage is negligible in buildings of very good design and construction, slight to moderate in well-built ordinary structures, considerable in poorly built or designed structures. Some chimneys are broken; interiors and furnishings experience considerable damage; architectural ornaments fall. Small slides occur along sand or gravel banks of water channels; concrete irrigation ditches are damaged. Waves form in the water and it becomes muddied.

VIII. General fright and near panic. The steering of cars is difficult. Damage is slight in specially designed earthquake-resistant structures, considerable in well-built ordinary buildings. Poorly built or designed buildings experience partial collapses. Numerous chimneys fall; the walls of frame buildings are damaged; interiors experience heavy damage. Frame houses that are not properly bolted down may move on their foundations. Decayed pilings are broken off. Tress are damaged. Cracks appear in wet ground and on steep slopes. Changes in the flow or temperature of springs and wells are noted.

IX. Panic is general. Interior damage is considerable in specially designed earthquake-resistant structures. Well-built ordinary buildings suffer severe damage, with partial collapses; frame structures thrown out of plumb or shifted off of their foundations. Unreinforced masonry buildings collapse. The ground cracks conspicuously and some underground pipes are broken. Reservoirs are damaged seriously.

X. Most masonry and many frame structures are destroyed. Specially designed earthquake-resistant structures may suffer serious damage. Some well-built bridges are destroyed, and dams, dikes and embankments are seriously damaged. Large landslides are triggered by the shock. Water is thrown onto the banks of canals, rivers and lakes. Sand and mud are shifted horizontally on beaches and flat land. Rails are bent slightly. Many buried pipes and conduits are broken.

XI. Few, if any, masonry structures remain standing. Other structures are severely damaged. Broad fissures, slumps and slides develop in soft or wet soils. Underground pipe lines and conduits are put completely out of service. Rails are severely bent.

XII. Damage is total, with practically all works of construction severely damaged or destroyed. Waves are observed on ground surfaces, and all soft or wet soils are greatly disturbed. Heavy objects are thrown into the air, and large rock masses are displaced.

YANEV,P.,1974, Peace of Mind in Earthquake Country, Chronicle Books, San Francisco, California.

APPLICATION TO USE

NOTE: THIS APPLICATION FOR AUTHORIZATION TO USE THIS COPYRIGHTED DOCUMENT MUST BE COMPLETED FOR USE OR COPYING OF THE FOLLOWING DOCUMENT BY ANYONE OTHER THAN THE CLIENT.

UPDATED GEOLOGIC AND GEOTECHNICAL STUDY
PROPOSED RESIDENTIAL DEVELOPMENT

ROSS PROPERTY
339 AND 341 BELLA VISTA AVENUE
LOS GATOS, CALIFORNIA

Document Id. 15068C-01R1
Dated 25 June 2015

TO: Upp Geotechnology
a division of C2Earth, Inc.
750 Camden Avenue, Suite A
Campbell, CA 95008

FROM: _____
_____
_____
_____

Please clearly identify name and address of person/entity applying to use or copy this document.

APPLICANT: _____ hereby applies for permission to use the above referenced document for the following purpose(s):

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341 BELLA VISTA AVENUE
LOS GATOS, CALIFORNIA

Architecture and Site Application S-12-103
Subdivision Application M-12-008
Mitigated Negative Declaration ND-16-001

INITIAL STUDY AND ENVIRONMENTAL CHECKLIST

ATTACHMENT 3
GREENPOINT NEW HOME RATING SYSTEM

GreenPoint RATED
A PROGRAM OF BUILD IT GREEN

NEW HOME RATING SYSTEM, VERSION 6.0

SINGLE FAMILY CHECKLIST

The GreenPoint Rated checklist tracks green features incorporated into the home. GreenPoint Rated is administered by Build It Green, a non-profit whose mission is to promote healthy, energy and resource efficient buildings in California.

The minimum requirements of GreenPoint Rated are: verification of 50 or more points; Earn the following minimum points per category: Community (3), Energy (22), Indoor Air Quality/Health (6), Resources (6), and Water (8); and meet the prerequisites CALGreen Mandatory, H6.1, J5.1, O1, O7.

The criteria for the green building practices listed below are described in the GreenPoint Rated Single Family Rating Manual. For more information please visit www.builditgreen.org/greenpointrated
Build It Green is not a code enforcement agency.

A home is only GreenPoint Rated if all features are verified by a Certified GreenPoint Rater through Build It Green.

Single Family New Home — Version 6.0

Points Achieved: 78

Certification Level: Certified

POINTS REQUIRED

341 Bella Vista Avenue, Los Gatos, CA

								MEASURES	Points Achieved	Community	Energy	IAQ/Health	Resources	Water	NOTES
										Possible Points						
CALGreen		Community	Energy	IAQ	Resources	Water										
Yes			1	1	1	1		CALGreen Res (REQUIRED)	4		1	1	1	1	
A. SITE		Community	Energy	IAQ	Resources	Water										
Yes					1			A1. Construction Footprint	1				1		
								A2. Job Site Construction Waste Diversion							
TBD								A2.1 65% C&D Waste Diversion(Including Alternative Daily Cover)					2		
TBD								A2.2 65% C&D Waste Diversion (Excluding Alternative Daily Cover)					2		
Yes					1			A2.3 Recycling Rates from Third-Party Verified Mixed-Use Waste Facility	1				1		
TBD								A3. Recycled Content Base Material					1		
TBD								A4. Heat Island Effect Reduction (Non-Roof)			1				
TBD								A5. Construction Environmental Quality Management Plan Including Flush-Out				1			
								A6. Stormwater Control: Prescriptive Path							
TBD	FALSE							A6.1 Permeable Paving Material						1	
TBD								A6.2 Filtration and/or Bio-Retention Features						1	
TBD								A6.3 Non-Leaching Roofing Materials						1	
TBD								A6.4 Smart Stormwater Street Design		1					
TBD								A7. Stormwater Control: Performance Path						3	
B. FOUNDATION		Community	Energy	IAQ	Resources	Water										
TBD								B1. Fly Ash and/or Slag in Concrete					1		
TBD								B2. Radon-Resistant Construction				2			
TBD								B3. Foundation Drainage System					2		
TBD								B4. Moisture Controlled Crawlspace				1			
								B5. Structural Pest Controls							
TBD								B5.1 Termite Shields and Separated Exterior Wood-to-Concrete Connections					1		
Yes					1			B5.2 Plant Trunks, Bases, or Stems at Least 36 Inches from the Foundation	1				1		
C. LANDSCAPE		Community	Energy	IAQ	Resources	Water										
	TRUE	6						Enter the landscape area percentage							
TBD	FALSE							C1. Plants Grouped by Water Needs (Hydrozoning)						1	
TBD								C2. Three Inches of Mulch in Planting Beds						1	
								C3. Resource Efficient Landscapes							
TBD								C3.1 No Invasive Species Listed by Cal-IPC					1		
TBD								C3.2 Plants Chosen and Located to Grow to Natural Size					1		
Yes							3	C3.3 Drought Tolerant, California Native, Mediterranean Species, or Other Appropriate Species	3					3	
								C4. Minimal Turf in Landscape							
Yes							2	C4.1 No Turf on Slopes Exceeding 10% and No Overhead Sprinklers Installed in Areas Less Than Eight Feet Wide	2					2	
TBD							0	C4.2 Turf on a Small Percentage of Landscaped Area						2	
TBD								C5. Trees to Moderate Building Temperature		1	1			1	
Yes							1	C6. High-Efficiency Irrigation System	1					2	
TBD								C7. One Inch of Compost in the Top Six to Twelve Inches of Soil						2	
TBD								C8. Rainwater Harvesting System						3	
TBD								C9. Recycled Wastewater Irrigation System						1	
TBD								C10. Submeter or Dedicated Meter for Landscape Irrigation						2	
TBD	FALSE						0	C11. Landscape Meets Water Budget						2	
								C12. Environmentally Preferable Materials for Site							
TBD								C12.1 Environmentally Preferable Materials for 70% of Non-Plant Landscape Elements and Fencing					1		
Yes		1						C13. Reduced Light Pollution	1	1					
TBD								C14. Large Stature Tree(s)		1					
TBD								C15. Third Party Landscape Program Certification						1	
TBD								C16. Maintenance Contract with Certified Professional						1	
D. STRUCTURAL FRAME AND BUILDING ENVELOPE		Community	Energy	IAQ	Resources	Water										
								D1. Optimal Value Engineering							
Yes			1			2		D1.1 Joists, Rafters, and Studs at 24 Inches on Center	3		1		2		
Yes						1		D1.2 Non-Load Bearing Door and Window Headers Sized for Load	1				1		
TBD								D1.3 Advanced Framing Measures					2		
TBD								D2. Construction Material Efficiencies					1		
								D3. Engineered Lumber							
Yes						1		D3.1 Engineered Beams and Headers	1				1		

Yes				1		D3.2 Wood I-Joists or Web Trusses for Floors	1				1		
TBD						D3.3 Engineered Lumber for Roof Rafters					1		
TBD						D3.4 Engineered or Finger-Jointed Studs for Vertical Applications					1		
TBD						D3.5 OSB for Subfloor					0.5		
Yes				0.5		D3.6 OSB for Wall and Roof Sheathing	0.5				0.5		
TBD						D4. Insulated Headers			1				
						D5. FSC-Certified Wood							
TBD						D5.1 Dimensional Lumber, Studs, and Timber					6		
TBD						D5.2 Panel Products					3		
						D6. Solid Wall Systems							
TBD						D6.1 At Least 90% of Floors					1		
TBD						D6.2 At Least 90% of Exterior Walls			1		1		
TBD						D6.3 At Least 90% of Roofs			1		1		
TBD						D7. Energy Heels on Roof Trusses			1				
Yes						D8. Overhangs and Gutters	0		1		1		
						D9. Reduced Pollution Entering the Home from the Garage							
TBD						D9.1 Detached Garage				2			
TBD						D9.2 Mitigation Strategies for Attached Garage				1			
						D10. Structural Pest and Rot Controls							
TBD						D10.1 All Wood Located At Least 12 Inches Above the Soil					1		
TBD						D10.2 Wood Framing Treated With Borates or Factory-Impregnated, or Wall Materials Other Than Wood					1		
Yes				1	1	D11. Moisture-Resistant Materials in Wet Areas (such as Kitchen, Bathrooms, Utility Rooms, and Basements)	2			1	1		
E. EXTERIOR	Community	Energy	IAQ	Resources	Water								
TBD						E1. Environmentally Preferable Decking					1		
TBD						E2. Flashing Installation Third-Party Verified					2		
TBD						E3. Rain Screen Wall System					2		
Yes				1		E4. Durable and Non-Combustible Cladding Materials	1				1		
						E5. Durable Roofing Materials							
Yes				1		E5.1 Durable and Fire Resistant Roofing Materials or Assembly	1				1		
TBD						E6. Vegetated Roof		2	2				
F. INSULATION	Community	Energy	IAQ	Resources	Water								
						F1. Insulation with 30% Post-Consumer or 60% Post-Industrial Recycled Content							
TBD						F1.1 Walls and Floors					1		
TBD						F1.2 Ceilings					1		
						F2. Insulation that Meets the CDPH Standard Method--Residential for Low Emissions							
Yes			1			F2.1 Walls and Floors	1			1			
Yes			1			F2.2 Ceilings	1			1			
						F3. Insulation That Does Not Contain Fire Retardants							
TBD						F3.1 Cavity Walls and Floors				1			
TBD						F3.2 Ceilings				1			
TBD						F3.3 Interior and Exterior				1			
G. PLUMBING	Community	Energy	IAQ	Resources	Water								
						G1. Efficient Distribution of Domestic Hot Water							
Yes		1				G1.1 Insulated Hot Water Pipes	1		1				
TBD						G1.2 WaterSense Volume Limit for Hot Water Distribution						1	
TBD						G1.3 Increased Efficiency in Hot Water Distribution						2	
						G2. Install Water-Efficient Fixtures							
Yes					2	G2.1 WaterSense Showerheads with Matching Compensation Valve	2					2	
Yes					1	G2.2 WaterSense Bathroom Faucets	1					1	
TBD						G2.3 WaterSense Toilets with a Maximum Performance (MaP) Threshold of No Less Than 500 Grams						1	
TBD						G3. Pre-Plumbing for Graywater System						1	
TBD						G4. Operational Graywater System						3	
H. HEATING, VENTILATION, AND AIR CONDITIONING	Community	Energy	IAQ	Resources	Water								
						H1. Sealed Combustion Units							
Yes			1			H1.1 Sealed Combustion Furnace	1			1			
Yes			2			H1.2 Sealed Combustion Water Heater	2			2			
TBD						H2. High Performing Zoned Hydronic Radiant Heating System			1	1			
						H3. Effective Ductwork							
Yes		1				H3.1 Duct Mastic on Duct Joints and Seams	1		1				
TBD						H3.2 Pressure Balance the Ductwork System			1				
No			0			H4. ENERGY STAR® Bathroom Fans Per HVI Standards with Air Flow Verified	0			1			
						H5. Advanced Practices for Cooling							
Yes		1				H5.1 ENERGY STAR Ceiling Fans in Living Areas and Bedrooms	1		1				
						H6. Whole House Mechanical Ventilation Practices to Improve Indoor Air Quality							
Yes						H6.1 Meet ASHRAE 62.2-2012 Ventilation Residential Standards	Y	R	R	R	R	R	
TBD						H6.2 Advanced Ventilation Standards				1			
TBD						H6.3 Outdoor Air Ducted to Bedroom and Living Areas				2			
						H7. Effective Range Hood Design and Installation							
Yes			1			H7.1 Effective Range Hood Ducting and Design	1			1			
TBD						H7.2 Automatic Range Hood Control				1			
TBD						H8. No Fireplace or Sealed Gas Fireplace				1			
TBD						H9. Humidity Control Systems				1			
TBD						H10. Register Design Per ACCA Manual T			1				
I. RENEWABLE ENERGY	Community	Energy	IAQ	Resources	Water								
Yes		1				I1. Pre-Plumbing for Solar Water Heating	1		1				
TBD						I2. Preparation for Future Photovoltaic Installation			1				
		0				I3. Onsite Renewable Generation (Solar PV, Solar Thermal, and Wind)			25				
						I4. Net Zero Energy Home							
TBD						I4.1 Near Zero Energy Home			2				

TBD							I4.2 Net Zero Electric				4			
J. BUILDING PERFORMANCE AND TESTING		Community	Energy	IAQ	Resources	Water								
TBD							J1. Third-Party Verification of Quality of Insulation Installation					1		
TBD							J2. Supply and Return Air Flow Testing				1	1		
TBD							J3. Mechanical Ventilation Testing and Low Leakage					1		
TBD							J4. Combustion Appliance Safety Testing					1		
2008							J5. Building Performance Exceeds Title 24 Part 6							
15.00%	1500.00%		25.0				J5.1 Home Outperforms Title 24 Part 6	25.0			60			
TBD							J6. Title 24 Prepared and Signed by a CABEC Certified Energy Analyst				1			
TBD							J7. Participation in Utility Program with Third-Party Plan Review				1			
TBD							J8. ENERGY STAR for Homes				1			
No					0		J9. EPA Indoor airPlus Certification	0				1		
TBD	No						J10. Blower Door Testing					2		
K. FINISHES		Community	Energy	IAQ	Resources	Water								
							K1. Entryways Designed to Reduce Tracked-In Contaminants							
Yes				1			K1.1 Individual Entryways	1				1		
Yes				2			K2. Zero-VOC Interior Wall and Ceiling Paints	2				2		
Yes				1			K3. Low-VOC Caulks and Adhesives	1				1		
							K4. Environmentally Preferable Materials for Interior Finish							
TBD							K4.1 Cabinets						2	
TBD							K4.2 Interior Trim						2	
TBD							K4.3 Shelving						2	
TBD							K4.4 Doors						2	
TBD							K4.5 Countertops						1	
							K5. Formaldehyde Emissions in Interior Finish Exceed CARB							
TBD							K5.1 Doors					1		
TBD							K5.2 Cabinets and Countertops					2		
TBD							K5.3 Interior Trim and Shelving					2		
TBD							K6. Products That Comply With the Health Product Declaration Open Standard					2		
TBD							K7. Indoor Air Formaldehyde Level Less Than 27 Parts Per Billion					2		
No					0		K8. Comprehensive Inclusion of Low Emitting Finishes	0				1		
L. FLOORING		Community	Energy	IAQ	Resources	Water								
TBD							L1. Environmentally Preferable Flooring						3	
TBD	No						L2. Low-Emitting Flooring Meets CDPH 2010 Standard Method--Residential					3		
TBD							L3. Durable Flooring						1	
TBD							L4. Thermal Mass Flooring				1			
M. APPLIANCES AND LIGHTING		Community	Energy	IAQ	Resources	Water								
Yes						1	M1. ENERGY STAR® Dishwasher	1					1	
TBD							M2. CEE-Rated Clothes Washer				1		2	
Yes							M3. Size-Efficient ENERGY STAR Refrigerator	0			2			
							M4. Permanent Centers for Waste Reduction Strategies							
TBD							M4.1 Built-In Recycling Center						1	
TBD							M4.2 Built-In Composting Center						1	
							M5. Lighting Efficiency							
Yes			2				M5.1 High-Efficacy Lighting	2			2			
TBD							M5.2 Lighting System Designed to IESNA Footcandle Standards or Designed by Lighting Consultant				2			
N. COMMUNITY		Community	Energy	IAQ	Resources	Water								
							N1. Smart Development							
Yes		1			1		N1.1 Infill Site	2	1				1	
TBD							N1.2 Designated Brownfield Site		1			1		
TBD							N1.3 Conserve Resources by Increasing Density			2			2	
TBD							N1.4 Cluster Homes for Land Preservation		1				1	
					0		N1.5 Home Size Efficiency						9	
							Enter the area of the home, in square feet							
							Enter the number of bedrooms							
Yes		2					N2. Home(s)/Development Located Within 1/2 Mile of a Major Transit Stop	2	2					
							N3. Pedestrian and Bicycle Access							
		1					N3.1 Pedestrian Access to Services Within 1/2 Mile of Community Services	1	2					
4	6.0						Enter the number of Tier 1 services							
4	2.0						Enter the number of Tier 2 services							
TBD							N3.2 Connection to Pedestrian Pathways		1					
TBD							N3.3 Traffic Calming Strategies		2					
							N4. Outdoor Gathering Places							
TBD							N4.1 Public or Semi-Public Outdoor Gathering Places for Residents		1					
TBD							N4.2 Public Outdoor Gathering Places with Direct Access to Tier 1 Community Services		1					
							N5. Social Interaction							
Yes		1					N5.1 Residence Entries with Views to Callers	1	1					
Yes		1					N5.2 Entrances Visible from Street and/or Other Front Doors	1	1					
Yes		1					N5.3 Porches Oriented to Street and Public Space	1	1					
TBD							N5.4 Social Gathering Space		1					
							N6. Passive Solar Design							
TBD			0				N6.1 Heating Load				2			
TBD			0				N6.2 Cooling Load				2			
							N7. Adaptable Building							
TBD							N7.1 Universal Design Principles in Units		1			1		
TBD							N7.2 Full-Function Independent Rental Unit		1					
O. OTHER		Community	Energy	IAQ	Resources	Water								
Yes							O1. GreenPoint Rated Checklist in Blueprints	Y	R	R	R	R	R	
TBD							O2. Pre-Construction Kickoff Meeting with Rater and Subcontractors			0.5		1	0.5	
TBD							O3. Orientation and Training to Occupants—Conduct Educational Walkthroughs			0.5	0.5	0.5	0.5	

TBD	O4. Builder's or Developer's Management Staff are Certified Green Building Professionals			0.5	0.5	0.5	0.5	
TBD	O5. Home System Monitors			1			1	
	O6. Green Building Education							
TBD	O6.1 Marketing Green Building		2					
TBD	O6.2 Green Building Signage			0.5			0.5	
TBD	O7. Green Appraisal Addendum	N	R	R	R	R	R	
TBD	O8. Detailed Durability Plan and Third-Party Verification of Plan Implementation					1		
Summary								
	Total Available Points in Specific Categories	341	26	131	53	83	48	
	Minimum Points Required in Specific Categories	50	2	25	6	6	6	
	Total Points Achieved	77.5	8.0	33.0	12.0	13.5	11.0	

341 BELLA VISTA AVENUE
LOS GATOS, CALIFORNIA

Architecture and Site Application S-12-103
Subdivision Application M-12-008
Mitigated Negative Declaration ND-16-001

INITIAL STUDY AND ENVIRONMENTAL CHECKLIST

ATTACHMENT 3
GREENPOINT NEW HOME RATING SYSTEM

GreenPoint RATED
A PROGRAM OF BUILD IT GREEN

NEW HOME RATING SYSTEM, VERSION 6.0

SINGLE FAMILY CHECKLIST

The GreenPoint Rated checklist tracks green features incorporated into the home. GreenPoint Rated is administered by Build It Green, a non-profit whose mission is to promote healthy, energy and resource efficient buildings in California.

The minimum requirements of GreenPoint Rated are: verification of 50 or more points; Earn the following minimum points per category: Community (3), Energy (22), Indoor Air Quality/Health (6), Resources (6), and Water (8); and meet the prerequisites CALGreen Mandatory, H6.1, J5.1, O1, O7.

The criteria for the green building practices listed below are described in the GreenPoint Rated Single Family Rating Manual. For more information please visit www.builditgreen.org/greenpointrated
Build It Green is not a code enforcement agency.

A home is only GreenPoint Rated if all features are verified by a Certified GreenPoint Rater through Build It Green.

Single Family New Home — Version 6.0

Points Achieved: 78

Certification Level: Certified

POINTS REQUIRED

341 Bella Vista Avenue, Los Gatos, CA

								MEASURES	Points Achieved	Community	Energy	IAQ/Health	Resources	Water	NOTES
										Possible Points						
CALGreen		Community	Energy	IAQ	Resources	Water										
Yes			1	1	1	1		CALGreen Res (REQUIRED)	4		1	1	1	1	
A. SITE		Community	Energy	IAQ	Resources	Water										
Yes					1			A1. Construction Footprint	1				1		
								A2. Job Site Construction Waste Diversion							
TBD								A2.1 65% C&D Waste Diversion(Including Alternative Daily Cover)					2		
TBD								A2.2 65% C&D Waste Diversion (Excluding Alternative Daily Cover)					2		
Yes					1			A2.3 Recycling Rates from Third-Party Verified Mixed-Use Waste Facility	1				1		
TBD								A3. Recycled Content Base Material					1		
TBD								A4. Heat Island Effect Reduction (Non-Roof)			1				
TBD								A5. Construction Environmental Quality Management Plan Including Flush-Out				1			
								A6. Stormwater Control: Prescriptive Path							
TBD	FALSE							A6.1 Permeable Paving Material						1	
TBD								A6.2 Filtration and/or Bio-Retention Features						1	
TBD								A6.3 Non-Leaching Roofing Materials						1	
TBD								A6.4 Smart Stormwater Street Design		1					
TBD								A7. Stormwater Control: Performance Path						3	
B. FOUNDATION		Community	Energy	IAQ	Resources	Water										
TBD								B1. Fly Ash and/or Slag in Concrete					1		
TBD								B2. Radon-Resistant Construction				2			
TBD								B3. Foundation Drainage System					2		
TBD								B4. Moisture Controlled Crawlspace				1			
								B5. Structural Pest Controls							
TBD								B5.1 Termite Shields and Separated Exterior Wood-to-Concrete Connections					1		
Yes					1			B5.2 Plant Trunks, Bases, or Stems at Least 36 Inches from the Foundation	1				1		
C. LANDSCAPE		Community	Energy	IAQ	Resources	Water										
	TRUE	6						Enter the landscape area percentage							
TBD	FALSE							C1. Plants Grouped by Water Needs (Hydrozoning)						1	
TBD								C2. Three Inches of Mulch in Planting Beds						1	
								C3. Resource Efficient Landscapes							
TBD								C3.1 No Invasive Species Listed by Cal-IPC					1		
TBD								C3.2 Plants Chosen and Located to Grow to Natural Size					1		
Yes							3	C3.3 Drought Tolerant, California Native, Mediterranean Species, or Other Appropriate Species	3					3	
								C4. Minimal Turf in Landscape							
Yes							2	C4.1 No Turf on Slopes Exceeding 10% and No Overhead Sprinklers Installed in Areas Less Than Eight Feet Wide	2					2	
TBD							0	C4.2 Turf on a Small Percentage of Landscaped Area						2	
TBD								C5. Trees to Moderate Building Temperature		1	1			1	
Yes							1	C6. High-Efficiency Irrigation System	1					2	
TBD								C7. One Inch of Compost in the Top Six to Twelve Inches of Soil						2	
TBD								C8. Rainwater Harvesting System						3	
TBD								C9. Recycled Wastewater Irrigation System						1	
TBD								C10. Submeter or Dedicated Meter for Landscape Irrigation						2	
TBD	FALSE						0	C11. Landscape Meets Water Budget						2	
								C12. Environmentally Preferable Materials for Site							
TBD								C12.1 Environmentally Preferable Materials for 70% of Non-Plant Landscape Elements and Fencing					1		
Yes		1						C13. Reduced Light Pollution	1	1					
TBD								C14. Large Stature Tree(s)		1					
TBD								C15. Third Party Landscape Program Certification						1	
TBD								C16. Maintenance Contract with Certified Professional						1	
D. STRUCTURAL FRAME AND BUILDING ENVELOPE		Community	Energy	IAQ	Resources	Water										
								D1. Optimal Value Engineering							
Yes			1			2		D1.1 Joists, Rafters, and Studs at 24 Inches on Center	3		1		2		
Yes						1		D1.2 Non-Load Bearing Door and Window Headers Sized for Load	1				1		
TBD								D1.3 Advanced Framing Measures					2		
TBD								D2. Construction Material Efficiencies					1		
								D3. Engineered Lumber							
Yes						1		D3.1 Engineered Beams and Headers	1				1		

Yes				1		D3.2 Wood I-Joists or Web Trusses for Floors	1				1		
TBD						D3.3 Engineered Lumber for Roof Rafters					1		
TBD						D3.4 Engineered or Finger-Jointed Studs for Vertical Applications					1		
TBD						D3.5 OSB for Subfloor					0.5		
Yes				0.5		D3.6 OSB for Wall and Roof Sheathing	0.5				0.5		
TBD						D4. Insulated Headers			1				
						D5. FSC-Certified Wood							
TBD						D5.1 Dimensional Lumber, Studs, and Timber					6		
TBD						D5.2 Panel Products					3		
						D6. Solid Wall Systems							
TBD						D6.1 At Least 90% of Floors					1		
TBD						D6.2 At Least 90% of Exterior Walls			1		1		
TBD						D6.3 At Least 90% of Roofs			1		1		
TBD						D7. Energy Heels on Roof Trusses			1				
Yes						D8. Overhangs and Gutters	0		1		1		
						D9. Reduced Pollution Entering the Home from the Garage							
TBD						D9.1 Detached Garage				2			
TBD						D9.2 Mitigation Strategies for Attached Garage				1			
						D10. Structural Pest and Rot Controls							
TBD						D10.1 All Wood Located At Least 12 Inches Above the Soil					1		
TBD						D10.2 Wood Framing Treated With Borates or Factory-Impregnated, or Wall Materials Other Than Wood					1		
Yes				1	1	D11. Moisture-Resistant Materials in Wet Areas (such as Kitchen, Bathrooms, Utility Rooms, and Basements)	2			1	1		
E. EXTERIOR	Community	Energy	IAQ	Resources	Water								
TBD						E1. Environmentally Preferable Decking					1		
TBD						E2. Flashing Installation Third-Party Verified					2		
TBD						E3. Rain Screen Wall System					2		
Yes				1		E4. Durable and Non-Combustible Cladding Materials	1				1		
						E5. Durable Roofing Materials							
Yes				1		E5.1 Durable and Fire Resistant Roofing Materials or Assembly	1				1		
TBD						E6. Vegetated Roof		2	2				
F. INSULATION	Community	Energy	IAQ	Resources	Water								
						F1. Insulation with 30% Post-Consumer or 60% Post-Industrial Recycled Content							
TBD						F1.1 Walls and Floors					1		
TBD						F1.2 Ceilings					1		
						F2. Insulation that Meets the CDPH Standard Method--Residential for Low Emissions							
Yes			1			F2.1 Walls and Floors	1			1			
Yes			1			F2.2 Ceilings	1			1			
						F3. Insulation That Does Not Contain Fire Retardants							
TBD						F3.1 Cavity Walls and Floors				1			
TBD						F3.2 Ceilings				1			
TBD						F3.3 Interior and Exterior				1			
G. PLUMBING	Community	Energy	IAQ	Resources	Water								
						G1. Efficient Distribution of Domestic Hot Water							
Yes		1				G1.1 Insulated Hot Water Pipes	1		1				
TBD						G1.2 WaterSense Volume Limit for Hot Water Distribution						1	
TBD						G1.3 Increased Efficiency in Hot Water Distribution						2	
						G2. Install Water-Efficient Fixtures							
Yes					2	G2.1 WaterSense Showerheads with Matching Compensation Valve	2					2	
Yes					1	G2.2 WaterSense Bathroom Faucets	1					1	
TBD						G2.3 WaterSense Toilets with a Maximum Performance (MaP) Threshold of No Less Than 500 Grams						1	
TBD						G3. Pre-Plumbing for Graywater System						1	
TBD						G4. Operational Graywater System						3	
H. HEATING, VENTILATION, AND AIR CONDITIONING	Community	Energy	IAQ	Resources	Water								
						H1. Sealed Combustion Units							
Yes			1			H1.1 Sealed Combustion Furnace	1			1			
Yes			2			H1.2 Sealed Combustion Water Heater	2			2			
TBD						H2. High Performing Zoned Hydronic Radiant Heating System			1	1			
						H3. Effective Ductwork							
Yes		1				H3.1 Duct Mastic on Duct Joints and Seams	1		1				
TBD						H3.2 Pressure Balance the Ductwork System			1				
No			0			H4. ENERGY STAR® Bathroom Fans Per HVI Standards with Air Flow Verified	0			1			
						H5. Advanced Practices for Cooling							
Yes		1				H5.1 ENERGY STAR Ceiling Fans in Living Areas and Bedrooms	1		1				
						H6. Whole House Mechanical Ventilation Practices to Improve Indoor Air Quality							
Yes						H6.1 Meet ASHRAE 62.2-2012 Ventilation Residential Standards	Y	R	R	R	R	R	
TBD						H6.2 Advanced Ventilation Standards				1			
TBD						H6.3 Outdoor Air Ducted to Bedroom and Living Areas				2			
						H7. Effective Range Hood Design and Installation							
Yes			1			H7.1 Effective Range Hood Ducting and Design	1			1			
TBD						H7.2 Automatic Range Hood Control				1			
TBD						H8. No Fireplace or Sealed Gas Fireplace				1			
TBD						H9. Humidity Control Systems				1			
TBD						H10. Register Design Per ACCA Manual T			1				
I. RENEWABLE ENERGY	Community	Energy	IAQ	Resources	Water								
Yes		1				I1. Pre-Plumbing for Solar Water Heating	1		1				
TBD						I2. Preparation for Future Photovoltaic Installation			1				
		0				I3. Onsite Renewable Generation (Solar PV, Solar Thermal, and Wind)			25				
						I4. Net Zero Energy Home							
TBD						I4.1 Near Zero Energy Home			2				

TBD							I4.2 Net Zero Electric				4			
J. BUILDING PERFORMANCE AND TESTING		Community	Energy	IAQ	Resources	Water								
TBD							J1. Third-Party Verification of Quality of Insulation Installation					1		
TBD							J2. Supply and Return Air Flow Testing				1	1		
TBD							J3. Mechanical Ventilation Testing and Low Leakage					1		
TBD							J4. Combustion Appliance Safety Testing					1		
2008							J5. Building Performance Exceeds Title 24 Part 6							
15.00%	1500.00%		25.0				J5.1 Home Outperforms Title 24 Part 6	25.0			60			
TBD							J6. Title 24 Prepared and Signed by a CABEC Certified Energy Analyst				1			
TBD							J7. Participation in Utility Program with Third-Party Plan Review				1			
TBD							J8. ENERGY STAR for Homes				1			
No					0		J9. EPA Indoor airPlus Certification	0				1		
TBD	No						J10. Blower Door Testing					2		
K. FINISHES		Community	Energy	IAQ	Resources	Water								
							K1. Entryways Designed to Reduce Tracked-In Contaminants							
Yes				1			K1.1 Individual Entryways	1				1		
Yes				2			K2. Zero-VOC Interior Wall and Ceiling Paints	2				2		
Yes				1			K3. Low-VOC Caulks and Adhesives	1				1		
							K4. Environmentally Preferable Materials for Interior Finish							
TBD							K4.1 Cabinets						2	
TBD							K4.2 Interior Trim						2	
TBD							K4.3 Shelving						2	
TBD							K4.4 Doors						2	
TBD							K4.5 Countertops						1	
							K5. Formaldehyde Emissions in Interior Finish Exceed CARB							
TBD							K5.1 Doors					1		
TBD							K5.2 Cabinets and Countertops					2		
TBD							K5.3 Interior Trim and Shelving					2		
TBD							K6. Products That Comply With the Health Product Declaration Open Standard					2		
TBD							K7. Indoor Air Formaldehyde Level Less Than 27 Parts Per Billion					2		
No					0		K8. Comprehensive Inclusion of Low Emitting Finishes	0				1		
L. FLOORING		Community	Energy	IAQ	Resources	Water								
TBD							L1. Environmentally Preferable Flooring						3	
TBD	No						L2. Low-Emitting Flooring Meets CDPH 2010 Standard Method--Residential					3		
TBD							L3. Durable Flooring						1	
TBD							L4. Thermal Mass Flooring				1			
M. APPLIANCES AND LIGHTING		Community	Energy	IAQ	Resources	Water								
Yes						1	M1. ENERGY STAR® Dishwasher	1					1	
TBD							M2. CEE-Rated Clothes Washer				1		2	
Yes							M3. Size-Efficient ENERGY STAR Refrigerator	0			2			
							M4. Permanent Centers for Waste Reduction Strategies							
TBD							M4.1 Built-In Recycling Center						1	
TBD							M4.2 Built-In Composting Center						1	
							M5. Lighting Efficiency							
Yes			2				M5.1 High-Efficacy Lighting	2			2			
TBD							M5.2 Lighting System Designed to IESNA Footcandle Standards or Designed by Lighting Consultant				2			
N. COMMUNITY		Community	Energy	IAQ	Resources	Water								
							N1. Smart Development							
Yes		1			1		N1.1 Infill Site	2	1				1	
TBD							N1.2 Designated Brownfield Site		1			1		
TBD							N1.3 Conserve Resources by Increasing Density			2			2	
TBD							N1.4 Cluster Homes for Land Preservation		1				1	
					0		N1.5 Home Size Efficiency						9	
							Enter the area of the home, in square feet							
							Enter the number of bedrooms							
Yes		2					N2. Home(s)/Development Located Within 1/2 Mile of a Major Transit Stop	2	2					
							N3. Pedestrian and Bicycle Access							
		1					N3.1 Pedestrian Access to Services Within 1/2 Mile of Community Services	1	2					
4	6.0						Enter the number of Tier 1 services							
4	2.0						Enter the number of Tier 2 services							
TBD							N3.2 Connection to Pedestrian Pathways		1					
TBD							N3.3 Traffic Calming Strategies		2					
							N4. Outdoor Gathering Places							
TBD							N4.1 Public or Semi-Public Outdoor Gathering Places for Residents		1					
TBD							N4.2 Public Outdoor Gathering Places with Direct Access to Tier 1 Community Services		1					
							N5. Social Interaction							
Yes		1					N5.1 Residence Entries with Views to Callers	1	1					
Yes		1					N5.2 Entrances Visible from Street and/or Other Front Doors	1	1					
Yes		1					N5.3 Porches Oriented to Street and Public Space	1	1					
TBD							N5.4 Social Gathering Space		1					
							N6. Passive Solar Design							
TBD			0				N6.1 Heating Load				2			
TBD			0				N6.2 Cooling Load				2			
							N7. Adaptable Building							
TBD							N7.1 Universal Design Principles in Units		1			1		
TBD							N7.2 Full-Function Independent Rental Unit		1					
O. OTHER		Community	Energy	IAQ	Resources	Water								
Yes							O1. GreenPoint Rated Checklist in Blueprints	Y	R	R	R	R	R	
TBD							O2. Pre-Construction Kickoff Meeting with Rater and Subcontractors			0.5		1	0.5	
TBD							O3. Orientation and Training to Occupants—Conduct Educational Walkthroughs			0.5	0.5	0.5	0.5	

TBD	O4. Builder's or Developer's Management Staff are Certified Green Building Professionals			0.5	0.5	0.5	0.5	
TBD	O5. Home System Monitors			1			1	
	O6. Green Building Education							
TBD	O6.1 Marketing Green Building		2					
TBD	O6.2 Green Building Signage			0.5			0.5	
TBD	O7. Green Appraisal Addendum	N	R	R	R	R	R	
TBD	O8. Detailed Durability Plan and Third-Party Verification of Plan Implementation					1		
Summary								
	Total Available Points in Specific Categories	341	26	131	53	83	48	
	Minimum Points Required in Specific Categories	50	2	25	6	6	6	
	Total Points Achieved	77.5	8.0	33.0	12.0	13.5	11.0	