City of Sonoma Planning Commission **STAFF REPORT**	*Agenda Item #5* *Meeting Date: 08-10-17*

Agenda Item Title: Review of an application for a Use Permit to construct a residence and related accessory structures on a hillside property, including consideration of adopting a Mitigated Negative Declaration.

Applicant/Owner: Walton Architecture & Engineering/Bill Jasper

Site Address/Location: Brazil Street / APN 018-051-007 (aka Lot 3 or Lot 228)

Staff Contact: David Goodison, Planning Director & Rob Gjestland, Senior Planner
Staff Report Prepared: 08/07/17

PROJECT SUMMARY

Description: Application of Walton Architecture & Engineering for a Use Permit to construct a residence and related accessory structures on the hillside property at Brazil Street / APN 018-051-007 (aka Lot 3 or Lot 228)

General Plan Designation: Hillside (H)

Planning Area: Northeast Area

Zoning: **Base:** Hillside Residential (R-HS) **Overlay:** Historic (/H)

Site Characteristics: The subject property is a 2.69-acre parcel with access from an existing private driveway originating at the intersection of Fourth Street East and Brazil Street. With the exception of a City well and water tank, the property is undeveloped supporting open grassland, oak woodlands, and rock outcroppings

Surrounding Land Use/Zoning:
North: Undeveloped County-zoned parcels/ Land Intensive Agriculture and Rural Residential (County zoning)
South: Single-family home/Hillside Residential
East: Two single-family homes/Hillside Residential
West: Single-family home/Hillside Residential

Environmental Review:

☐ Categorical Exemption	☐ Approved/Certified
☒ Negative Declaration	☐ No Action Required
☐ Environmental Impact Report	☒ Action Required
☐ Not Applicable	

Staff Recommendation:
1. Environmental Review: Adopt Mitigated Negative Declaration.
2. Use Permit Review: Approve, subject to conditions

PROJECT ANALYSIS

BACKGROUND

The subject property (Brazil Street / Lot 3 or Lot 228) is one of four adjoining properties located in a hillside area between Second Street East and Fourth Street East that were the subject of a Lot Line Adjustment reviewed and approved by the City. A Lot Line Adjustment is an administrative approval that allows for the alteration of the boundaries of adjoining parcels, but does not allow for the creation of new parcels. Three of the parcels have clear histories as legal lots of record. The fourth (Lot 4/227) was only recently recognized by the City as a legal lot of lot of record, when the property owner filed for a "Certificate of Compliance", which is a process by which a determination is made as to whether a property exists as a separate, legally-transferrable parcel. All of the parcels in question have a zoning designation of Hillside Residential. Because three of the four parcels are now before the Planning Commission for review of applications for development, each with a single-family residence and associated accessory structures, staff is taking this opportunity to provide background information on the processes that have led to this point.

Certificate of Compliance: The application for a Certificate of Compliance ("COC") was made on March 10, 2016 to recognize Lot 4 / 227 (an adjoining property that is not the subject of this development application). Following a lengthy review process managed by the City Engineer, the COC was granted and was recorded on August 5, 2016. A COC must be issued by the local agency having jurisdiction over the property, if it can be shown that the parcel was lawfully created and not subsequently merged. While there a number of legal variables set forth in the Subdivision Map Act, which is the State Law that sets forth the COC process, those two factors represent the essence of the review. In this case, the property owner was able to document that the lot was created through the sale of the property by the City of Sonoma to General Mariano Vallejo in 1850. A chain of title and other supporting documents provided by the applicant showed that the property was not subsequently merged with any other parcel. Therefore, the date of its creation notwithstanding, the parcel was found to be a legal lot. Due to the age of the parcel's creation and complexity of the associated documents, the City Engineer referred the question of whether a COC should be issued to a licensed land surveyor, Richard Maddock of GHD (an engineering consulting firm retained by the City). The COC process is administrative, meaning that it is acted upon by the City Engineer, whose decision is final unless appealed.

Lot Line Adjustment: An application for a Lot Line Adjustment ("LLA") was made on April 7, 2016. Similar to a COC, this process is established through the Subdivision Map Act and, in Sonoma, is administered by the City Engineer in consultation with other Departments, including the Planning Department. As noted above, a LLA is an administrative approval that allows for the alteration of the boundaries of adjoining parcels. Staff made it clear from the outset that the LLA would not be processed until and unless the COC was granted and recorded and, indeed, it was not ultimately completed and recorded until February 17, 2017. The purpose of the LLA and the basis on which the City Engineer reviewed it was to improve compliance with the City's hillside development regulations for any subsequent residential development application. This was accomplished by modifying the property boundaries, to improve setbacks and building pad orientations for the developable areas within the three vacant parcels.

Water Facilities Easement: In the course of reviewing the Lot Line Adjustment, the City Engineer verified that a water easement in favor of the City was in existence on the subject property (Lot 3 or Lot 228), encompassing almost the entirely of the parcel. This easement was poorly described, and its defensibility was in question. The City maintains a well on the lower portion of the property, along with a water tank (which was taken out of service many years ago). The City had no need to access the upper portion of the parcel to make use of these facilities, but at the same time, access to certain lower portions

of the lot was only available from a separate, adjoining parcel, over which the City had no formal easement. In light of these factors, the City Engineer recommended a comprehensive amendment of the easement, using a vastly improved easement description, that limited its area to the actual water facilities in place and their immediate environs, as well as securing access to them. The City Council approved the revised easement at its meeting of January 23, 2017.

March 2017 Planning Commission Review: On March 9, 2017, the Planning Commission considered an application to develop the subject property with a residence and accessory structures (a separate application to develop 149 Fourth Street East/Lot 2 was also considered on that agenda). In general, a majority of the commission expressed support for the site plan and architectural approach, feeling that the project conformed to the hillside development criteria. However, the Planning Commission had concerns about impacts on trees and long-term tree preservation and voted unanimously (7-0) to require preparation of an Initial Study for the project, to evaluate potential grading, drainage, and erosion impacts related to tree preservation. The minutes from the meeting of March 9, 2017 are attached for reference.

As directed by the commission, staff has prepared an Initial Study (enclosed) that evaluates potential impacts to trees and addresses other topic areas as well, including aesthetics, biological resources, cultural resources, erosion, and hydrology.

DETAILED PROJECT DESCRIPTION

The project involves construction of a ±5,500-square foot residence, ±595-square foot detached garage, and swimming pool in the northern or upper portion of the subject property, near the lower edge of a meadow west of the Ghiggioli residence at 436 Brazil Street. The long axis of the project is oriented parallel to the natural contour of the hillside. Slopes at the development site are fairly consistent, averaging roughly 20%. The structures employ a modern farmhouse architectural style with shed roofs, utilizing neutral-colored exterior materials including gray vertical siding and ledgestone veneer with brown/charcoal railing, posts, metal seam roofing, and window frames. The residence is designed with two offset floors, with the project cut into grade on the uphill side and fill used on the downhill side. The home varies in height from ±10 feet at the main/upper floor level on the north, to a maximum of 29'2" feet when measuring the downhill/south facade. The detached garage is located just behind (north of) the residence partially tucked into the hillside while the swimming pool is located east of the home on terrace that is roughly three feet below the main floor level. Access to the residence (and potentially an additional home on the parcel to the west, Lot 4/227) would be provided by a ±800-foot long driveway that extends off an existing private driveway originating at the corner of Fourth Street East and Brazil Street. Arborist reports submitted with the application indicate that two trees would be removed at the residential building site and 15 trees would require removal for the proposed driveway, the majority being oak trees with a diameter greater than 12 inches. (A subsequent arborist peer review, attached, estimates that for the residential building site, three trees would require removal, with one additional tree that would be significantly impacted; and that the driveway would require removal of 21 trees.) Earthwork calculations for the residence estimate 580 cubic yards of cut and 1,240 cubic yards of fill resulting in 660 cubic yards of import. However, soil export from the driveway (230 cubic yards) and adjacent residential project on Lot 4/227 (430 cubic yards) are intended to balance the project. Earthwork calculations for the driveway estimate 3,120 cubic yards of cut and 2,890 cubic yards of fill.

Since the Planning Commission's review of the project on March 9, 2017, the applicant integrated the following changes into the project:

- A 4-foot tall retaining wall is included on the uphill side of the driveway between stations 2 + 50 and 5 + 50, which eliminates a cut bank and saves approximately 25 trees. A 4-foot retaining wall is also included above at the toe of the fill slope between stations 6 + 50 and 7 + 25 to preserve some of the same trees.

- A tee pipe dissipater has been added at the end of the storm drain west of the residence to spread out drainage and reinforce the sheet flow drainage condition.

Additional details are provided in the attached project submittal and supporting documents.

GENERAL PLAN CONSISTENCY **(☐Not Applicable to this Project)**
The property is designated Hillside Residential by the General Plan. The Hillside Residential land use designation is intended to preserve Sonoma's hillside backdrop, while allowing limited residential development in conjunction with agricultural uses. To prevent the further subdivision of parcels, the minimum lot size is set at ten acres. General Plan policies that apply to the project include the following:

Community Development Element:
- Protect important scenic vistas and natural resources, and incorporate significant views and natural features into project designs (CDE Policy 5.3).

Housing Element:
- Promote the use of sustainable construction techniques and environmentally sensitive design for all housing, to include best practices in water conservation, low-impact drainage, and greenhouse gas reduction (HE Policy 6.3).

Environmental Resources Element:
- Require erosion control and soil conservation practices that support watershed protection (ERE Policy 2.5)
- Preserve existing trees and plant new trees (ERE Policy 2.6).

Public Safety Element:
- Ensure that all development projects provide adequate fire protection (PSE Policy 1.3).

As documented in the Initial Study, views of the proposed residence from public vantage points would be limited and would not constitute a significant impact. Only a small number of trees are proposed for removal and replacement plantings would be required on a basis of 1 to 1.5. In addition, the long-term protection of significant tree clusters on the site would be required. (See conditions of approval #9 and #19.) The site drainage is designed to emulate natural sheet-flow conditions. The private drive serving the site has been designed in compliance with Fire Department access requirements and the project will be subject to the wildland interface requirements set forth in Chapter 7A of the Building Code, including vegetation management and use of fire-resistant exterior materials. (Note: compliance with these requirements will not entail any additional tree removal.)

DEVELOPMENT CODE CONSISTENCY **(☐Not Applicable to this Project)**
Lot Size & Residential Density Standards: Section 19.18.020.A.1 of the Development Code establishes residential density and minimum lot size requirements for new subdivisions in the Northeast Planning Area. Pursuant to Table 3-2 within this Code section, the minimum lot size for a subdivision in the Hillside Residential (R-HS) zoning district is 10 acres. None of the R-HS zoned properties in the City, including the subject property, are 10 acres in size, which means that none of them may be subdivided. However, because they are all legal lots of record, they may developed in accordance with their zoning designation, which allows for one single-family residence per lot and associated residential accessory structures, subject to Use Permit review. This situation is not uncommon any zoning district. For example, a vacant 6,000 square foot parcel in the Low Density Residential could not be subdivided, because any subdivision would not comply with the normal minimum lot size requirement of 7,500 square feet. However, as a legal lot of record, it could be developed with a single-family residence in compliance with applicable development standards.

Use: The property is zoned Hillside Residential (R-HS). Single-family homes and residential accessory structures are permitted uses in the R-HS zoning district, subject to approval of Use Permit by the Planning Commission.

Setbacks: Primary structures in the R-HS zone must be setback a minimum of 30 feet from all property lines. The residence has been located in compliance with this standard, with the northeast corner of the home setback 31 feet from the north property line.

Floor Area Ratio (FAR): The maximum FAR in the R-HS zone is 0.10 or 10% of the total lot area. The project would result in a FAR of 0.05 (5%). Staff would note that up to 400 square feet of a detached garage is excluded from FAR calculations under the Development Code.

Lot Coverage: The maximum structure/building coverage in the R-HS zone is 15% of the total lot area. The project would result in a lot coverage of 4%. Staff would note that porches, pools, and detached garages (up to 400 square feet) are excluded from coverage calculations under the Development Code.

Building Height: The maximum building height within the R-HS zone is 30 feet for primary structures, as measured from finished grade. The residence would have a maximum height maximum of 29'2" feet when measuring the downhill side.

Detached Garage: Low profile, one-story accessory structures may have a lesser setback of 5 feet provided they meet specific height criteria (i.e., a maximum wall height of nine feet and a peak height not exceeding 15 feet in height). The detached garage has been designed in compliance with these height criteria and provides the minimum 5-foot setback.

Parking: One covered parking space is required for a single-family home. The parking requirement would be met by the proposed two-car garage.

Design Review: Because the property is located in the Historic Overlay zone, the project would be subject to subsequent review by the Design Review & Historic Preservation Commission (Development Code §19.54.080). In this case, the Planning Commission is responsible for reviewing and acting upon the project site plan, building massing and elevation concepts to the extent it deems necessary. Subsequent review by the Design Review & Historic Preservation Commission (DRHPC) would address elevation details, exterior materials and colors, landscaping (demonstrating compliance with the water efficient landscape ordinance), exterior lighting and any other issues specifically referred to the DRHPC by the Planning Commission.

Hillside Development: The purpose of the hillside development regulations and guidelines is to preserve and protect views to and from the hillside areas within the City, to preserve significant topographical features and habitats, and to maintain the identity, character, and environmental quality of the City. All new development within the R-HS zone is subject to review and approval of a Use Permit. As set forth under Section 19.40.050 of the Development Code, the Planning Commission shall evaluate applications for hillside development based on a variety of development standards, design guidelines and objectives, in addition to the normal findings for a conditional use permit (the entirety of Section 19.40.050 is attached for consideration). A review of compliance with the hillside development standards, design guidelines, and objectives for the proposed residence and residential accessory structures is set forth in the table below.

Development Standards (19.40.050.D)
Note: These represent standards that must be met. However, some are not expressed in a quantified manner and are therefore subject to Planning Commission interpretation.

Standard	Project Response
1. Structure Height. The height of structures in a hillside area shall not exceed the maximum established by the applicable zoning district.	The maximum building height within the R-HS zone is 30 feet, as measured from finished grade. The residence would have a maximum height of ±29 feet when measuring its downhill side.
2. Grading and Drainage. (a) Grading shall be designed to: (i) Conserve natural topographic features and appearances by minimizing the amount of cut and fill and by means of land form grading to blend graded slopes and benches with the natural topography.	This standard is rather subjective and therefore subject to interpretation by the Planning Commission. In the project's favor, the driveway is designed to share access with an adjoining parcel, which reduces grading on both lots. Orienting the long axis of the building along the contour of the site also works to conserve the topographic character of the site. In addition, the residence and detached garage are at different elevations to step down the natural slope. That said, the area of lot pad grading exceeds Guideline 2 (following).
(ii) Retain major natural topographic features (i.e., canyons, knolls, ridgelines, and prominent landmarks).	The building site does not encompass any major natural topographic features as defined (i.e. canyons, knolls, ridgelines, and prominent landmarks).
(b) All graded areas shall be protected from wind and water erosion. Interim erosion control plans shall be required, certified by the project engineer, and reviewed and approved by the city engineer.	This requirement is implemented by draft Condition of Approval 2.
(c) Slopes created by grading shall not exceed a ratio of 3:1, without a soils report and stabilization study indicating a greater permissible slope and shall not exceed 30 feet in height between terraces or benches.	2:1 slopes are proposed below the residence and adjacent to the driveway, which are allowable with a soils report and stabilization study. The requirement for a soils report and stabilization study is implemented by draft Condition of Approval 7 and would normally be required in conjunction with grading/building permit applications for the project.
3. Street Layout. To the extent feasible based on property conditions, streets shall follow the natural contours of the terrain in order to minimize the need for grading. Cul-de-sacs and loop roads are encouraged where necessary to fit the natural topography subject to the approval of the city engineer and fire department.	The path of the driveway has been designed to follow the contours of the site, while observing Fire Department design requirements for emergency access. In addition, the driveway is designed to share access with an adjoining parcel, which reduces grading on both lots.
Design Guidelines (19.40.050.E)	
Note: As set forth in Section 19.01.060 (Guidelines) of the Development Code, while guidelines are strongly recommended, they are suggestive in that the review authority may approve a discretionary permit for a proposed project even though it fails to comply with one or more guidelines. However, non-compliance with Development Code guidelines may be used by the review authority as a basis for denying a discretionary application.	
Guideline	**Project Response**
1. Terrain Alteration. The project *should* be designed to fit the terrain rather than altering the terrain to fit the project. Development patterns that form visually protruding or steeply cut slopes for roads or lots *shall* be avoided.	The long axis of the residence is oriented parallel to the contour of the site. The second level of the residence is stepped back roughly 16 feet from the face of the first level.
2. Lot Pad Grading. Lot pad grading *should* be limited to the boundaries of the structure's	Lot pad grading does not comply with this guideline. However, proposed grading is within the range of land

foundation, vehicle parking space and a yard area as shown on the approved grading plan. Pads *should* not exceed 5,000 square feet in total area.	disturbance associated with other hillside development in the immediate vicinity.
3. Site and Structure Design. Site design *should* utilize varying structure heights and setbacks, split-level foundations, and retaining walls to terrace structures with the direction of the slope.	The residence is designed with two offset floors, to terrace the structure down the slope.
4. Lot Line Locations. Lot lines *should* be placed at the top of slope areas to help ensure that the slope will not be neglected by the uphill owner.	Not applicable.
5. Design and Location of Structures. (a) The form, mass, and profile of the individual buildings and architectural features *should* be designed to blend with the natural terrain and preserve the character and profile of the natural slope. Techniques that should be considered include:	See responses 5.a.i - 5.a.iii below.
(i) Split pads, stepped footings, and grade separations to permit structure to step up the natural slope;	The residence is designed with two offset floors, to step down along with the slope. The detached garage and pool are at different elevations to step with the slope.
(ii) Detaching parts of a dwelling (e.g., garage); and	The garage is proposed as a detached building.
(iii) Avoiding the use of gable ends on downhill elevations. The slope of the roof *should* be oriented in the same direction as the natural slope.	No gable ends are proposed on the south-facing downhill elevation.
(b) Excavate underground or utilize below grade rooms to reduce the visual bulk of a structure.	The lower floor of the residence and portions of the garage are excavated into the hillside to reduce massing.
(c) Use roofs on lower levels as open space decks for upper levels.	By stepping the two levels of the residence and setting the second floor back, the roof of the lower level is used as deck area for the main floor.
(d) Exterior structural supports and undersides of floors and decks not enclosed by walls may be permitted provided fire safety and aesthetic considerations have been adequately addressed.	Not applicable.
(e) Building materials and color schemes *should* blend with the natural landscape of earth tones and natural vegetative growth.	Neutral-colored exterior materials including gray vertical siding and ledgestone veneer with brown/charcoal railing, posts, metal seam roofing, and window frames are proposed to blend with the natural environment, and would be further refined through a subsequent design review process with the City's Design Review & Historic Preservation Commission (DRHPC) under draft Condition of Approval 10.
6. Retaining Walls. Retaining walls that result in large uniform planes *shall* be avoided. Retaining walls *shall* be divided into elements and terraces with landscaping to screen them	The grading plan has been designed with terraces that avoid long expanses of retaining walls and to spate them from one another. Per the civil plans, retaining walls on the south and east side of the pool

from view. Generally, no retaining wall should be higher than five feet. When a series of retaining walls is required, each individual retaining wall *should* be separated from adjacent walls by a minimum of five feet.	terrace are less than five feet in height. The retaining wall directly adjacent for a small portion of the main terrace is slightly higher at 6.5 feet.
7. Slope Restoration. Transitional slopes *shall* be replanted with self-sufficient trees, shrubs, and ground cover that are compatible with existing surrounding vegetation in order to enhance the blending of manufactured and natural slopes.	This requirement is Implemented by draft Condition of Approval 11.
8. Reduced Public Street Widths. On-street parking lanes may be omitted from public streets when the result is a substantial decrease in cutting and/or filling. Where no on-street parking is provided, off-street parking areas *shall* be provided to yield a ratio of two additional spaces per dwelling unit. Streets may be reduced to 24 feet in width with no on-street parking, or 32 feet in width with on-street parking on one side.	Not applicable.
9. Preservation of Ridgelines. Ridgelines *shall* be preserved. Structures *shall* not be located closer to a ridgeline than 100 feet measured horizontally on a topographic map or 50 feet measured vertically on a cross section, whichever is more restrictive. In no case *shall* the roofline or any other portion of a structure extend above the line of sight between a ridgeline and any public right-of-way, whether the ridgeline is above or below the right-of-way.	The proposed development site is not in proximity to a ridgeline.
Evaluation of Applications: Objectives (19.40.050.E)	
Note: The following is a list of non-quantified objectives that the Planning Commission is to consider in addition to the normal findings required for any Use Permit.	
Objective	**Project Response**
1. The preservation of natural topographic features and appearances by maintaining the natural topography to the greatest extent possible;	By aligning the development with the contours of the site, changes to the natural topography are minimized.
2. The protection of natural topographic features and appearances through limitations on successive padding and terracing of building sites and the preservation of significant ridgelines, steep slopes, natural rock outcroppings, drainage courses, prominent trees and woodlands, vernal pools, and other areas of special natural beauty;	The residence is designed with two offset floors, to step down the slope. The detached garage and pool are also at different elevations. The development would not affect views of any ridgeline, nor would it remove any significant natural rock outcroppings, or drainage courses. Approximately 24 trees would be removed through development of the project (the majority to accommodate the new driveway), but the majority of trees on the property would be retained, including trees that will serve to screen views of the project.
3. The utilization of varying setbacks, building heights, foundation designs, and compatible	The residence is designed with two offset floors to step down the slope, and the detached garage and

building forms, materials, and colors that help blend buildings into the terrain;	pool are at different elevations. In addition, neutral-colored exterior materials are proposed to blend with the natural environment and the lower floor of the residence would be screened by trees.
4. The utilization of clustered sites and buildings on more gently sloping terrain to reduce grading alterations on steeper slopes;	The development site is proposed in the least sloping portion of the property to reduce grading alterations on steeper slopes.
5. The utilization of building designs, locations, and arrangements that protect views to and from the hillside area;	The residence has been placed on the site such that it a large portion would be screened by trees. It is designed with two offset floors, to terrace the structure with the slope. The second level of the residence is stepped back roughly 16 feet from the face of the first level to reduce massing and impacts on views. The residence employs a simple shed-roof design and would utilize neutral-colored exterior materials to blend with the natural environment.
6. The preservation and introduction of plant materials so as to protect slopes from soil erosion and slippage and minimize the visual effects of grading and construction of hillside areas; and	This objective is met by draft Conditions of Approval 2 and 11.
7. The utilization of street designs and improvements that minimize grading alterations and harmonize with the natural contours of the hillsides.	The path of the driveway has been designed to follow the contours of the site, while observing Fire Department design requirements for emergency access. In addition, the driveway is designed to share access with an adjoining parcel, which reduces grading on both lots

While the project proposes a substantial amount of floor area, grading, and tree removal (tree removal is primarily related to the new driveway) there are many aspects of the project site planning and design that comply with the objectives of the City's hillside development criteria as shown in the table above. The most notable inconsistency with the guidelines is that the total proposed lot pad grading at the residential site is over 13,000 square feet (roughly 4,000 square feet for structures plus 9,000 for terraces, lawn, and autocourt), which exceeds the 5,000-square foot limit recommended by the hillside design guidelines. However, the applicant has provided grading and footprint estimates of five nearby home sites, which demonstrate that the project is within the range of land disturbance associated with other hillside development in the immediate vicinity. In addition, as discussed in the under background, at the March 2017 review, the majority of the commission expressed support for the site plan and architectural approach, feeling that the project substaantially conformed to the hillside development criteria

In terms of views, as discussed under Section 1 (Aesthetics) of the Initial Study, to assess potential impacts on public views, story poles were placed on the site to facilitate the preparation of visual simulations depicting the project as viewed from Fourth Street East and Lovall Valley Road. The visual analysis is in included in the attached project submittal. The results of this assessment are as follows:

- *From Fourth Street East:* 12%-16% of the face of the residence would be visible. The visible area would primarily be the upper floor/roofline, with most of the first floor screened from view by trees on the site.
- *From Lovall Valley Road:* 11% of the face of the residence would be visible. The visible area would be limited to the upper floor/roofline, with most of the first floor screened from view by trees on the site.

As shown in the simulations, the proposed design strategy is successful in allowing the structure to blend in with the larger hillside. While there would be public views of portions of the residence, the majority of the proposed improvements would be substantially screened by tree clusters and would not create an intrusive visual element. Because the preservation of key tree clusters on the site is a critical element in screening views of the project, the applicant intends to enact restrictive covenant provisions as discussed below.

With respect to trees, as discussed under Section 1 (Aesthetics) and Section 4 (Biological Resources) of the Initial Study, to offset tree removal the project includes a tree replacement program set forth toward the end of the Preliminary Grading and Drainage Analysis, dated May 25, 2017, prepared by Bear Flag Engineering (attached). Under the tree replacement program, trees that are removed due to construction would be replaced/replanted at a ratio of 1.5 trees to every 1 tree removed (a 1.5:1 tree replacement ratio). Replacement trees would be planted at locations adjacent to proposed improvements to further reduce the visibility of those improvements. In addition, pursuant to the letter from the Inman Law Group, LLP to Ross Edwards, dated June 7, 2017 (attached), the applicant intends to enact restrictive covenant provisions, which would be implemented through CC&R's applicable to the property, to address tree protection and hillside view preservation. In part, these restrictive covenants would ensure the preservation and maintenance of trees located on the property over the long-term (including trees that screen the proposed improvements from public views) with oversight by the City and a licensed arborist. This aspect of the proposal and general tree preservation, mitigation, and replacement requirements related to construction are addressed by Mitigation Measures 4.e-1 and 4.e-2 set forth in the Initial Study, which have been included as draft conditions of approval 9 and 19. A Tree Screening and Impact Exhibit (attached) has also been provided that identifies important screening trees (shown in red) that will be preserved, and trees that will require particular care and protection for preservation given their proximity to the development zone (shown in yellow).

CONSISTENCY WITH OTHER CITY ORDINANCES/POLICIES **(☒Not Applicable to this Project)**

ENVIRONMENTAL REVIEW **(☐Not Applicable to this Project)**

Although the development of an existing parcel with a single family residence and associated accessory structures and site improvements is typically exempt from environmental review, the Planning Commission directed that an Initial Study be prepared to evaluate potential impacts on trees proposed for preservation, as the Commission was concerned that changes in grading and site drainage could have implications on their long-term health. The attached Initial Study addresses the issue of tree preservation in depth. Other topics of concern include potential impacts on public views and on biological and cultural resources. The analysis and findings of the Initial Study in these areas are summarized below.

1. Trees. The arborist report (and subsequent peer review) indicates that constructing the project would require the removal of 17-18 trees, the majority of which are oak trees with a diameter of less than 12 inches. To limit tree removal number and minimize construction and post-construction impacts on trees, the following features have been incorporated into the project:

    - The primary goal of the drainage design is to maintain the pre-construction drainage scenario to the maximum extent possible. Proposed drainage improvements have been designed to avoid re-routing of runoff, over-concentration of flows, and oversaturation of existing trees. Grading has been designed to minimize cuts and fills, balance earthwork, avoid grading on severely steep slopes, and avoid creating erosion issues.
    - The proposed residence has been located in an open area to minimize tree removal. The driveway turnaround has been reduced to minimize impacts on trees 70 and 71 in the arborist report.

- An interceptor swale located west of the detached garage would convey runoff to a drainage inlet above a landscape wall and fire department turnaround. Runoff from the inlet would be conveyed through a storm drain and released through a tee pipe storm drain dissipater in an open area west of the residence at a location that is not above any existing trees.
- The proposed driveway alignment has been designed to provide adequate emergency vehicle apparatus access while minimizing impacts to existing trees. A 4-foot retaining wall is included on the uphill side of the driveway between stations 2 + 50 and 5 + 50, which eliminates a cut bank and saves approximately 25 trees. A 4-foot retaining wall is also included above at the toe of the fill slope between stations 6 + 50 and 7 + 25 to preserve some of the same trees.
- Runoff from the upper portion of the driveway would be collected by a berm along the edge of the driveway and conveyed to drain inlets and then tee pipe storm drain dissipaters through storm drains. Outlets have been located in areas that are not directly uphill of existing trees.

To offset tree removal, the project includes a tree replacement program, in which trees that are removed due to construction would be replaced/replanted at a ratio of 1.5 trees to every 1 tree removed. Replacement trees would be planted at locations adjacent to proposed improvements to further reduce the visibility of those improvements. In addition, as suggested by the Planning Commission, restrictive property covenant provisions would be enacted to address long-term tree protection and hillside view preservation, with oversight by the City and a licensed arborist. Tree replacement and protection measures are addressed in conditions of approval #9 and #19.

2. Scenic Vistas. Section 19.40.130 of the Sonoma Municipal Code (SMC) defines "scenic vistas" as a public view, benefiting the community at large, of significant features, including hillside terrain, ridgelines, canyons, geologic features, and community amenities (e.g., parks, landmarks, permanent open space). The view element potentially affected by the project is the hillside area within which the residence and accessory structures would be constructed. The proposed project employs a number of strategies to limit it impacts on public views of the hillside as follows:

   - The residence and related improvements are placed well below the ridgeline and are aligned and terraced with the contours of the site/hillside.
   - The placement of the residence allows the tree line below the development site to substantially screen proposed improvements from public views, including the lower floor.
   - The residence is cut into the hillside, thereby limiting its apparent mass. The detached garage is placed behind the residence and is also cut into the hillside.
   - Elements of the project are stepped on the slope, with the residence, detached garage, and pool at different elevations.
   - The residence is divided into two staggered levels, with the main floor stepped back sixteen feet from the lower floor. This design reduces massing by conforming to the slope of the terrain and minimizes the area of grading.
   - The shed roof design and the use of simple building forms reduce the visual prominence of the residence.
   - Exterior materials and colors have been selected to blend with the natural surroundings.
   - The path of the private driveway extension leading to the residence has been designed to follow the contours of the hillside and would be substantially screened with trees.

   While there would be public views of portions of the residence, the majority of the proposed improvements would be substantially screened by tree clusters and would not create an intrusive visual element. In addition, the tree protection measures described above would ensure the long-term preservation of important tree clusters on the property, including those that screen views of the residence. Based on these factors, in conjunction with mitigation measures to preserve trees, the Initial Study concludes that the project would have a less-than-significant impact on scenic vistas.

3. Special Status Species and Habitats. Rare plant surveys were conducted on April 21 and June 20, 2017 by WRA, Inc. (timed to align with the appropriate bloom period) to determine if any rare plant species are located on the project site. The surveys found no rare plants species within the project area. Accordingly, the project would have no impact on any plants identified as a candidate, sensitive, or special status species.

   Three special-status bird species (Cooper's hawk, sharp-shinned hawk, and oak titmouse) have the potential to occur on the site. In addition, on-site trees, shrubs and grassland may be used by nesting birds protected by the Migratory Bird Treaty Act of 1918. The proposed residential development would involve grading and tree/shrub removal or pruning on portions of the site that could impact bird species by causing the destruction or abandonment of occupied nests and mortality of young. Given the possibility for nesting birds on the property, a mitigation measure was identified addressing the timing of tree removal. This mitigation is carried forward in the conditions of approval (see condition #18).

4. Cultural Resources. The City of Sonoma commissioned Tom Origer & Associates to conduct an historical resources study of 12.7 acres of land that encompasses the subject property/project site, and adjoining parcels. The project site is undeveloped, only including part of a private access driveway with adjacent stone alignment. The Historical Resources Study found no archaeological site indicators or evidence of warm springs on the project site or within the study area; therefore no resource-specific recommendations were warranted. However, there is a very low probability that buried archaeological deposits could be present at the site that could be uncovered during earth-moving activities. Consistent with the recommendations of the historic resource survey, a mitigation measure has been required to address the potential for accidental discovery, implemented in Condition of Approval #20.

In summary, potentially significant impacts were identified in the following areas: Air Quality, Biological Resources, and Cultural Resources. However, all potentially significant impacts would be reduced to a less than significant level through incorporation of mitigation measures, which have been included in the draft conditions of approval and mitigation monitoring program. Based on the findings of the Initial Study, staff is recommending that the Planning Commission adopt a Mitigated Negative Declaration for the project.

DISCUSSION OF PROJECT ISSUES

Hillside Development: As noted above, the project proposes a substantial amount of floor area, grading, and tree removal (tree removal is primarily associated with the new driveway), and exceeds the guideline limiting pad grading to 5,000 square feet. However, there are many aspects of the project site planning and design that comply with the objectives of the City's hillside development criteria. While there would be public views of portions of the upper floor/roofline of the residence, the majority of the proposed improvements would be substantially screened by tree clusters and would not create an intrusive visual element. Mitigation for tree removal includes a 1.5:1 tree replacement program and restrictive covenants to ensure the long-term preservation of trees that would provide screening of structures and improvements. As previously noted, during the March 2017 review of this project, the majority of the commission expressed support for the site plan and architectural approach, feeling that the project conformed to the hillside development criteria.

Emergency Water Supply: In absence of fire hydrants in the vicinity, emergency water storage will be necessary on site. However, this requirement can be addressed by the proposed swimming pool.

Water Delivery: Substantial improvements will be necessary to provide City water service (both domestic and fire sprinkler) with adequate pressure to proposed structures on the lot, possibly requiring booster pumps and backflow prevention devices.

Wildland Interface: The wildland interface requirements under Chapter 7A of the Building Code will apply to the site, including vegetation management and use of fire-resistant exterior materials. Staff has confirmed with the Fire Marshall that vegetation management would not entail the removal of trees.

RECOMMENDATION

Staff recommends the following:

1. Environmental Review: Adopt Mitigated Negative Declaration.
2. Use Permit Review: Approve, subject the attached conditions of approval.

Attachments:

1. *Draft Resolution Adopting Findings of Negative Declaration*
2. *Draft Findings of Project Approval*
3. *Draft Conditions of Approval & Mitigation Monitoring Program*
4. *Minutes of the Planning Commission meeting of March 9, 2017*
5. *Development Code Section 19.40.050 (Hillside Development*
6. *Correspondence*
7. *Project Application Submittal*
8. *Letter from the Inman Law Group, LLP to Ross Edwards, dated June 7, 2017* **(refer to Initial Study Attachment 3)**
9. *Tree Screening and Impact Exhibit* **(refer to Initial Study Attachment 4)**
10. *Tree Preservation and Mitigation Reports for Lot 228 and Access Driveway prepared by Horticultural Associates, dated June 7, 2017* **(refer to Initial Study Attachment 6)**
11. *Peer Review of Arborist Reports prepared by MacNair & Associates, dated July 25, 2017*
12. *Preliminary Grading and Drainage Analysis prepared by Bear Flag Engineering, dated May 25, 2017* **(refer to Initial Study Attachment 2)**

Enclosure:

MND/Initial Study with Attachments

All documents associated with the project, including the proposed Mitigated Negative Declaration/Initial Study with attachments can be downloaded from the City's website under "Resources" at the following link:

http://www.sonomacity.org/Government/Departmental-Offices/Planning.aspx

cc: Clare Walton, Walton Architecture & Engineering Inc. (via email)
Ross Edwards, Caymus Builders (via email)
Bill Jasper (via email)

DRAFT

CITY OF SONOMA

RESOLUTION

A RESOLUTION OF THE PLANNNING COMMISSION OF THE CITY OF SONOMA ADOPTING FINDINGS OF NEGATIVE DECLARATION WITH REGARD TO THE UPPER EAST LOT 3, PROPOSED RESIDENCE AT BRAZIL STREET (APN 018-051-007 / LOT 3 OR LOT 228)

WHEREAS, an application has been made for a Use Permit to construct a residence, detached garage, and swimming pool on a 2.69-acre hillside property at Brazil Street / APN 018-051-007 (aka Lot 3 or Lot 228); and,

WHEREAS, because this proposal qualifies as a "project," as defined in the California Environmental Quality Act, an Initial Study was prepared; and,

WHEREAS, the Initial Study identified several areas where the project is anticipated to have an adverse impact on the environment, unless appropriate mitigation measures are taken; and,

WHEREAS, for each area where a significant impact was identified, the Initial Study also identified mitigation measures capable of reducing the impact to a less-than-significant level; and,

WHEREAS, the mitigation measures recommended in the Initial Study have been incorporated into the conditions of project approval and mitigation monitoring program; and,

WHEREAS, the Initial Study was reviewed by the Planning Commission in a duly noticed public hearing held on August 10, 2017.

NOW, THEREFORE BE IT RESOLVED, that the Planning Commission of the City of Sonoma hereby finds and declares as follows:

a. That the Mitigated Negative Declaration, along with all comments received during the public review period, was considered and acted upon prior to any action or recommendation regarding the project.

b. That, based on the Initial Study and taking into account the comments received during the public review period, there is no substantial evidence that the project may have a significant effect on the environment; and

c. That there is no reasonable likelihood that the project will result in any of the impacts specified under the mandatory findings of significance, as defined in the Initial Study.

City of Sonoma Planning Commission
FINDINGS OF PROJECT APPROVAL
Upper East Lot 3, Hillside Residence
Brazil Street (APN 018-051-007 / Lot 3 or Lot 228)

August 10, 2017

Based on substantial evidence in the record, including but not limited to the staff report, and upon consideration of all testimony received in the course of the public review, including the public review, the City of Sonoma Planning Commission finds and declares as follows:

Use Permit Approval

1. *That the proposed use is consistent with the General Plan and any Specific Plan.*

   The project proposes the development of an existing, vacant parcel with a single-family residence, along with accessory structures, site access and related improvements. These uses are allowed for under the Hillside land use designation. As set forth in the staff report, the project complies with applicable General Plan policies in that:
   - Views of the proposed residence from public vantage points would be limited and would not constitute a significant impact.
   - A majority of trees on the site would be preserved, including large oak tree clusters that help screen views of the residence. For those trees to be removed, replacement plantings would be required on a basis of 1 to 1.5.
   - The site drainage is designed to emulate natural sheet-flow conditions.
   - The private drive serving the site has been designed in compliance with Fire Department access requirements and the project will be subject to the wildland interface requirements set forth in Chapter 7A of the Building Code, including vegetation management and use of fire-resistant exterior materials.

2. *That the proposed use is allowed with a conditional Use Permit within the applicable zoning district and complies with all applicable standards and regulations of the Development Code (except for approved Variances and Exceptions).*

   The project complies with the applicable standards of the Development Code. No Exceptions have been requested. As set forth in the staff report, the project complies with the standards of the Hillside Development provisions and is in substantial compliance with the guidelines.

3. *The location, size, design, and operating characteristics of the proposed use are compatible with the existing and future land uses in the vicinity.*

   As set forth in the Initial Study, the Project will not have a significant impact on the visual character of the site or its surroundings. As a large-lot single-family development in an area of large-lot single-family development, the project does not raise any issues of compatibility with respect to its operating characteristics.

4. *The proposed use will not impair the architectural integrity and character of the zoning district in which it is to be located.*

   As set forth in the Initial Study, the project will not have a significant impact on the visual character of the site or its surroundings.

DRAFT

City of Sonoma Planning Commission
CONDITIONS OF PROJECT APPROVAL AND MITIGATION MONITORING PROGRAM
Upper East Lot 3, Hillside Residence
Brazil Street (APN 018-051-007 / Lot 3 or Lot 228)

August 10, 2017

1. The project shall be constructed in conformance with the approved site plan, floor plans and building elevations prepared by Walton Architecture & Engineering (Drawings a2.1-a.3.4 dated April 14, 2017), and the preliminary civil plans, including the preliminary driveway plan (Sheet C2) and preliminary site plan and grading plan (Sheets C1 and C2) prepared by Bear Flag Engineering Inc. (dated May 24, 2017), except as modified by these conditions.

   Enforcement Responsibility: *Planning Department; Building Department: City Engineer; Public Works Department*
   Timing: *Prior to issuance of a building permit; Prior to final occupancy*

2. A grading and drainage plan and an erosion and sediment control plan shall be prepared by a registered civil engineer and submitted to the City Engineer and Stormwater Coordinator for review and approval. In addition, a Stormwater Control Plan (SCP) demonstrating compliance with applicable stormwater requirements shall be submitted in conjunction with the grading plans for review and approval by the City Engineer and Stormwater Coordinator. The measures identified in the SCP shall be incorporated into the grading and drainage plans and the required plans shall be approved prior to the issuance of a grading permit and commencement of grading/construction activities. The erosion control measures specified in the approved plan shall be implemented during construction. Plans shall conform to the City of Sonoma Grading Ordinance (Chapter 14.20 of the Municipal Code). Applicable erosion control measures shall be identified on the erosion control plan and shall be implemented throughout the construction phase of the project: soil stabilization techniques such as hydroseeding and short-term biodegradable erosion control blankets or wattles, silt fences and/or some kind of inlet protection at downstream storm drain inlets, post-construction inspection of all facilities for accumulated sediment, and post-construction clearing of all drainage structures of debris and sediment..

   Enforcement Responsibility: *City Engineer; Stormwater Coordinator; Public Works Department*
   Timing: *Prior to issuance of a grading permit*

3. The applicant shall be responsible for connecting the property to the City's water system to provide both domestic and fire sprinkler water service to the structures, including any necessary off-site improvements, the provision of a water meter(s), booster pumps for adequate pressure, and backflow prevention device as deemed necessary by the City Engineer and Fire Marshall. In addition, the applicant shall pay any required water connection fees applicable to the new development in accordance with the latest adopted rate schedule.

   Enforcement Responsibility: *City Engineer; Public Works Department; Fire Marshall*
   Timing: *Prior to issuance of a building permit and/or final occupancy as determined necessary*

4. The applicant shall obtain an encroachment permit from the City of Sonoma for all work within the Fourth Street East and/or Brazil Street right-of-way.

   Enforcement Responsibility: *City Engineer; Public Works Department; Building Department*
   Timing: *Prior to any work within the right-of-way*

5. All Building Department requirements shall be met, including Building Code requirements related to compliance with CALGreen standards and the wildland interface requirements under Chapter 7A of the Building Code. A building permit shall be required for the structures and improvements.

   Enforcement Responsibility: *Building Department; Fire Marshall*
   Timing: *Prior to construction*

6. All Fire Department shall be met, including any code modifications effective prior to the date of issuance of any building permit. In addition, the following shall be required:

a. All residential structures shall be protected by approved automatic fire sprinkler systems
b. Emergency vehicle access and a turnaround shall be required, designed to support a 40,000 lb. load.
c. In absence of fire hydrants in the vicinity, emergency water storage/supply shall be required on the site.
d. The wildland interface requirements under Chapter 7A of the Building Code shall apply, including vegetation management and use of fire-resistant exterior materials.
e. The water source used for fire suppression shall be augmented as necessary to meet the hydraulic requirements of the sprinkler system(s) and flow calculations shall be required to show that the hydraulic requirements of the fire sprinkler system(s) will have adequate flow.
f. An approved all-weather emergency vehicle access road to within 150 feet of all portions of all structures shall be provided prior to beginning combustible construction.

Enforcement Responsibility: *Fire Department; Building Department*
Timing: *Prior to issuance of a building permit; Prior to final occupancy*

7. A soils and geotechnical investigation and report that includes a soil stabilization study shall prepared by a licensed civil engineer and submitted to the City for review and approval by the City Engineer and Plans Examiner prior to the issuance of any building permits for grading or building construction. The recommendations identified in the soils and geotechnical investigation, such as appropriate foundation systems, soil stability measures, on-site soil preparation and compaction levels, shall be incorporated into the construction plans and building permits for the project (i.e., improvement plans, grading and drainage plans, and building plans).

Enforcement Responsibility: *Building Department; City Engineer*
Timing: *Prior to issuance of any grading/building permit*

8. Parking and drive surfaces shall be surfaced with an appropriate surface material as approved by the City Engineer and the Building Official.

Enforcement Responsibility: *Fire Department; Building Division; City Engineer*
Timing: *Prior to issuance of a building permit and/or final occupancy*

9. The project shall be constructed in accordance with the following requirements related to tree preservation, mitigation and replacement:

a. The recommendations and tree protection measures set forth in the Tree Preservation and Mitigation Report for Lot 228 prepared by Horticultural Associates, dated June 7, 2017 and Tree Preservation and Mitigation Report for Access Driveway prepared by Horticultural Associates, dated June 7, 2017, as amended through any subsequent arborist peer review, shall be adhered to.
b. Trees removed from the project site shall be replaced on-site at a minimum ratio of 1.5:1, consistent with the tree replacement program proposed as part of the project. Replacement trees shall be a minimum 15-gallon size.
c. The recommendations and tree protection measures set forth in the Tree Preservation and Mitigation Report for Lot 228 prepared by Horticultural Associates, dated June 7, 2017 and Tree Preservation and Mitigation Report for Access Driveway prepared by Horticultural Associates, dated June 7, 2017, as amended through any subsequent arborist peer review, shall be incorporated into the grading and improvement plans for the project, as applicable. Written confirmation to this effect shall be provided by the project arborist.
d. Tree fencing and any other required protective measures shall remain in place until their removal is authorized by the project arborist.
e. The project arborist shall be on-hand during initial grading and trenching to monitor compliance with tree protection measures.

Enforcement Responsibility: *Planning Department; Building Department; Public Works Department; DRHPC*
Timing: *Prior to issuance of permits or commencement of construction; During construction; Prior to final occupancy, as applicable*

10. The project shall be subject to architectural review by the Design Review & Historic Preservation Commission (DRHPC), encompassing elevation details, and exterior materials and colors.

Enforcement Responsibility: *Planning Department; DRHPC*
Timing: *Prior to issuance of a building permit*

11. A landscape plan shall be prepared by a licensed landscape architect. The plan shall be subject to the review and approval of the Design Review & Historic Preservation Commission (DRHPC) and demonstrate compliance with the Water Efficient Landscape Ordinance. The landscape plan shall address landscaping, fencing/walls, hardscape improvements, required tree plantings, and the following items.

    a. The landscape plan shall include landscaping to screen retaining walls from view.
    b. Transitional slopes shall be replanted with self-sufficient trees, shrubs, and ground cover that are compatible with existing surrounding vegetation.

    Enforcement Responsibility: *Planning Department; DRHPC*
    Timing: *Prior to issuance of a building permit*

12. Onsite lighting shall be addressed through a lighting plan, subject to the review and approval of the Design Review & Historic Preservation Commission (DRHPC). All proposed exterior lighting for the building and site shall be indicated on the lighting plan and specifications for light fixtures shall be included. The lighting shall conform to the standards and guidelines contained under Section 19.40.030 of the Development Code (Exterior Lighting). No light or glare shall be directed toward, or allowed to spill onto any offsite areas. All exterior light fixtures shall be shielded to avoid glare onto neighboring properties, and shall be the minimum necessary for site safety and security.

    Enforcement Responsibility: *Planning Department; DRHPC*
    Timing: *Prior to issuance of a building permit*

13. The following dust control measures shall be implemented as necessary during the construction phase of the project: 1) All exposed soil areas (i.e. building sites, unpaved access roads, parking or staging areas) shall be watered at least twice daily or as required by the City's construction inspector; 2) Exposed soil stockpiles shall be enclosed, covered, or watered twice daily; and 3) The portions of Fourth Street East and Brazil Street providing construction vehicle access to the project site shall be swept daily, if visible soil material is deposited onto the road.

    Enforcement Responsibility: *Public Works Department; Building Department*
    Timing: *Ongoing during construction*

14. The applicant shall comply with all requirements of Sonoma County PRMD Engineering Division with respect to sanitary sewer requirements and facilities. A sewer clearance shall be provided to the City of Sonoma Building Division verifying that all applicable sewer fees have been paid prior to the issuance of any building permit. **Note: Substantial fees may apply for new sewer connections and/or the use of additional ESDs from an existing sewer connection. The applicant is encouraged to check with the Sonoma County PRMD Sanitation Division immediately to determine whether such fees apply.**

    Enforcement Responsibility: *Sanitation Division of Sonoma County Planning & Management Resource Department; Sonoma County Water Agency: City of Sonoma Building Department*
    Timing: *Prior to issuance of a building permit*

15. Any wells on the site shall be abandoned in accordance with permit requirements of the Sonoma County Department of Environmental Health; or equipped with a back-flow prevention device as approved by the City Engineer. Wells that will remain shall be plumbed to irrigation system only and not for domestic use.

    Enforcement Responsibility: *Sonoma County Dept. of Environmental Health; City Engineer; Public Works Dept.*
    Timing: *Prior to final occupancy*

16. The following agencies must be contacted by the applicant to determine permit or other regulatory requirements of the agency prior to issuance of a building permit, including the payment of applicable fees:

    a. *Sonoma Valley Unified School District* [For school impact fees]
    b. *Sonoma County Department of Environmental Health* [For closure/removal of septic tank or wells]
    c. *Sonoma County PRMD Sanitation Division* [For sewer connections and modifications and interceptor requirements]
    d. *Sonoma County Department of Environmental Health* [For abandonment of wells and/or new wells, and abandonment of septic systems]

    Enforcement Responsibility: *Building Department; Public Works Department*
    Timing: *Prior to issuance of a building permit*

17. The applicant shall be required to pay for all inspections prior to the acceptance of public improvements, or within 30 days of receipt of invoice; all plan checking fees at the time of the plan checks; and any other fees charged by the City of Sonoma, Caltrans, the Sonoma County Water Agency or other affected agencies with reviewing authority over this project.

Enforcement Responsibility: Public Works Department; Building Department; Affected Agencies
Timing: Prior to the acceptance of public improvements, or plan check, or within 30 days of receipt of invoice, as specified above

18. If grading or removal of nesting trees and habitat is proposed to occur within the nesting season (between February 15 and August 15) a pre-construction nesting bird survey of the grassland, shrubs and trees within and around the development site shall be performed by a qualified biologist within 7 days of proposed ground breaking. If no nesting birds are observed no further action is required and grading shall commence within one week of the survey to prevent "take" of individual birds that could begin nesting after the survey. If active bird nests are observed during the pre-construction survey, a disturbance-free buffer zone shall be established around the nest tree(s) until the young have fledged, as determined by a qualified biologist in consultation with CDFG.

Enforcement Responsibility: Planning Department; Public Works Department; Building Department
Timing: Prior to tree removal or grading; Throughout project construction

19. Restrictive covenants, including tree protection restrictions, shall be developed subject to review and approval by the City to ensure the long-term preservation and maintenance of trees on the property, subject to the review and approval of the Planning Director and the City Attorney. A restrictive covenants Declaration shall be recorded on the property and shall include an Exhibit defining the extent of trees/woodlands subject to the tree protection restrictions.

Enforcement Responsibility: Planning Department; City Attorney
Timing: Prior to final occupancy

20. If archaeological remains are uncovered, work at the place of discovery should be halted immediately until a qualified archaeologist can evaluate the finds (§15064.5 [f]). Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar dups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire-affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

Enforcement Responsibility: Planning Department; Public Works Department; Building Department
Timing: Throughout project construction

21. If paleontological resources are identified during construction activities, all work in the immediate area will cease until a qualified paleontologist has evaluated the finds in accordance with the standard guidelines established by the Society of Vertebrate Paleontology. If the paleontological resources are considered to be significant, a data recovery program will be implemented in accordance with the guidelines established by the Society of Vertebrate Paleontology.

Enforcement Responsibility: Planning Department; Public Works Department; Building Department
Timing: Throughout project construction

22. If human remains are encountered, excavation or disturbance of the location must be halted in the vicinity of the find, and the County Coroner contacted. If the coroner determined the remains are Native American, the coroner will contact the Native American Heritage Commission. The Native American Heritage Commission will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

Enforcement Responsibility: Planning Department; Building Department; County Coroner
Timing: Throughout project construction

23. The project applicant/developer shall comply with all NPDES permit requirements for the construction period. A Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and submitted to the State Water Resource Control Board (SWRCB) Division of Water Quality.

Enforcement Responsibility: *SWRCB; City Engineer; Public Works Department; Stormwater Coordinator*
Timing: *Prior to the issuance of any grading/building permit; Ongoing through construction*

Brazil Street / Upper East Lot 3 or Lot 228, Proposed Residence

Staff Report Attachments

1. *Minutes of the Planning Commission meeting of March 9, 2017*
2. *Development Code Section 19.40.050 (Hillside Development)*
3. *Correspondence*
4. *Project Application Submittal*
5. *Letter from the Inman Law Group, LLP to Ross Edwards, dated June 7, 2017* **(refer to Initial Study Attachment 3)**
6. *Tree Screening and Impact Exhibit* **(refer to Initial Study Attachment 4)**
7. *Tree Preservation and Mitigation Reports for Lot 228 and Access Driveway prepared by Horticultural Associates, dated June 7, 2017* **(refer to Initial Study Attachment 6)**
8. *Peer Review of Arborist Reports prepared by MacNair & Associates, dated July 25, 2017*
9. *Preliminary Grading and Drainage Analysis prepared by Bear Flag Engineering, dated May 25, 2017* **(refer to Initial Study Attachment 2)**

Comm. Willers made a motion to require the preparation of an initial study addressing potential grading, drainage, and erosion impacts on tree preservation and the visual impacts of the garage. Comm. Roberson seconded. The motion was unanimously approved, 7-0.

Item 4 – Public Hearing – Consideration of a Use Permit to construct a residence and related accessory structures on a hillside property at 0 Brazil Street (APN: 018-051-007)

Applicant: Walton Architecture & Engineering/Bill Jasper

Senior Planner Gjestland presented the staff report.

Chair Cribb opened the item for public comment.

Claire Walton, Walton Architecture, applicant, described the proposal. She emphasized that scenic impacts were minimal because the home only covered 16% of the surface area. The main floor level will cut into the hill and the building materials will blend with the hillside terrain.

Chad Moll, civil engineer/ Bear Flag Engineers & Surveyors, stated that the drainage and grading plan for the residence will spread out and sheet flow storm water to mitigate erosion.

Vic Conforti, resident/ local architect, complimented the architect for the thoughtful approach, which is in keeping with the Hillside standards and guidelines in that large grading pads are avoided. He also appreciated 3D visuals that illustrate the form and scale of the proposed development. He asked whether the lot pad limitation in the guidelines also applied to outdoor living areas. He felt that the TRPA analysis was a good tool to use in evaluating visual impacts.

Richard Peters, 196 Second Street East, complimented the architect on her presentation. He noted that these applications are now in the hands of the Planning Commission. In his view, both houses are over-scaled in comparison to the lot sizes.

Ed Routhier, 302 Hatchery Lane, stated that the intent of the Hillside guidelines as set forth in the Development Code is to preserve and protect views of the hillside. In his view, both proposals comply with this intent. He stated that he was concerned that a poor precedent was being set in requiring environmental review for the development of a single residence. He asked whether there was any precedent for this step.

Chair Cribb closed the item for public comment.

Planning Director Goodison responded that requiring an initial environmental study on a single family residences is unusual, but may be required at the discretion of the Planning Commission based on the specific circumstances of the property proposed for development. He noted that the study required by the Planning Commission for the previous project was limited to the effects of grading on long-term tree preservation and views of the garage.

Comm. McDonald noted that he had visited the site. He expressed the view that the siting for the residence was the best available on the property and he felt that the massing and the stepped down approach show respect to the site and the Hillside guidelines. As with the previous proposal, he would like to see more information with respect to grading impacts caused by to the building pad, fire turn around for emergency vehicles and the access road to the site. On this site, he would also like to see proposals on tree replacement. He noted the

maintenance and care of the drainage system was critical and should be addressed in the Use Permit conditions. He asked his fellow Commissioners about the swimming pool.

Comm. Roberson stated that he had spent a lot of time looking at the property from various vantage points and concluded that the house sits relatively quietly on the site. The footprint of the house is compact and it is stepped into the property. His primary concern is the level of site grading and aggregate impacts in conjunction with adjoining parcels. However, he does not see the swimming pool as a significant issue and he noted that it has value with regard to fire suppression.

Comm. Wellander stated that while he was initially concerned about view impacts, after carefully reviewing the proposal, he felt that it had been designed in accordance with the Hillside regulations and that path of the private drive was well screened and that views of the residence would be very limited as a result. Although he supported the site planning and design approach taken with regard to the proposed residence, as he felt it complied with the Hillside regulations, he too would like to see a study addressing potential impacts on trees.

Comm. Willers agreed with the comments of the his fellow Commissioners with respect to the site planning and architecture of the proposal. In his view, the proposal demonstrates substantial compliance with the Hillside regulations. The building is inset, the material choices are appropriate, and the building form respects the hillside. His main concern is to address potential grading impacts on trees. The residence will not be invisible, but it meets the objectives of minimizing view impacts and grading. However, he does want to undertake the due diligence with respect to potential impacts on trees.

Comm. Sek appreciated the visual studies and the story poles. She viewed the site from multiple vantage points and felt that the residence would not be obtrusive. In her view, the design and site planning are in keeping with the Hillside regulations, but she agreed that the a study on tree impacts was warranted.

Chair Cribb appreciated the sensitivity of the site planning with regard to limiting views, preserving existing trees, and respecting the Hillside regulations.

Comm. McDonald confirmed with Planning Director Goodison that Fire Department access, including an easement and ongoing maintenance, is required as outlined in conditions of project approval.

Comm. Roberson made a motion to require the preparation of an initial study addressing potential grading, drainage, and compaction impacts on tree preservation. Comm. McDonald seconded. The motion was unanimously approved 7-0.

Item 5 – Study Session – Study Session on a proposal to redevelop a property with a restaurant, triplex, and associated parking, including conversion of the existing gas station at 899 Broadway.

Applicant: Chad & Erika Harris/Stu Lambert, Inc.

Comm. Willers recused due to proximity and left the room.

Planning Director Goodison presented staff's report.

19.40.050 Hillside development.

A. Purpose. This section establishes regulations and guidelines to preserve and protect views to and from the hillside areas within the city, to preserve significant topographical features and habitats, and to maintain the identity, character, and environmental quality of the city.

B. Applicability.

1. Hillside Areas and Hillside Zoning District. The standards and guidelines contained in this section apply to all uses and structures within areas that have a slope of 10 percent or greater, or areas with slopes that exceed 15 percent over 25 percent or more of the site and to all development within the Hillside zoning district.

2. Basis for Slope Determinations. For the purpose of this section, slope shall be computed on the natural slope of the land before grading, as determined from a topographic map having a scale of not less than one inch equals 100 feet and a contour interval of not more than five feet.

3. Conditional Use Permit Required. New development within a hillside area shall be subject to the approval of a conditional use permit in compliance with SMC 19.54.040.

C. Additional Application Requirements. In addition to the standard application submittal requirements, the city council may, by resolution, establish additional informational requirements for applications involving hillside development.

D. Development Standards.

1. Structure Height. The height of structures in a hillside area shall not exceed the maximum established by the applicable zoning district. Measurement of structure height shall be as provided in SMC 19.40.040, Height measurement and height limit exceptions.

2. Grading and Drainage.

a. Grading shall be designed to:

i. Conserve natural topographic features and appearances by minimizing the amount of cut and fill and by means of land form grading to blend graded slopes and benches with the natural topography; and

ii. Retain major natural topographic features (i.e., canyons, knolls, ridgelines, and prominent landmarks).

b. All graded areas shall be protected from wind and water erosion. Interim erosion control plans shall be required, certified by the project engineer, and reviewed and approved by the city engineer.

c. Slopes created by grading shall not exceed a ratio of 3:1, without a soils report and stabilization study indicating a greater permissible slope and shall not exceed 30 feet in height between terraces or benches.

3. Street Layout. To the extent feasible based on property conditions, streets shall follow the natural contours of the terrain in order to minimize the need for grading. Cul-de-sacs and loop roads are encouraged where necessary to fit the natural topography subject to the approval of the city engineer and fire department.

E. Design Guidelines. Within the hillside area and the Hillside zoning district, the following design guidelines should be implemented whenever applicable:

1. Terrain Alteration. The project should be designed to fit the terrain rather than altering the terrain to fit the project. Development patterns that form visually protruding or steeply cut slopes for roads or lots shall be avoided.

2. Lot Pad Grading. Lot pad grading should be limited to the boundaries of the structure's foundation, vehicle parking space and a yard area as shown on the approved grading plan. Pads should not exceed 5,000 square feet in total area.

3. Site and Structure Design. Site design should utilize varying structure heights and setbacks, split-level foundations, and retaining walls to terrace structures with the direction of the slope.

4. Lot Line Locations. Lot lines should be placed at the top of slope areas to help ensure that the slope will not be neglected by the uphill owner.

5. Design and Location of Structures.

a. The form, mass, and profile of the individual buildings and architectural features should be designed to blend with the natural terrain and preserve the character and profile of the natural slope. Techniques that should be considered include:

i. Split pads, stepped footings, and grade separations to permit structure to step up the natural slope;

ii. Detaching parts of a dwelling (e.g., garage); and

iii. Avoiding the use of gable ends on downhill elevations. The slope of the roof should be oriented in the same direction as the natural slope.

b. Excavate underground or utilize below grade rooms to reduce the visual bulk of a structure.

c. Use roofs on lower levels as open space decks for upper levels.

d. Exterior structural supports and undersides of floors and decks not enclosed by walls may be permitted provided fire safety and aesthetic considerations have been adequately addressed.

e. Building materials and color schemes should blend with the natural landscape of earth tones and natural vegetative growth.

6. Retaining Walls. Retaining walls that result in large uniform planes shall be avoided. Retaining walls shall be divided into elements and terraces with landscaping to screen them from view. Generally, no retaining wall should be higher than five feet. When a series of retaining walls is required, each individual retaining wall should be separated from adjacent walls by a minimum of five feet.

7. Slope Restoration. Transitional slopes shall be replanted with self-sufficient trees, shrubs, and ground cover that are compatible with existing surrounding vegetation in order to enhance the blending of manufactured and natural slopes.

8. Reduced Public Street Widths. On-street parking lanes may be omitted from public streets when the result is a substantial decrease in cutting and/or filling. Where no on-street parking is provided, off-street parking areas shall be provided to yield a ratio of two additional spaces per dwelling unit.

Streets may be reduced to 24 feet in width with no on-street parking, or 32 feet in width with on-street parking on one side.

9. Preservation of Ridgelines. Ridgelines shall be preserved. Structures shall not be located closer to a ridgeline than 100 feet measured horizontally on a topographic map or 50 feet measured vertically on a cross section, whichever is more restrictive. In no case shall the roofline or any other portion of a structure extend above the line of sight between a ridgeline and any public right-of-way, whether the ridgeline is above or below the right-of-way.

E. Evaluation of Applications. The planning commission shall evaluate a conditional use permit application for hillside development based on the following objectives, in addition to the findings for conditional use permits required through SMC 19.54.040:

1. The preservation of natural topographic features and appearances by maintaining the natural topography to the greatest extent possible;

2. The protection of natural topographic features and appearances through limitations on successive padding and terracing of building sites and the preservation of significant ridgelines, steep slopes, natural rock outcroppings, drainage courses, prominent trees and woodlands, vernal pools, and other areas of special natural beauty;

3. The utilization of varying setbacks, building heights, foundation designs, and compatible building forms, materials, and colors that help blend buildings into the terrain;

4. The utilization of clustered sites and buildings on more gently sloping terrain to reduce grading alterations on steeper slopes;

5. The utilization of building designs, locations, and arrangements that protect views to and from the hillside area;

6. The preservation and introduction of plant materials so as to protect slopes from soil erosion and slippage and minimize the visual effects of grading and construction of hillside areas; and

7. The utilization of street designs and improvements that minimize grading alterations and harmonize with the natural contours of the hillsides. (Ord. 2003-02 § 3, 2003).

Rob Gjestland

From: Karen Carroll <karenecar@yahoo.com>
Sent: Thursday, August 03, 2017 3:26 PM
To: Rob Gjestland
Subject: August 10th Planning Commission Meeting

Rob,
My husband and I had been into City Hall many months ago to ask you about this project that is being discussed on 4th Street East and Brazil. At that time you told us that there were three legal lots already approved for building. Our concerns are many. We've lived in this neighborhood since 1978. Of course there have been many changes and developments. When is enough enough? The hillside on which these houses and "out buildings" are to be built will not only be taking away trees, and the wildlife, and the natural beauty of our neighborhood; it will impart much more disruption. Erosion of the hillside is a major issue. This last winter we had an enormous amount of rain and we watched the water running off the hill as if it were a river. Making a road or driveway wide enough for emergency vehicles in case of fires again would cause more trees to be removed and more of the hillside to be removed. We are not in favor of this and want to go on record to that effect. We would have attended this meeting to voice this in person, but have another personal matter to take care of.
What is going to happen to this beautiful town of Sonoma when there are no more lots to build on?
Thank You,
Karen and Mike Carroll
128 4th St. East
938-1295

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Date
14 April 2017

To
City of Sonoma
Planning Department
Rob Gjestland, Senior Planner

Subject
Narrative for Conditional Use Permit

Project Information

APN:	018-051-007
Address:	Brazil Street Lot 228
Zoning:	Sonoma R-HS
Building Height Limit:	30-feet from finish grade
Setbacks:	30-feet for primary structure and 5-feet for accessory structure with 9-feet maximum wall height and 15-feet maximum building height
Adjacent Neighbors:	Brazil Street Lot 227 436 Brazil Street, APN 018-051-011 400 Brazil Street, APN 018-051-002
Proposed Main House:	5,504 square feet
Proposed Garage:	593 square feet
Total Lot Area:	2.69 Acres [117,242 square feet]
Allowable Coverage:	15% [17,586 square feet]
Proposed Coverage:	14.5% [17,066 square feet]
Allowable FAR:	10%
Proposed FAR:	4.6%
CEQA:	Categorically Exempt
Standards:	Hillside Development Historic Overlay Zone

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Project Overview
The proposed project consists of a 5,504 square foot single family residence, 593 square foot detached two car garage and swimming pool on an approximately 2.7 acre site. The site is located within a mile of Sonoma's historic plaza and the Sebastiani Winery. Views of the local vineyards and distant rolling hills are enjoyed from the building site.

Planning Summary
The proposed project is consistent with the Sonoma General Plan, the Historic Overlay Zone and the standards outlined in the Hillside Development Code. The existing topography and site features have guided the project's design including the orientation, grading and driveway. Careful consideration has been given to minimize the visual impact the proposed project will have on neighbors and the valley below. A certified arborist and licensed civil engineer are part of the project team to help ensure the success of our planning considerations.

Structure Height
The maximum height of the structures above finished grade is 29'-2" which is within the building height limit for this property.

Building Site
The building site has a slope of approximately 20%. Aside from fencing, there are no existing structures on the site. The proposed building site was chosen due to it being mostly clear of native trees for a distance that allowed the project's long axis to orient parallel to topography. The natural vegetation surrounding the building site, including mostly oak and bay trees, will remain untouched. The building site is free of surface drainage waterways or swales and any other notable natural features.

Grading
To minimize the grading initially proposal for this project in August of 2016, the finish floor elevations of the residence have been lowered 10-feet. The main finish floor level now sits 1.5-feet lower than the garage slab level which has been lowered 8-feet from the August proposal. To further emphasize the stepped massing, additional steps down for a 3-foot elevation change have been incorporated between the main terrace and pool terrace.

The project's long axis runs parallel to contour elevation and a balanced cut and fill approach has been utilized to integrate the separate structures into the site. On the uphill side of the property, the front of the detached garage is situated nearly flush with natural grade and the rear is cut into the hillside a maximum of 8-feet.

The slopes created by grading on the downhill side of the project are kept to a ratio of 2:1. This ensures stability and allows the graded areas to blend successfully with the natural topography.

The proposed grading is consistent with the extent of grading utilized for neighboring properties. The grading required is mitigated by the orientation of the home relative to contour elevation, the balanced cut and fill approach, the stepped massing of the detached structures and the 2:1 ratio for graded slopes.

Site Access and Driveway Layout

The proposed driveway begins at the end of an existing driveway that extends approximately 200-feet from the corner of the public intersection. The proposed driveway is 16-feet wide and approximately 800-feet long. Emergency vehicle access requirements have all been observed with the proposed driveway layout including maximum distances, roadway widths, overhead clearances, and minimum radii curves. There are fire department turnouts at 400-foot increments and a turn-around at the highest point where the driveway splits between Lot 227 and Lot 228. To the greatest extent feasible, the proposed driveway is designed to follow the natural contours of the terrain to minimize the need for grading, retain natural features and minimize tree removal.

Design and Location of Structures

1. Siting

The grade separations employed between the detached garage and residence allow the project to step down the natural slope and echo the fall of the land. To further assist in blending the project with the landscape, varied structure heights and setbacks are utilized. The garage maintains the required 5-foot setback while the residence maintains the required 30-foot setback. A carefully choreographed entry walkway and courtyard with an asymmetrical layout connect the two structures together while emphasizing the varied setback approach.

2. Form

To preserve the character and profile of the natural slope, the buildings are kept low with simple shed style roof forms in a modern farmhouse vernacular. The clean, horizontal line created by the shed style roof forms echo the shape of the contour line that the structures are aligned to follow.

3. Massing

Although the residence consists of two-stories, the levels are staggered to respond to the shape of the hillside. The main finish floor elevation sits nearly flush with contour elevation on the uphill side. The roof of the lower level is then used as an open deck space for the main level. The adjacent single-story detached garage helps to further soften the overall expression and blend the project into the landscape.

4. Material and Color

Building materials and color schemes have been selected to blend with the natural earth tones of the landscape. The wood siding proposed is gray barnwood and the base on the home is proposed as ledgestone in a gray/brown hue to provide visual grounding.

5. Visual Impact

The site has minimal visibility from Fourth Street East and Lovall Valley Road. The combination of low-laying simple building forms, earth toned materials and natural screening ensure that neighboring views are minimally affected by the proposed project.

6. Trees

The property is screened by mature trees which will remain untouched on and around the property. This natural screening helps to render the project nearly hidden from adjacent streets and neighborhoods. The expert services of a certified arborist have been included from the beginning stages of planning and will be retained throughout the duration of the project. The arborist report is included in our submittal.

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Brazil Street
Lot 228

PRELIMINARY
notforconstruction

99 Brazil Street
Lot 228
City of Sonoma
California
APN 018-051-007

Conditional Use Permit- 02.10.17

Job Number
684

Issue Date
14 April 2017

Subject
Conditional Use Permit

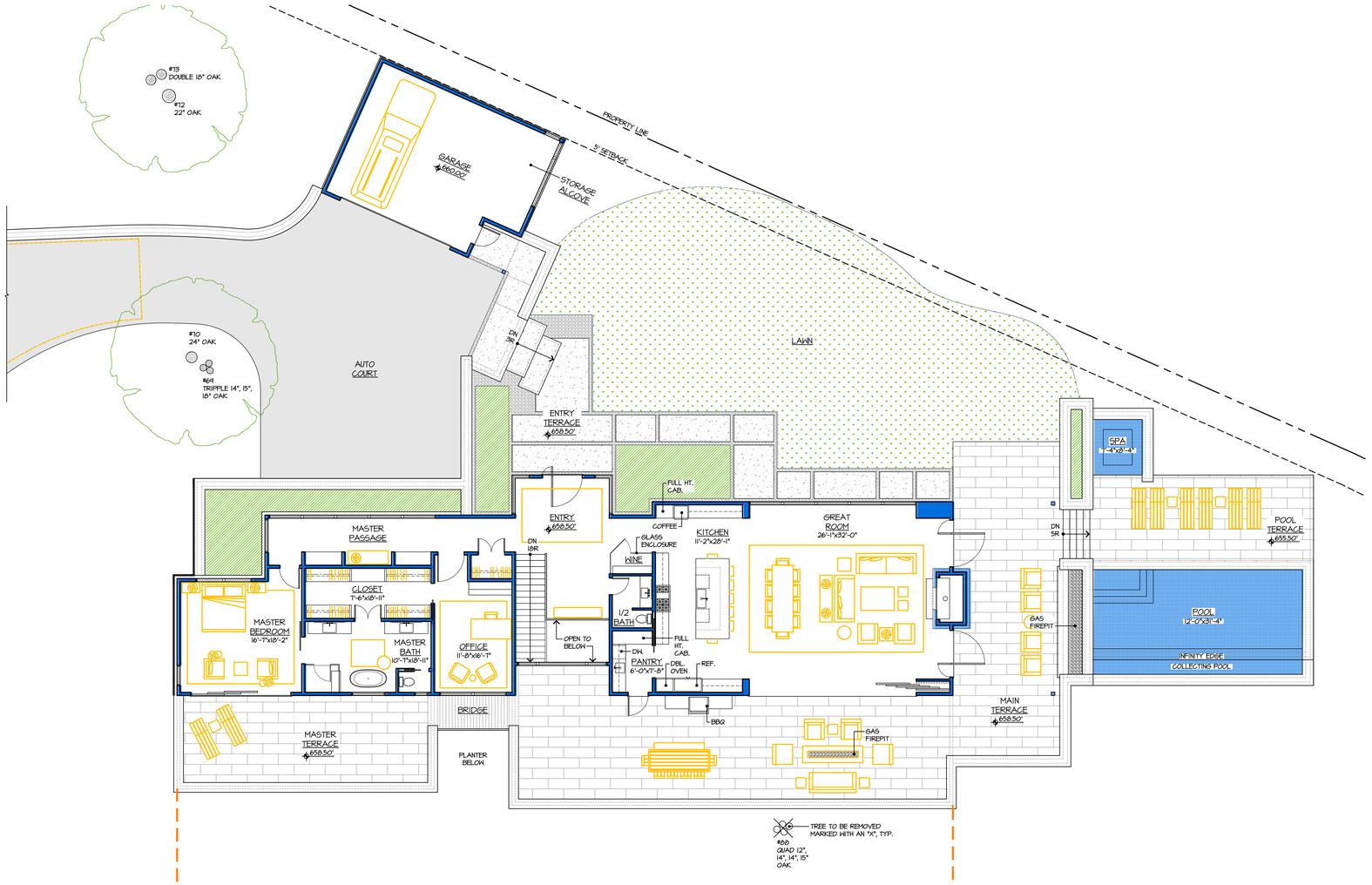
Drawing Title
Cover

Drawing Number
a 0.1

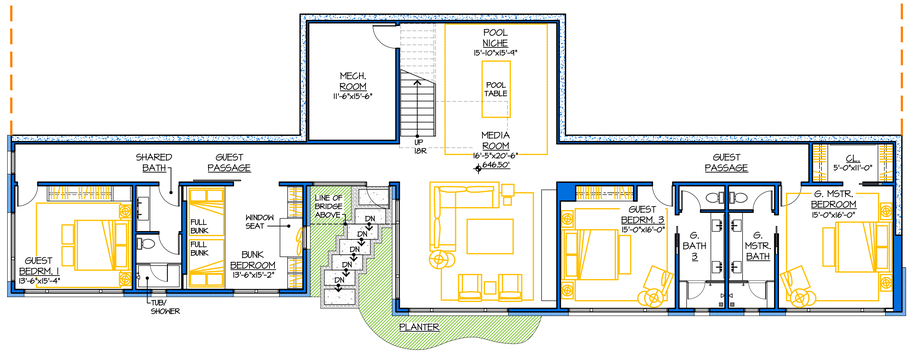
b r a z i l s t r e e t

L o t 2 2 8

SHEET INDEX



1 MAIN LEVEL FLOOR PLAN



2 LOWER LEVEL FLOOR PLAN

SQUARE FOOTAGE ANALYSIS

CONDITIONED SQUARE FOOTAGE	
MAIN LEVEL	= 2,888 SF
LOWER LEVEL	= 2,616 SF
TOTAL	= 5,504 SF
UNCONDITIONED SQUARE FOOTAGE:	
GARAGE	= 593 SF
STORAGE	= 144 SF
TOTAL	= 737 SF

GENERAL NOTES

1.) STAIRWAYS SERVING AN OCCUPANT LOAD LESS THAN 50 SHALL SHALL HAVE A WIDTH OF NOT LESS THAN 36 INCHES. CRC SECTION R311.7.1) STAIRWAYS SHALL HAVE A MINIMUM HEADROOM CLEARANCE OF 80 INCHES MEASURED VERTICALLY FROM A LINE CONNECTING THE EDGE OF THE NOSINGS. SUCH HEADROOM SHALL BE CONTINUOS ABOVE THE STAIRWAY TO THE POINT WHERE THE LINE INTERSECTS THE LANDING BELOW, ONE TREAD DEPTH BEYOND THE BOTTOM RISER. THE MINIMUM CLEARANCE SHALL BE MAINTAINED THE FULL WIDTH OF THE STAIRWAY. CRC SECTION R311.7.2. WITHIN DWELLING UNITS, THE MAXIMUM RISER HEIGHT SHALL BE 7-3/4", THE MINIMUM TREAD DEPTH SHALL BE 10 INCHES. CRC SECTIONS R311.7.4.1 AND R311.7.4.2.

2.) GUARDRAILS AND HANDRAILS SHALL BE STRUCTURED TO WITHSTAND A 200# LATERAL LOAD.

a) HANDRAILS: HANDRAIL HEIGHT, MEASURED ABOVE STAIR TREAD NOSINGS, SHALL BE UNIFORM, NOT LESS THAN 34 INCHES AND NOT MORE THAN 38 INCHES. CRC SECTION R311.7.7.1. HANDRAILS WITH A CIRCULAR CROSS-SECTION SHALL HAVE AN OUTSIDE DIAMETER OF AT LEAST 1.25 INCHES AND NOT GREATER THAN 2 INCHES. IF THE HANDRAIL IS NOT CIRCULAR, IT SHALL HAVE A PERIMETER DIMENSION OF AT LEAST 4 INCHES AND NOT GREATER THAN 6.25 INCHES. EDGES SHALL HAVE A MINIMUM RADIUS OF 0.01 INCH. CRC SECTION R311.7.7.3. HANDRAILS WITHIN DWELLING UNITS ARE PERMITTED TO BE INTERRUPTED BY A NEWEL POST AT A STAIR LANDING. CRC SECTION R311.7.7.2. CLEAR SPACE BETWEEN A HANDRAIL AND A WALL OR OTHER SURFACE SHALL BE A MINIMUM OF 1.5 INCHES. CBC SECTION 1012.6. PROJECTIONS INTO THE REQUIRED WIDTH OF STAIRWAYS AT EACH HANDRAIL SHALL NOT EXCEED 4.5 INCHES AT OR BELOW THE HANDRAIL HEIGHT. CBC SECTION 1012.8. PROVIDE CONTINUOUS HANDRAIL FOR STAIRWAY WITH 4 OR MORE RISERS AS PER R311.

b) GUARDRAILS. GUARDS SHALL FORM A PROTECTIVE BARRIER NOT LESS THAN 42 INCHES HIGH, MEASURED VERTICALLY ABOVE THE LEADING EDGE OF THE TREAD OR ADJACENT WALKING SURFACE. WITHIN DWELLING UNITS, GUARDS WHOSE TOP RAIL ALSO SERVES AS A HANDRAIL SHALL HAVE A HEIGHT NOT LESS THAN 34 INCHES AND NOT MORE THAN 38 INCHES MEASURED VERTICALLY FROM THE LEADING EDGE OF THE STAIR TREAD NOSING. CRC SECTION R312.2. OPEN GUARDS SHALL HAVE INTERMEDIATE RAILS SUCH THAT A 4 INCH DIAMETER SPHERE CANNOT PASS THROUGH ANY OPENING. THE TRIANGULAR OPENINGS FORMED BY THE RISER, TREAD, AND BOTTOM RAIL AT THE OPEN SIDE OF A STAIRWAY SHALL BE OF A MAXIMUM SIZE SUCH THAT A SPHERE CANERE OF 6 INCHES IN DIAMETER CANNOT PASS THROUGH THE OPENING. CRC SECTION R312.3.

3.) THE WALLS AND SOFFITS OF THE ENCLOSED SPACE UNDER STAIRS SHALL BE PROTECTED ON THE ENCLOSED SIDE WITH 1/2" GYPSUM WALLBOARD. CRC SECTION R302.7

4.) MINIMUM OCCUPANCY SEPARATION BETWEEN GARAGE AND RESIDENCE SHALL BE AS FOLLOWS: 1/2" GYPSUM WALLBOARD SHALL BE INSTALLED ON THE GARAGE SIDE OF THE WALL SEPARATING THE GARAGE FROM THE RESIDENCE AND 5/8" TYPE-X GYPSUM WALLBOARD AT THE UNDERSIDE OF THE HABITABLE ROOM ABOVE THE GARAGE. CRC SECTION AND TABLE R302.6.

5.) MINIMUM OPENING PROTECTION FOR DOOR BETWEEN GARAGE AND RESIDENCE SHALL BE THE INSTALLATION OF A SELF-CLOSING TIGHT-FITTING SOLID WOOD DOOR 1-3/8" IN THICKNESS OR A SELF-CLOSING TIGHT-FITTING DOOR HAVING A FIRE PROTECTION RATING OF NOT LESS THAN 20 MINUTES. CRC SECTION R302.5.1.

6.) WATER HEATERS, FURNACES OR OTHER APPLIANCES INSTALLED IN A GARAGE WHICH HAVE A GLOW, SPARK, OR IGNITION SOURCE NEED TO BE MOUNTED 18" ABOVE THE FLOOR AND PROTECTED FROM AUTO IMPACT. CPC 507.13 AND CMC 308.1. ALL WATER HEATERS SHALL BE STRAPPED TO THE BUILDING WITH AT LEAST TWO STRAPS TO PREVENT SEISMIC MOVEMENT. ONE STRAP WITHIN THE TOP THIRD AND THE OTHER WITHIN THE BOTTOM THIRD OF THE WATER HEATER. THE LOWER STRAP SHALL NOT BE WITHIN 4" OF THE CONTROL. CPC 507.2

7.) PROVIDE ROOF TERMINATION FOR GAS APPLIANCE. APPLIANCE SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. SEE FLUE MANUFACTURER'S SPECIFICATIONS FOR FLUE CLEARANCES. VERIFICATION OR APPROVAL OF VENT HEIGHT AND LOCATION WITH AN INSPECTOR PRIOR TO INSTALLATION IS SUGGESTED. ALL GAS FIREPLACES SHALL BE DIRECT-VENT SEALED-COMBUSTION TYPE PER CALGREEN 2013 GREEN BUILDING CODE SECTION 4.503.

a) PROVIDE 60" DIRECT-VENT GAS FIREPLACE @ LIVING
b) FIREPIT SHALL BE PLUMBED FOR GAS, PROVIDE (4) EQ. SPACED ADJUSTABLE GAS JETS SET IN BLACK VOLCANIC STONES.

8.) THE FOLLOWING SHALL BE CONSIDERED HAZARDOUS LOCATIONS REQUIRING SAFETY GLAZING: GLAZING IN DOORS AND ENCLOSURES FOR HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS, AND SHOWERS; GLAZING IN ANY PORTION OF A BUILDING WALL ENCLOSING THESE COMPARTMENTS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" ABOVE A STANDING SURFACE AND DRAIN INLET; GLAZING WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF A DOOR IN CLOSED POSITION; GLAZING ADJACENT TO STAIRWAYS AND LANDINGS WITHIN 36 INCHES HORIZONTALLY OF A WALKING SURFACE WHEN THE EXPOSED SURFACE OF THE GLASS IS LESS THAN 60 INCHES ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE; GLAZING ADJACENT TO STAIRWAYS WITHIN 60 INCHES HORIZONTALLY OF THE BOTTOM TREAD OF A STAIRWAY IN ANY DIRECTION WHEN THE EXPOSED SURFACE OF THE GLASS IS LESS THAN 60 INCHES ABOVE THE NOSE OF THE TREAD. CRC SECTION R308.4.

a) CONTRACTOR SHALL VERIFY SAFETY GLAZING AT ALL LOCATIONS PER 2013 CBC.

b) EXTERIOR WINDOWS, WINDOW WALLS, GLAZED DOORS, AND GLAZED OPENINGS WITHIN EXTERIOR DOORS SHALL BE INSULATING-GLASS UNITS WITH A MINIMUM OF ONE TEMPERED PANE. CRC SECTION R327.8.2.1.

9.) SLEEPING ROOMS BELOW THE FOURTH STORY ABOVE GRADE PLANE SHALL HAVE AT LEAST ONE EXTERIOR EMERGENCY ESCAPE AND RESCUE OPENING. CRC SECTION R310.1. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A MINIMUM NET CLEAR OPENING OF 5.7 SQUARE FEET. THE MINIMUM NET CLEAR OPENING HEIGHT DIMENSION SHALL BE 24 INCHES. THE MINIMUM NET CLEAR OPENING WIDTH DIMENSION SHALL BE 20 INCHES. CRC SECTIONS R310.1.1 THROUGH R310.1.3. EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE THE BOTTOM OF THE CLEAR OPENING NOT GREATER THAN 44 INCHES MEASURED FROM THE FLOOR. CRC SECTION R310.1.

10.) DECKING, SURFACES, STAIR TREADS, RISERS, AND LANDINGS OF DECKS, PORCHES, AND BALCONIES WHERE ANY PORTION OF SUCH SURFACE IS WITHIN 10 FEET OF THE PRIMARY STRUCTURE SHALL BE CONSTRUCTED WITH HEAVY TIMBER, EXTERIOR FIRE-RETARDANT-TREATED WOOD OR APPROVED NONCOMBUSTIBLE MATERIALS. CRC SECTION R327.1.3.

11.) NOTE NOT USED

12.) NOTE NOT USED

13.) OPENINGS IN THE BUILDING ENVELOPE SEPARATING CONDITIONED SPACE FROM UNCONDITIONED SPACE NEEDED TO ACCOMMODATE GAS, PLUMBING, ELECTRICAL LINES AND OTHER NECESSARY PENETRATIONS MUST BE SEALED IN COMPLIANCE WITH THE CALIFORNIA ENERGY CODE AND ALSO THE CALIFORNIA RESIDENTIAL CODE CRC R316 WHERE FOAM PLASTIC INSULATION IS PROPOSED FOR COMPLIANCE. EXCEPTION: ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS, OR OTHER OPENINGS IN PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY, CALGREEN 4.406.1

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Brazil Street
Lot 228

PRELIMINARY
not for construction

99 Brazil Street
Lot 228
City of Sonoma
California
APN 018-051-007

Conditional Use Permit- 02.10.17

Job Number
684

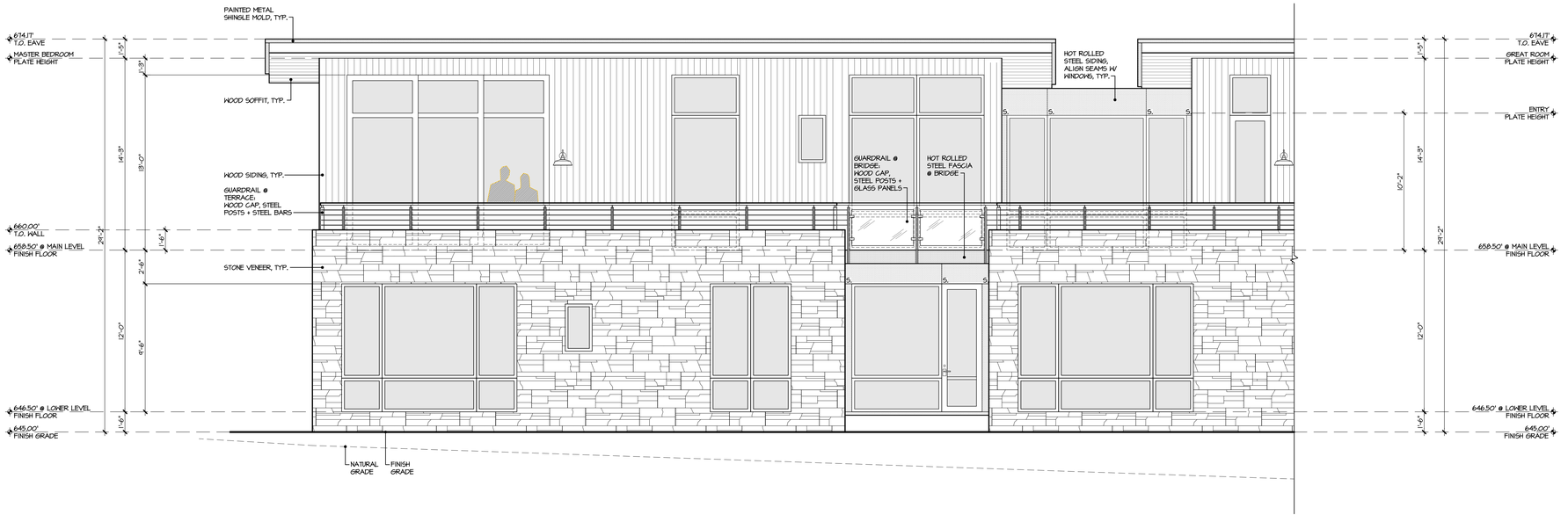
Issue Date
14 April 2017

Subject
Conditional Use Permit

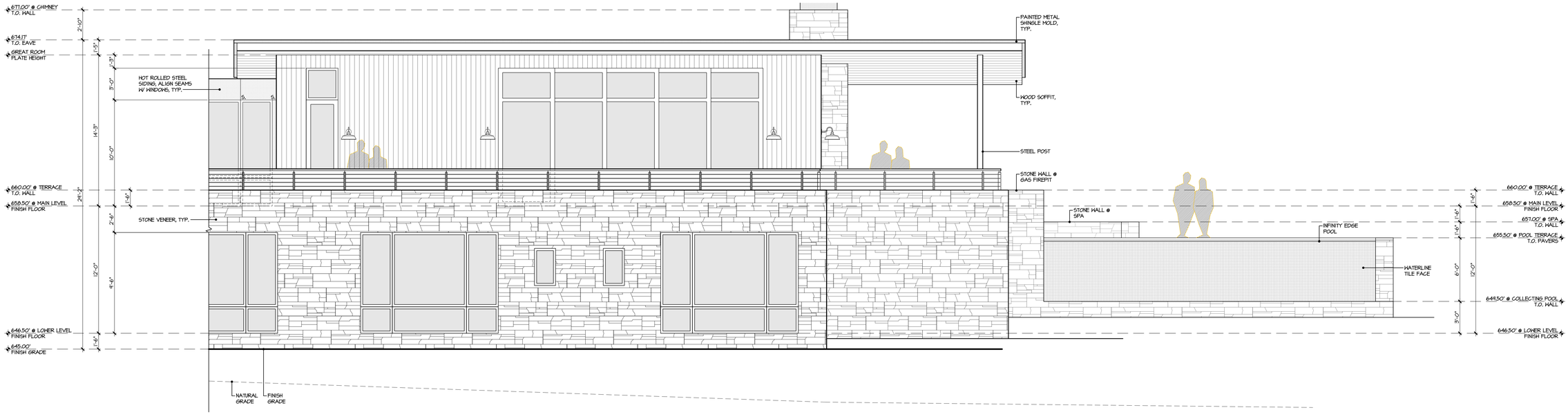
Plan North

Drawing Title
Key Plan

Drawing Number
a 2.1



1 SOUTH ELEVATION
MASTER SUITE VIEW



2 SOUTH ELEVATION
POOL TERRACE VIEW

HEIGHT CALCULATION

LOWEST FINISH GRADE AT BUILDING FOUNDATION = 645.00'
T.O. HIGHEST EAVE = 674.17'

MAXIMUM PROPOSED BUILDING HEIGHT = 29'-2"

EXTERIOR FINISH LEGEND

FASCIA: PAINTED METAL
COLOR: BLACK

ROOFS (1:12 SLOPE): DOUBLE-LOCK STANDING SEAM PAINTED METAL
COLOR: BLACK

ROOFS (1/4:12 SLOPE): TORCH-DOWN WITH DECORATIVE PEBBLE BALLAST
COLOR: BLACK

WOOD SIDING: BARNWOOD, 1x6 SHIPLAP
COLOR: WEATHERED GRAY

METAL SIDING: HOT ROLLED STEEL
FINISH: CLEAR

WINDOWS: ALUMINUM CLAD EXTERIOR, WOOD INTERIOR
COLOR: BLACK

STRUCTURAL MEMBERS: STEEL
COLOR: CLEAR

SOFFITS: DOUGLAS FIR GRADE-D, RESAWN, 1x4 T+G
STAIN: GINGER

STONE VENEER: SQUARE RUBBLE LEDGESTONE

GENERAL NOTES

1) ALL EXTERIOR MATERIALS TO COMPLY WITH R327 OF THE CALIFORNIA RESIDENTIAL CODE.

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Conditional Use Permit

Drawing Title
Exterior Elevations

Drawing Number
a 3.1

HEIGHT CALCULATION

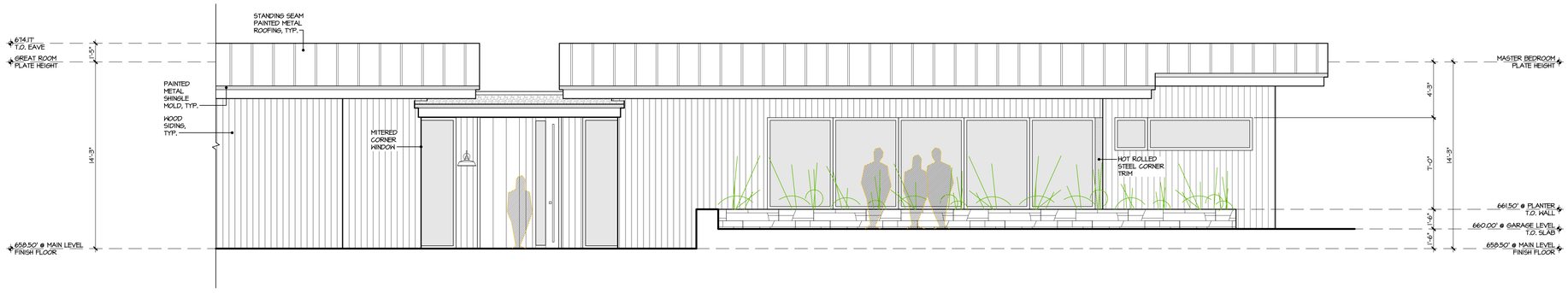
SEE SHEET A-3.1

EXTERIOR FINISH LEGEND

SEE SHEET A-3.1

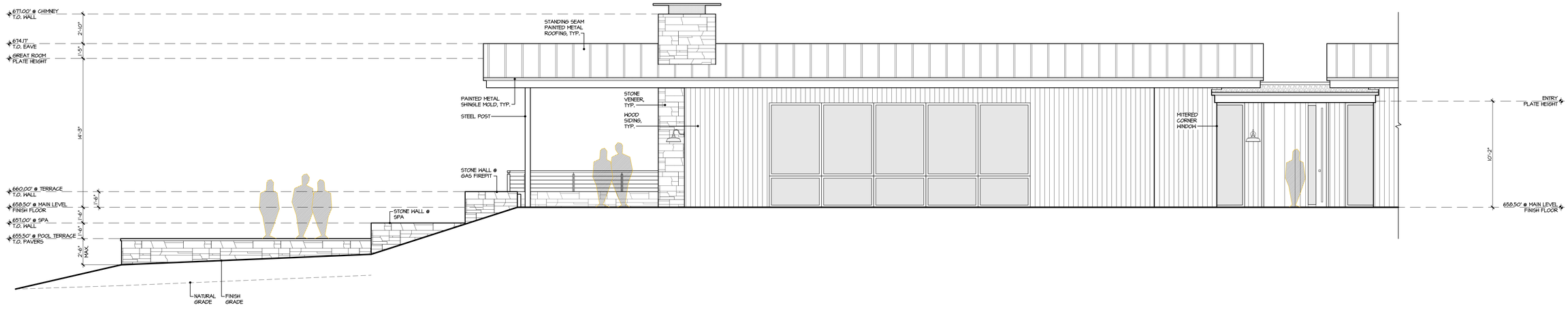
GENERAL NOTES

SEE SHEET A-3.1



1 NORTH ELEVATION

ENTRY VIEW



2 NORTH ELEVATION

POOL TERRACE VIEW

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Issue Date
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Subject
Conditional Use Permit

Drawing Title
Exterior Elevations

Drawing Number
a 3.2

HEIGHT CALCULATION

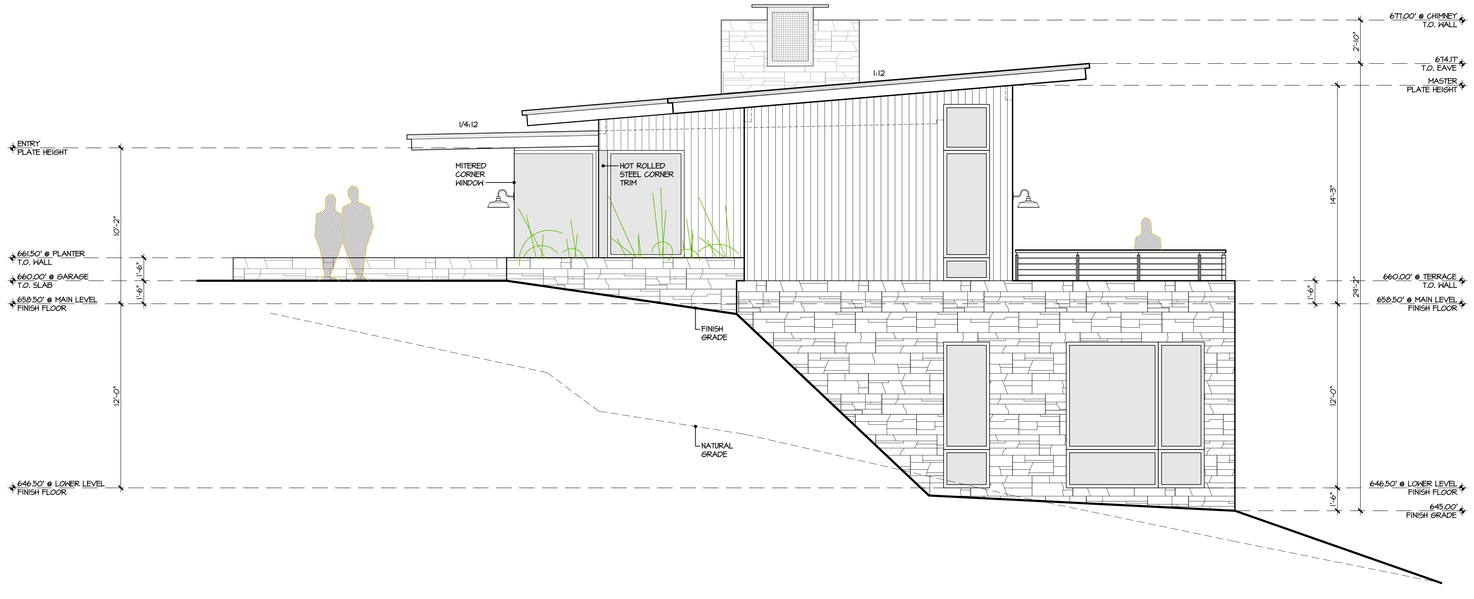
SEE SHEET A-3.1

EXTERIOR FINISH LEGEND

SEE SHEET A-3.1

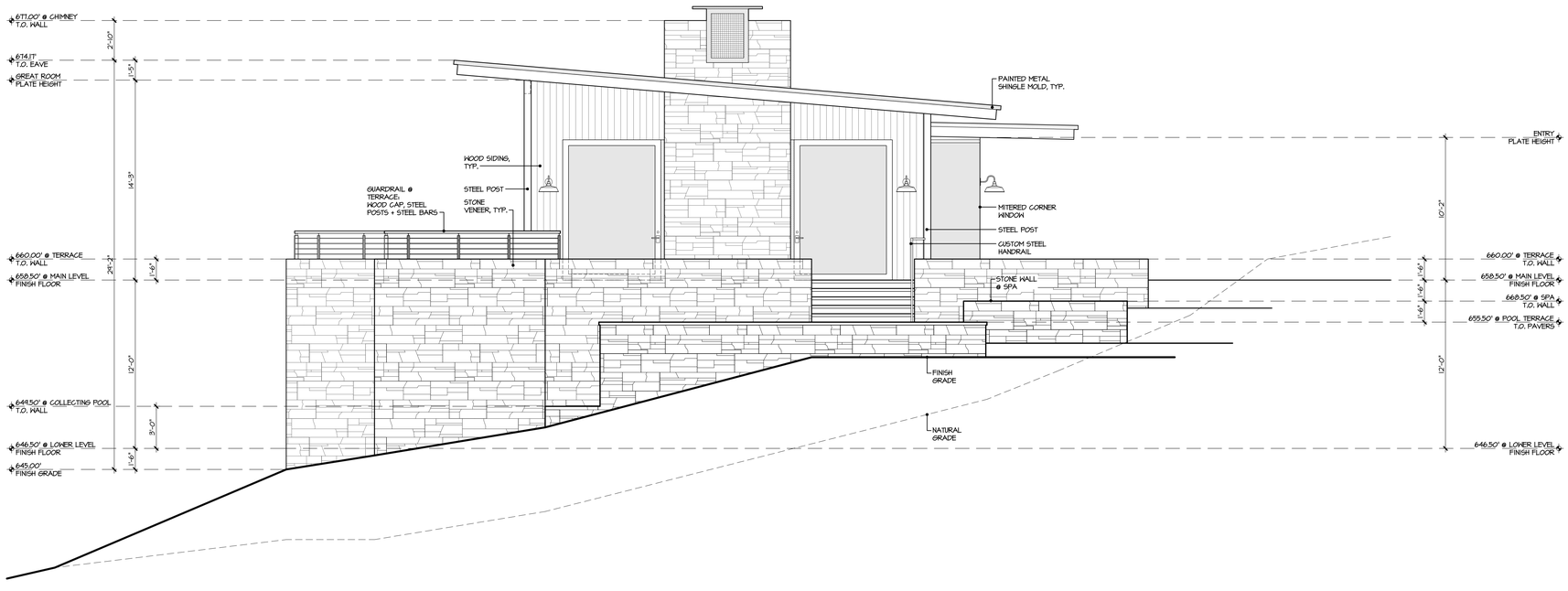
GENERAL NOTES

SEE SHEET A-3.1



1 WEST ELEVATION

MASTER SUITE VIEW



2 EAST ELEVATION

POOL TERRACE VIEW

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Subject
Conditional Use Permit

Drawing Title
Exterior Elevations

Drawing Number
a 3.3

HEIGHT CALCULATION

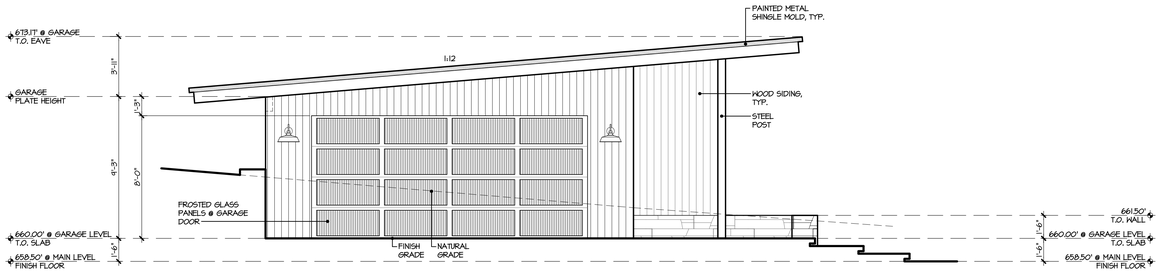
SEE SHEET A-3.1

EXTERIOR FINISH LEGEND

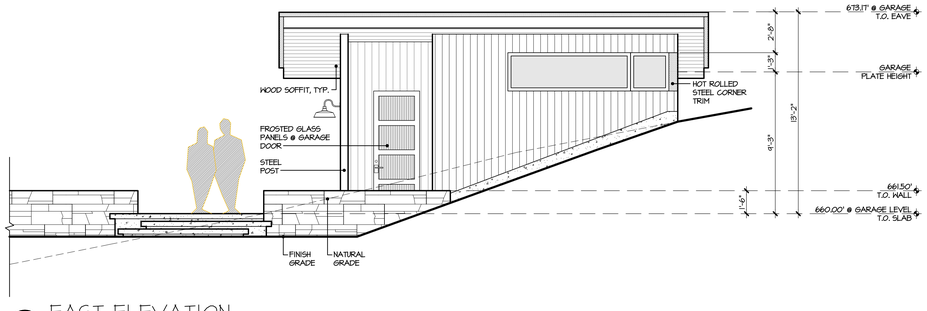
SEE SHEET A-3.1

GENERAL NOTES

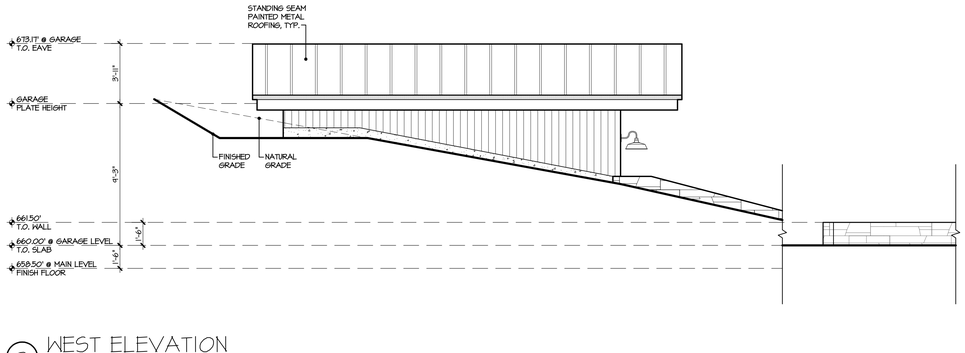
SEE SHEET A-3.1



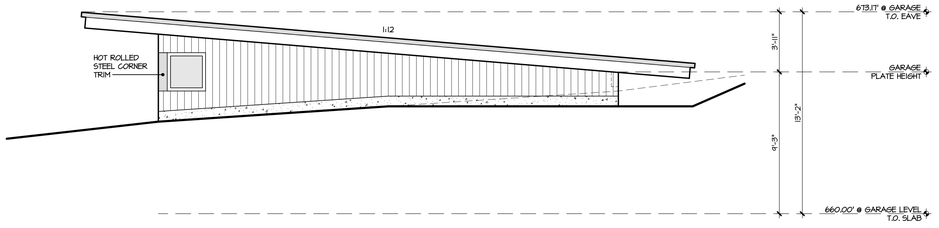
1 SOUTH ELEVATION
GARAGE VIEW



2 EAST ELEVATION
GARAGE VIEW



3 WEST ELEVATION
GARAGE VIEW



4 NORTH ELEVATION
GARAGE VIEW

walton
a e
architecture +
engineering|inc.

740 north lake blvd
tahoe city ca 96145
p 530.583.3690
f 530.583.4690

Brazil Street
Lot 228

PRELIMINARY
not for construction

99 Brazil Street
Lot 228
City of Sonoma
California
APN 018-051-007

Conditional Use Permit- 02.10.17

Job Number
684

Issue Date
14 April 2017

Subject
Conditional Use Permit

Drawing Title
Exterior
Elevations

Drawing Number
a 3.4

BRAZIL STREET | LOT 228

walton ae
architecture +
engineering|inc.

photo of storey poles from 4th + sebastiani winery looking north towards lot 288

BRAZIL STREET | LOT 228

walton ae
architecture + engineering|inc.

photo storey poles from 4th + lucca court looking north towards lot 288

BRAZIL STREET I LOT 228

walton ae
architecture + engineering|inc.

photo of storey poles from lovall valley road @ cherry block entry looking north towards lot 288

BRAZIL STREET | LOT 228

view from 4th + sebastiani winery looking north towards lot 288

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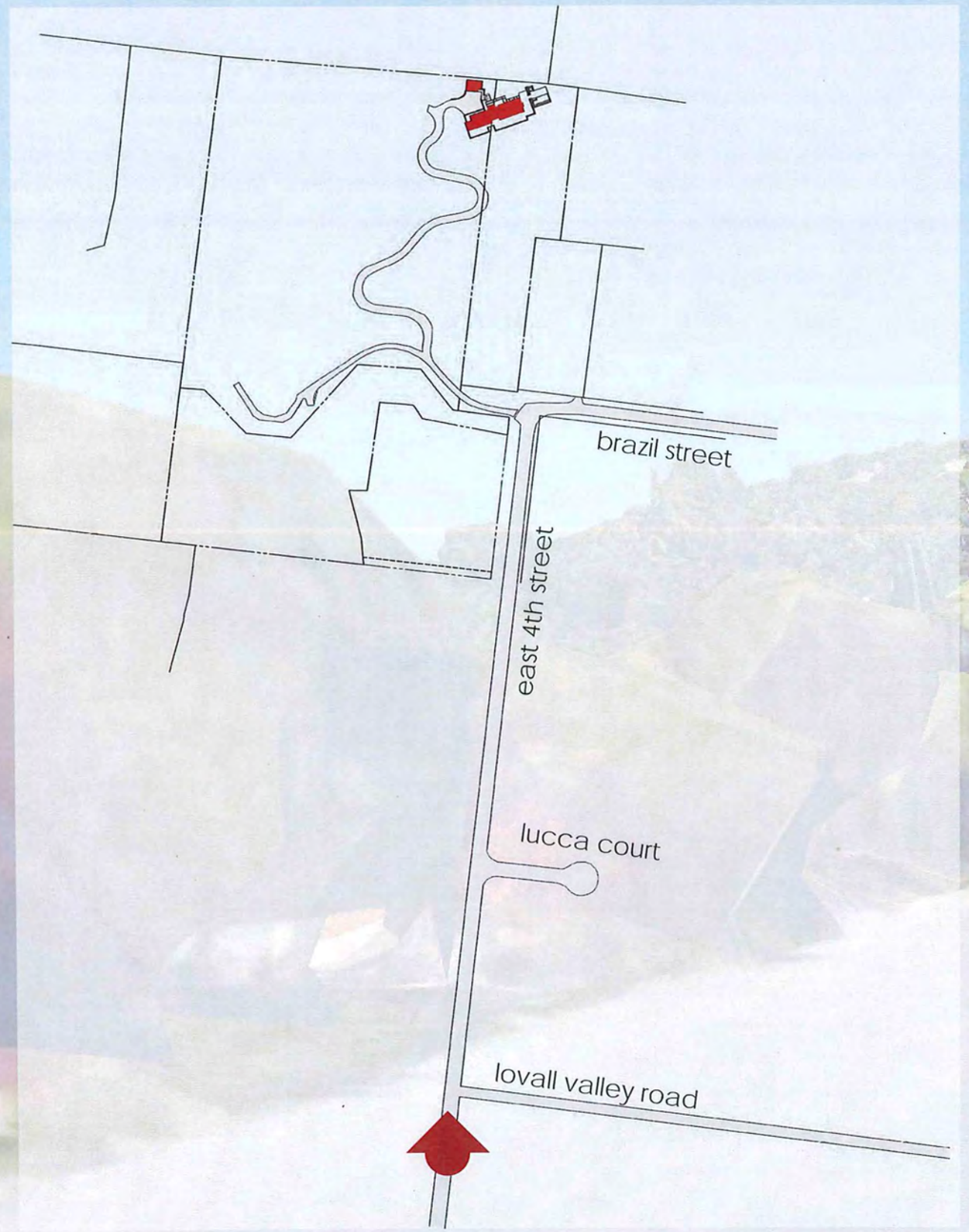
architecture +
engineering|inc.



16% of total surface area visible

6% of visible area = glazing
10% of visible area = exterior finish materials

BRAZIL STREET | LOT 228

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view from 4th + sebastiani winery looking north towards lot 288

BRAZIL STREET | LOT 228

view from 4th + lucca court looking north towards lot 288

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12% of total surface area visible

4% of visible area = glazing
8% of visible area = exterior finish materials

BRAZIL STREET | LOT 228

view from 4th + lucca court looking north towards lot 288

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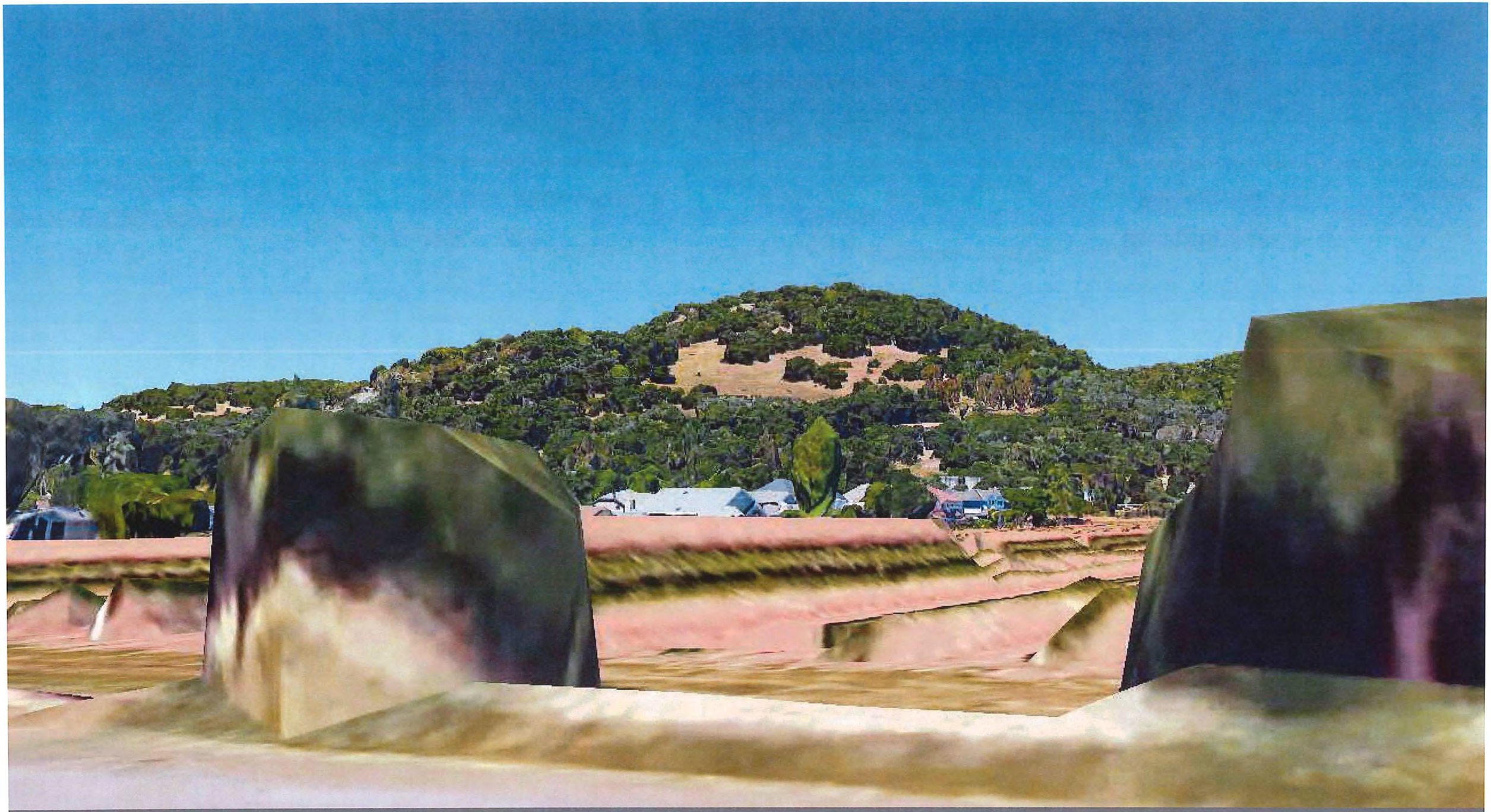

BRAZIL STREET | LOT 228

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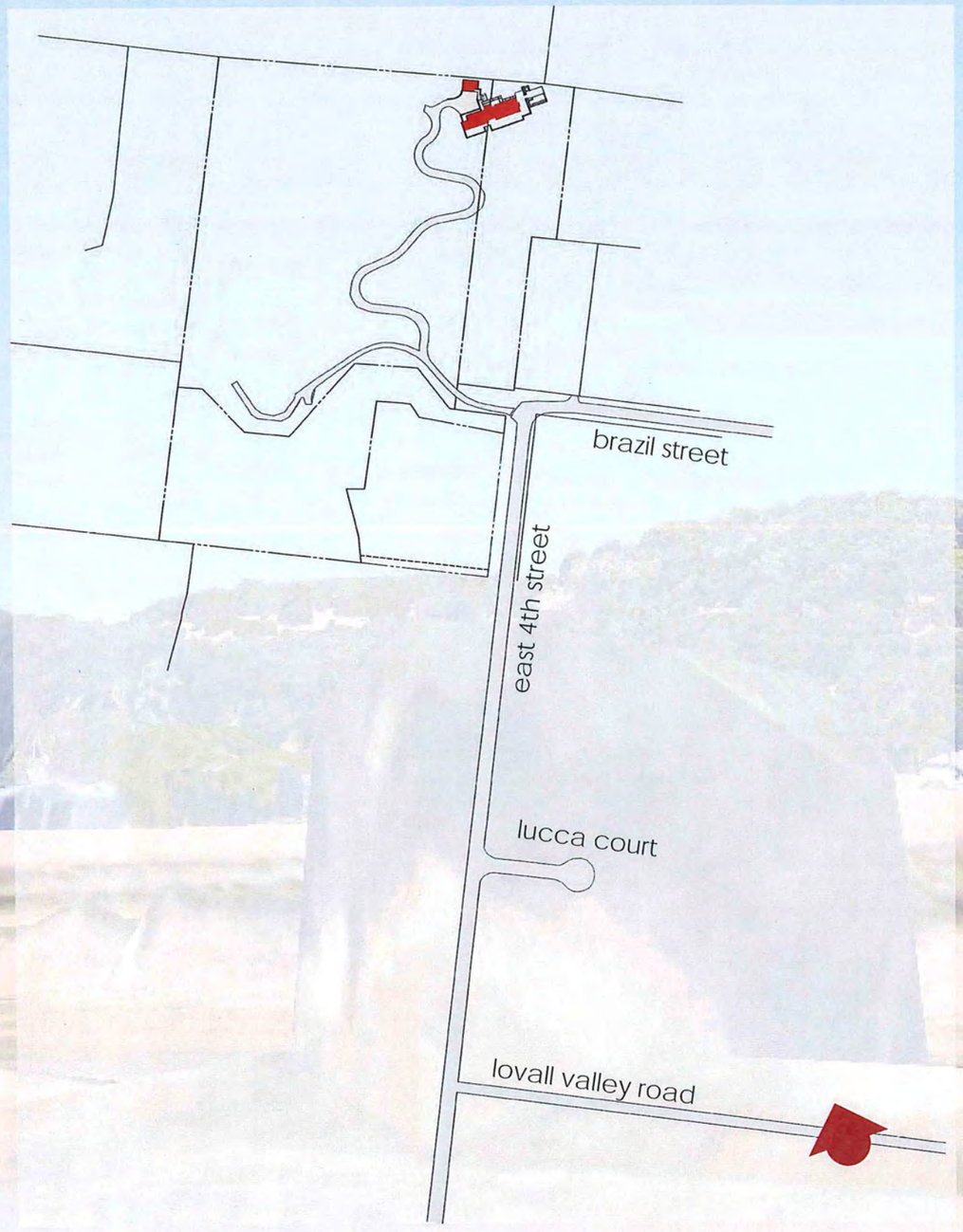
view from lovall valley road @ cherry block entry looking north towards lot 288



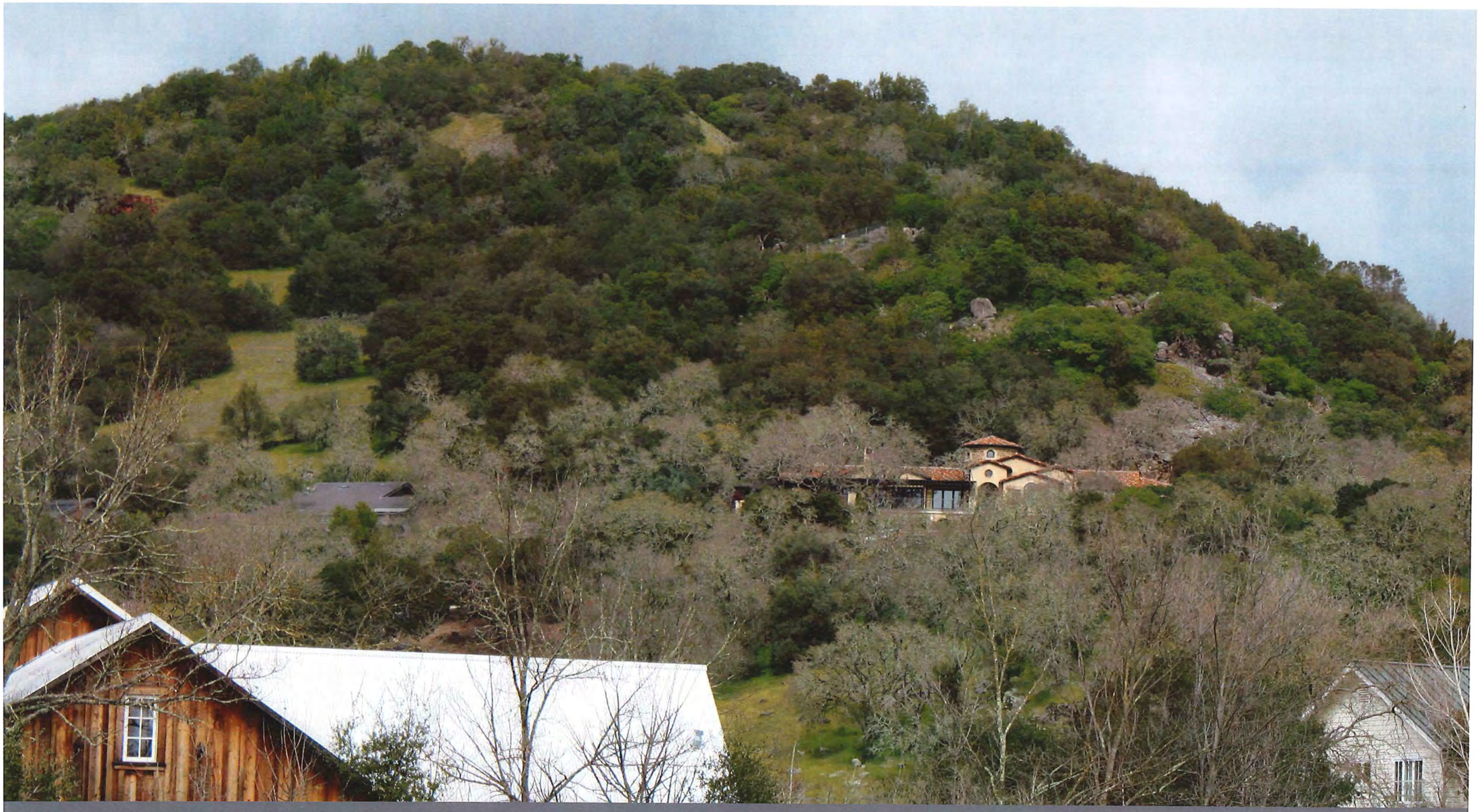
11% of total surface area visible

3% of visible area = glazing
8% of visible area = exterior finish materials

BRAZIL STREET | LOT 228

walton a|e architecture + engineering|inc.

view from lovall valley road @ cherry block entry looking north towards lot 288



BRAZIL STREET | LOT 228

view from 2nd street towards [80 2nd street east]

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BRAZIL STREET | LOT 228

view from 2nd street towards [80 2nd street east]

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architecture + engineering|inc.

BRAZIL STREET | LOT 228

walton ae
architecture + engineering|inc.

view from cherry block vineyard towards [480 brazil street]

BRAZIL STREET | LOT 228

view from cherry block vineyard towards [480 brazil street]

walton ae
architecture + engineering|inc.

BRAZIL STREET I LOT 228

walton ae
architecture + engineering|inc.

view from cherry block vineyard towards [570 brazil street]

BRAZIL STREET | LOT 228

view from cherry block vineyard towards [570 brazil street]

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architecture + engineering|inc.

BRAZIL STREET | LOT 228

walton ae
architecture +
engineering|inc.

view from cherry block vineyard towards [175 4th street east]

BRAZIL STREET | LOT 228

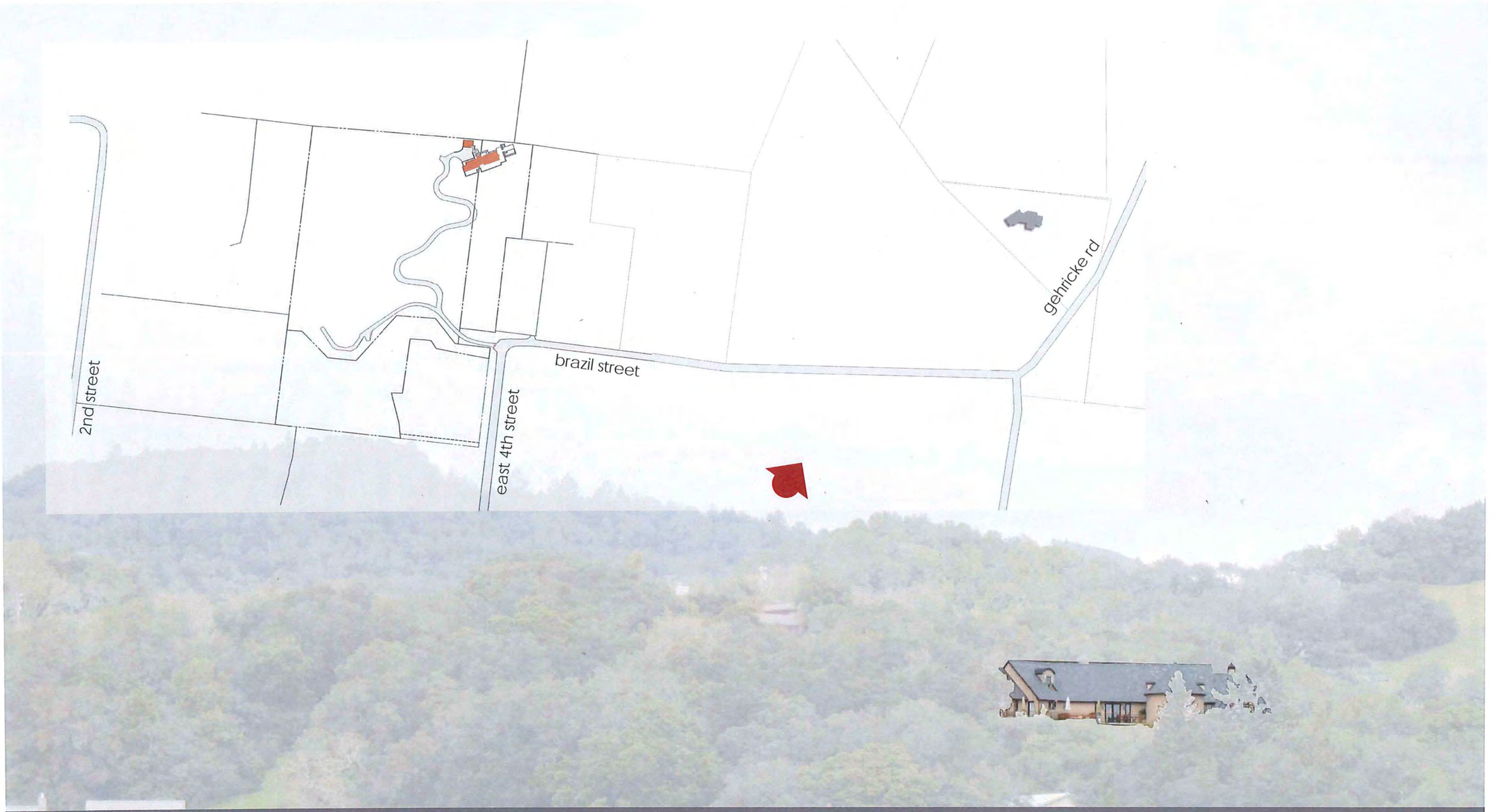
view from cherry block vineyard towards [175 4th street east]

walton ae
architecture + engineering|inc.

BRAZIL STREET | LOT 228

walton ae
architecture + engineering|inc.

view from cherry block vineyard towards [19087 gehricke road]



BRAZIL STREET | LOT 228

view from cherry block vineyard towards [19087 gehricke road]

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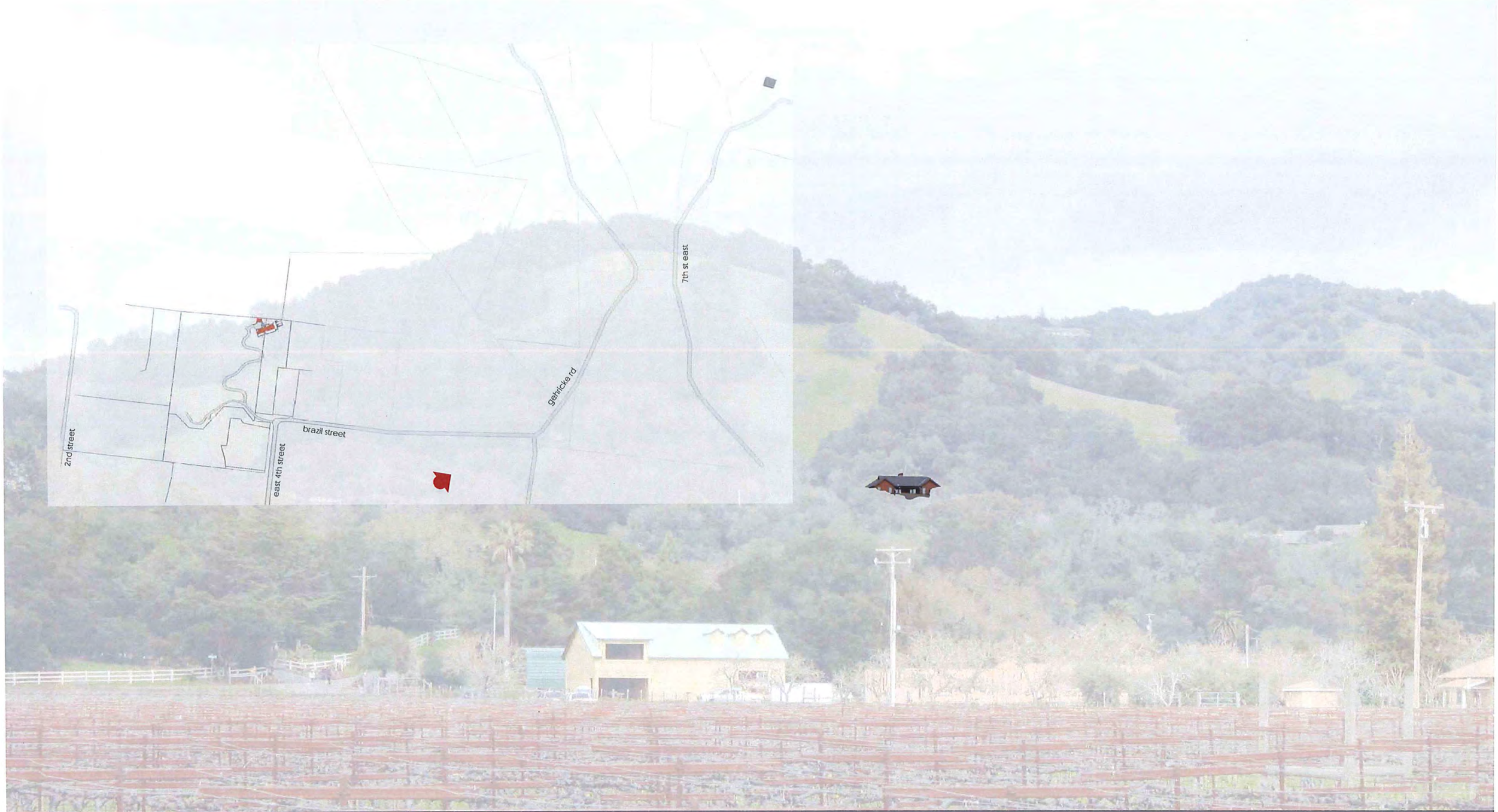
architecture + engineering|inc.

BRAZIL STREET | LOT 228

view from cherry block vineyard towards [18423 7th street east]

walton ae
architecture +
engineering|inc.



BRAZIL STREET | LOT 228

view from cherry block vineyard towards [18423 7th street east]

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architecture + engineering|inc.

BRAZIL STREET | LOT 228

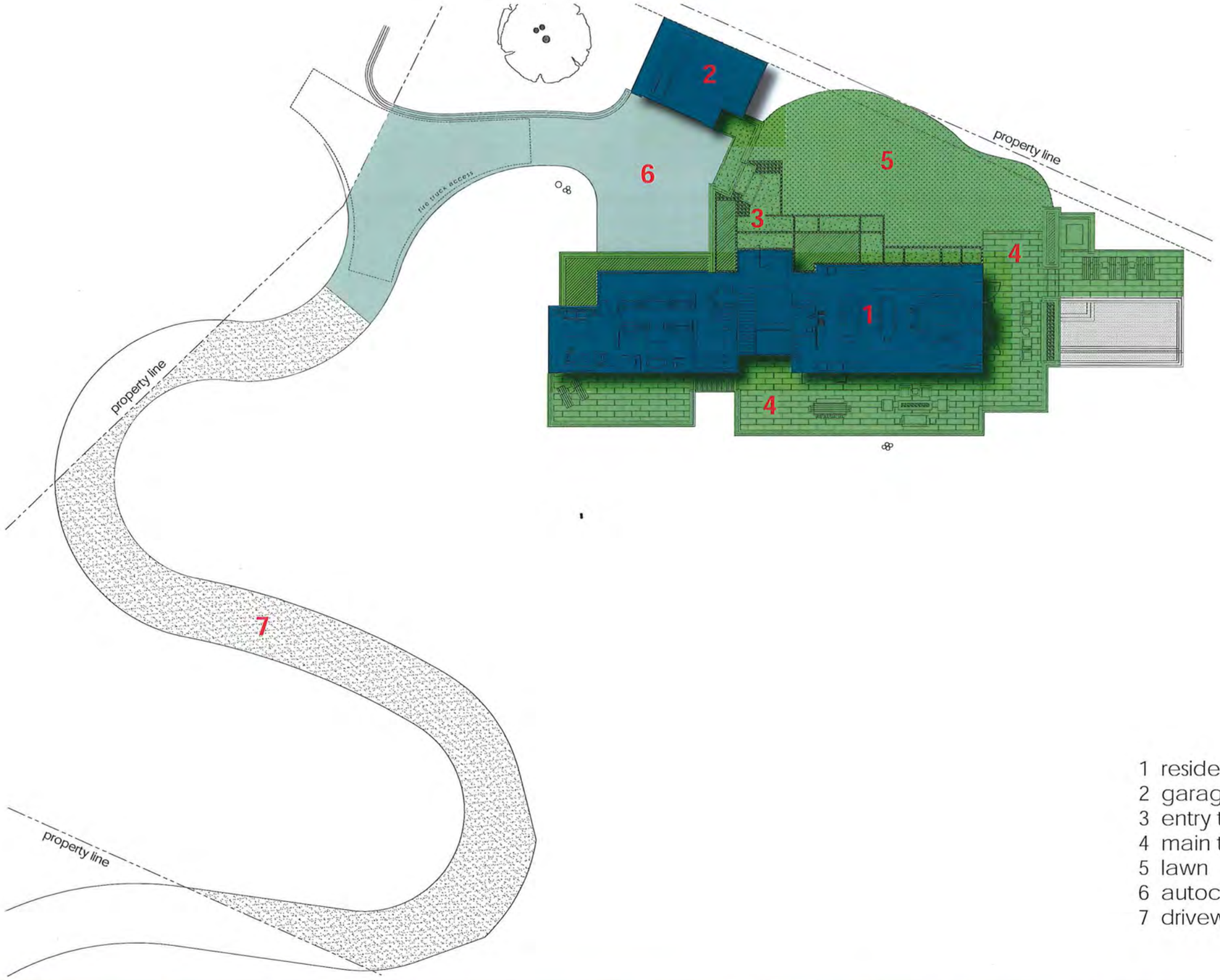
walton ae
architecture + engineering|inc.

view from cherry block vineyard towards [19060 7th street east]

BRAZIL STREET | LOT 228

walton ae
architecture + engineering|inc.

view from cherry block vineyard towards [19060 7th street east]



1	residence	= 3,186 sf
2	garage	= 630 sf
3	entry terrace + planters	= 1,416 sf
4	main terrace + pool terrace	= 3,316 sf
5	lawn	= 2,177 sf
6	autocaourt	= 2,959 sf
7	driveway	= 4,785 sf

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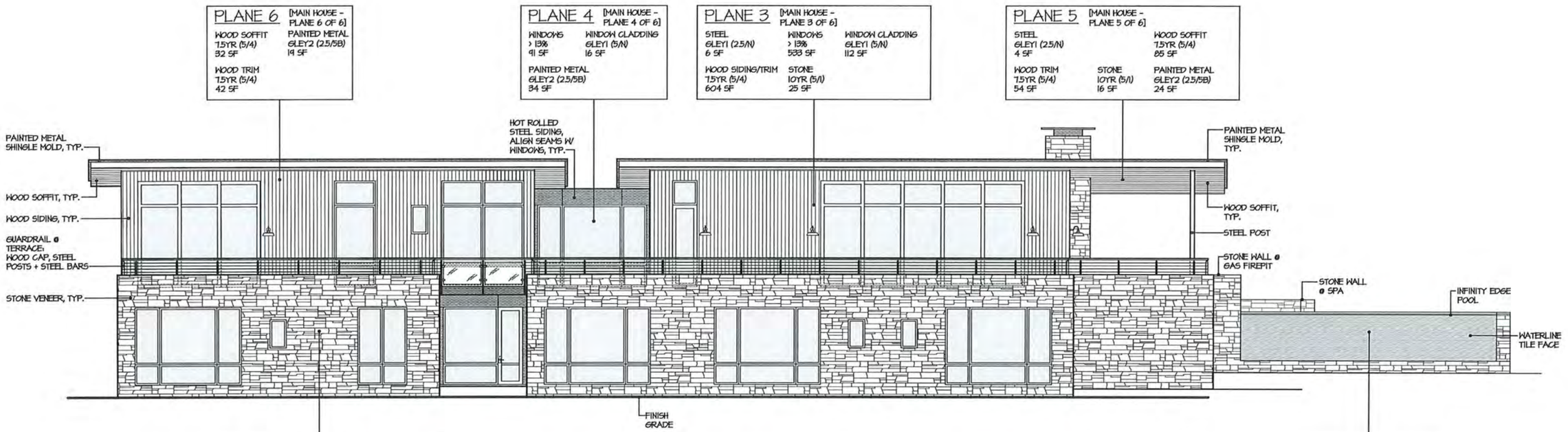
pad area diagram



BRAZIL STREET | LOT 228

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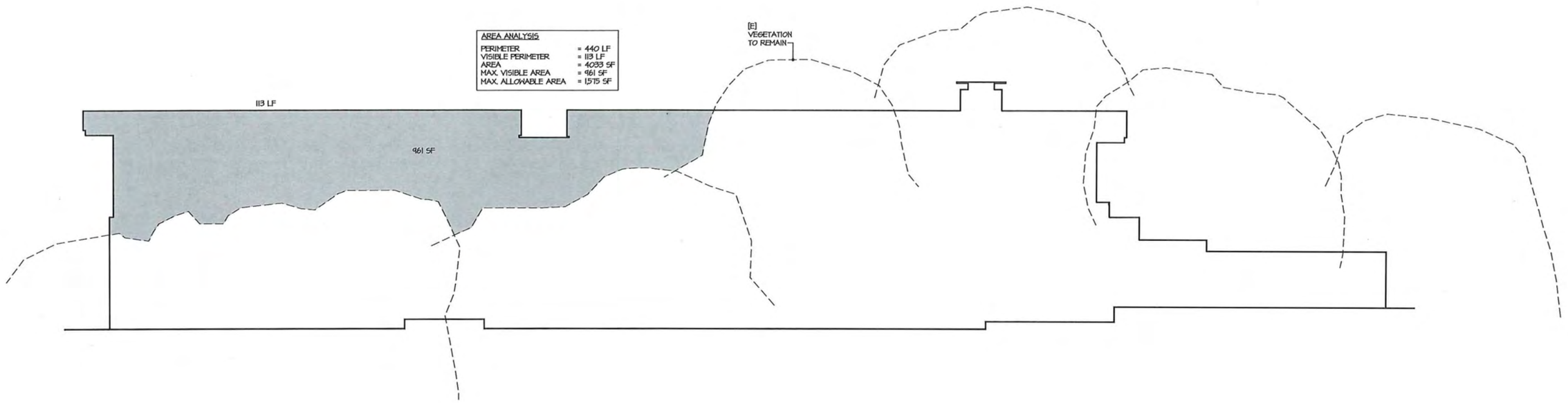
baseline south elevation



BRAZIL STREET | LOT 228

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south elevation outline detail

BRAZIL STREET I LOT 228

view from driveway

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BRAZIL STREET I LOT 228

view towards auto court

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BRAZIL STREET I LOT 228

view towards main terrace + great room + entry

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BRAZIL STREET I LOT 228

walton ae architecture + engineering|inc.

view towards main terrace + great room + garage

BRAZIL STREET I LOT 228

view towards pool terrace + garage beyond

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BRAZIL STREET I LOT 228

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view towards master bedroom + office + great room above
lower level guest bedrooms + bunk room + media room below

MACNAIR
&
ASSOCIATES
CONSULTING ARBORISTS AND HORTICULTURISTS

July 25, 2017

Mr. Rob Gjestland
Senior Planner
City of Sonoma
No. 1 The Plaza
Sonoma, CA 95476

RE: Peer Review of Arborist Reports- 149 4th Street Residence, Lot 227 Residence, Lot 228 Residence & Driveway Project (Brazil Street)

Dear Mr. Gjestland,

Pursuant to a request from the City of Sonoma, this report provides a peer review of the Tree Preservation and Mitigation Reports prepared for the 149 4th Street Residence, Lot 227 Residence, Lot 228 Residence & Access Driveway (Brazil Street) residential projects. These arborist reports were prepared by Horticultural Associates (HA) dated June 7, 2017.

This report addresses the following tasks:

1. Review the tree health and structural ratings of trees within the construction areas.
2. Verify the tree removals required for project construction.
3. Assess the probable construction impacts and feasibility for trees designated to be preserved.
4. Review tree preservation recommendations and procedures.
5. Review of proposed mitigation for tree removals.

Documents Reviewed:

1. Preliminary Grading and Drainage Analysis dated May 25, 2017, prepared by Bear Flag Engineering.
2. Brazil Street Lot 228-Presentation-14April 2017 and Project Narrative (Inc. view analysis) prepared by Nick Lee Architecture.
3. Brazil Street Lot 227-Presentation-14April 2017 and Project Narrative (Inc. view analysis) prepared by Nick Lee Architecture.
4. 2017-04-14_4TH-NLA (149 4th Street project analysis) prepared by Nick Lee Architecture.
5. Tree Preservation and Mitigation Report 149 4th Street dated 6/7/17.
6. Tree Preservation and Mitigation Report Lot 227 Brazil Street dated 6/7/17.

7. Tree Preservation and Mitigation Report Lot 228 Brazil Street dated 6/7/17.

METHODOLOGY:

Two site inspections were conducted reviewing tree locations, tree location plans, tree health and structural ratings, and tree zones identified as visual screening in the architectural presentations. The grading plans were evaluated for probable construction impacts to trees with the results compared to the "expected impact" conclusions in the HA Tree Preservation and Mitigation Reports.

Specifically, fill and cut grading impacts were assessed with distance to the tree measured. The Critical Root Zones[1] were calculated with the grading impact and distance to the tree protection and critical root zones determining the degree of construction impact.

Trees located near grading, excavation, or construction limits were categorized into the following five construction impact categories.

- No Impact: Trees located a sufficient distance from the grading limits and outside the tree protection zone where no impact is expected.
- Limited Impact: Tree located at the outer edge of the Tree Protection Zone (TPZ). Typical protection requirement is fencing to avoid soil impacts from construction activities.
- Moderate Impact: Grading, excavation, or other intensive construction activities occurring within the TPZ, but outside the critical root zone (CRZ) (the area around the tree where roots critical for stability and health are located). More intensive tree protection procedures are usually required and may include root pruning, crown pruning, and cultural procedures for mitigating the impact.
- Significant Impact: Grading, excavation, or other intensive construction activities occurring close to or within the CRZ. Intensive tree protection procedures as well as post-construction management, including supplemental irrigation, are usually required. Depending upon the size of the tree and level of potential root loss, a risk assessment may also be appropriate.
- Removal Due to Construction: Trees located within or adjacent to building construction zones or grading limits and requiring removal.

The corresponding impact categories and description in the HA reports are:

"*Considering the proximity of construction activities, type of activities, tree species, and tree condition the following ratings are used to estimate the amount of impact on tree health and stability. Most trees will tolerate a (1) rating, many trees could tolerate a (2) rating with careful consideration and mitigation, but trees with a (3) rating are poor candidates for preservation due to their very close proximity to construction or because they are located within the footprint of construction and cannot be preserved."*

[1] The Critical Root Zone is the radial area around the trunk where all root impacts should be avoided or mitigated with specialized procedures. Typically, the critical root zone will be a radial distance equal to three times to five times (3X-5X) the trunk diameter.

HA Impact Categories:

(1) Minor impact on long-term tree integrity can be expected as a result of proposed development.
(2) Moderate impact on long-term tree integrity can be expected as a result of proposed development.
(3) Significant impact on long-term tree integrity can be expected as a result of proposed development (includes removal).

RESULTS/DISCUSSION:

Health and Structural Ratings:

The health and structural ratings provided in the HA report were found to be reasonably accurate. A random sample approach was used for this assessment. There are variations in the health assessment that may be due to the seasonal timing of the original HA evaluation. Also, due to the rating coding method with no narrative provided in the HA report, it was difficult to accurately interpret the ratings.

The tree screening areas shown on the Tree Screening and Impact Exhibit (7/14/17) has important screening areas that were not fully surveyed and only partially evaluated within the HA report. Cursory field observations of these areas indicate variability in the health and structural condition within these tree zones.

Tree Construction Impact Assessment:

The following tables summarize the construction impact analysis results and differences between the HA report conclusions and the MacNair and Associates (MA) results. Also provided is a summary of the total number of tree species and the removal and significant impact estimates. Trees with significant impacts will have a high risk of decline post-construction and should be considered as probable removals.

149 4th Street Residence

Removal and Significant Impact Results:

Tree Species	Total Trees	HA Removal Estimate	HA Significant Impact Estimate	MA Removal Estimate	MA Significant Impact Estimate	Difference
blue oak	40	23	2	25	3	+3
coast live oak	19	8	0	7	2	+1
California bay laurel	4	2	0	2	0	0
European olive	5	4	0	4	0	0
Monterey pine	2	0	0	0	0	0
Oregon white oak	2	1	0	1	0	0

Tree Species	Total Trees	HA Removal Estimate	HA Significant Impact Estimate	MA Removal Estimate	MA Significant Impact Estimate	Difference
almond	1	1	0	1	0	0
valley oak	1	0	0	0	1	+1
Totals:	74	39	2	40	6	5

The MA analysis concludes that five additional trees will require removal or be subject to significant construction impact at the 149 4th Street Residence site.

All Construction Impact Categories:

Construction Impact Category	HA Results	MA (MacNair and Assoc.) Results
Minor (Limited) or No Impact	17	20
Moderate Impact	16	8
Significant Impact	2	6
Removal Required	39	40
Total Trees:	74	74

Lots 227 and 228 Driveway

Removal and Significant Impact Results:

Tree Species	Total Trees	HA Removal Estimate	HA Significant Impact Estimate	MA Removal Estimate	MA Significant Impact Estimate	Difference
blue oak	2	0	1	1	0	+1
coast live oak	41	11	5	16	6	+6
European olive	5	4	0	4	0	0
Totals:	48	15	6	21	6	6

The MA analysis concludes that six additional trees will require removal or be subject to significant construction impact as part of the driveway construction.

Construction Impact Category	HA Results	MA (MacNair and Assoc.) Results
Minor (Limited) or No Impact	12	16
Moderate Impact	15	5
Significant Impact	6	6
Removal Required	15	21
Total Trees:	48	48

Lot 227 Residence

Removal and Significant Impact Results:

Tree Species	Total Trees	HA Removal Estimate	HA Significant Impact Estimate	MA Removal Estimate	MA Significant Impact Estimate	Difference
bay laurel	3	3	0	3	0	0

Tree Species	Total Trees	HA Removal Estimate	HA Significant Impact Estimate	MA Removal Estimate	MA Significant Impact Estimate	Difference
California buckeye	1	1	0	1	0	0
coast live oak	32	15	1	15	4	+3
European olive	1	0	0	0	0	0
Totals:	37	19	1	19	4	3

The MA analysis concludes that three additional trees will require removal or be subject to significant construction impact as part of the residential construction.

Construction Impact Category	HA Results	MA (MacNair and Assoc.) Results
Minor (Limited) or No Impact	7	10
Moderate Impact	10	4
Significant Impact	1	4
Removal Required	19	19
Total Trees:	37	37

Lot 228 Residence

Removal and Significant Impact Results:

Tree Species	Total Trees	HA Removal Estimate	HA Significant Impact Estimate	MA Removal Estimate	MA Significant Impact Estimate	Difference
bay laurel	1	0	1	0	1	0
blue oak	2	1	0	1	0	0
coast live oak	4	1	1	2	0	+1
Totals:	7	2	2	3	1	1

The MA analysis concludes that one additional tree is likely to require removal as part of the residential construction.

Construction Impact Category	HA Results	MA (MacNair and Assoc.) Results
Minor (Limited) or No Impact	3	3
Moderate Impact	0	0
Significant Impact	2	1
Removal Required	2	3
Total Trees:	7	7

In summary, a total of 15 additional trees will likely require removal or are significantly impacted compared to the estimates of the HA report, and 20 additional trees compared to the civil engineer estimate. The MA estimate for total trees removed or significantly impacted for all four construction areas is 100 trees. The tree impact analysis data is provided in Appendix A of this report.

Tree Preservation Recommendations:

The HA report provides generalized procedures for tree protection and damage mitigation. These include establishment of a tree protection zone (TPZ), tree protection fencing, avoiding grading within the TPZ, mulch application, pruning, requirement for soil work within the TPZ that work be supervised by the project arborist, root pruning procedures, cultural mitigation procedures for impacted trees, and requirements for tree removal work.

Tree Removal Mitigation:

The Preliminary Grading and Drainage Analysis states that damaged or removed trees will be replaced at 1.5 to 1 ratio. Based upon the MA 100 tree estimate of removed and significantly impacted trees, this mitigation approach requires 150 replacement trees. Trees are to planted near the removed tree locations, adjacent to the driveway and in open areas downslope of the residences to ensure visual screening. No planting or landscape plans have been submitted to show the precise locations of the replacement trees.

It is this author's opinion that this is an adequate and appropriate approach for replacement of the removed trees and to ensure future screening of the hillside residences.

RECOMMENDATIONS:

1.) The project arborist should provide more detailed tree protection specifications for the individual trees based upon the specific construction impact.
2.) Consider removal of the olives that have naturalized within the native woodland areas. Olives are considered an invasive species within native plant communities. Additional replacement mitigation trees are not necessary given the 150 replacement trees already designated.
3.) The woodland zones important for visual screening are recommended for detailed evaluation by the project arborist to assess the health of the trees and to provide long term management requirements.
4.) A landscape plan showing replacement tree locations, irrigation, and maintenance requirements should be prepared and submitted to the city as a condition of approval.
5.) Wildland fire defensible space (vegetation management) requirements should be verified as compliant with the mitigation and tree preservation goals of the project.

Please contact me with any questions, or if additional information is required.

Sincerely,

James MacNair
International Society of Arboriculture Certified Arborist (WC-0603A)
International Society of Arboriculture Qualified Tree Risk Assessor

Appendix A

Tree Evaluation and Construction Impact Analysis Data Matrix

Caymus Builders 149 4th Street and Lots 227 and 228 Brazil Street Project
Tree Construction Impact Analysis Matrix

construction impact is more severe than HA rating.

149 4th Street East Tree Construction Impacts

Horticultural Associates (HA) Tree Data												MacNair and Associates (MA) Impact Analysis			
Tree #	Species	Common Name	Trunk (DBH Inches)	Tree Protection Zone (radius in feet)	Height (± feet)	Radius (± feet)	Health 1 - 5	Structure 1 - 4	Tag?	Expected Impact	Recommendations	MA Construction Impact Analysis	Critical Root Zone (feet)	MA Impact Code	Analysis Consistent with HA Assessment?
1	*Pinus radiata*	Monterey Pine	12+12+13	21	40	18	2	2	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located outside construction area. No impact.	5	NI	Yes
2	*Quercus agrifolia*	Coast Live Oak	4+5+7	10	20	12	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located outside construction area. No impact.	3	NI	Yes
3	*Quercus agrifolia*	Coast Live Oak	7+10	12	25	12	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located outside construction area. No impact.	3	NI	Yes
4	*Pinus radiata*	Monterey Pine	24	24	35	18	2	2	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located outside construction area. No impact.	6	NI	Yes
5	*Olea europaea*	Olive	2+4+4+5+6	10	15	12	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
6	*Quercus garryana*	Oregon Oak	10	10	22	14	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
7	*Quercus garryana*	Oregon Oak	14	14	35	25	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Not shown on plan.	4	?	
8	*Quercus douglasii*	Blue Oak	18	18	35	24	4	3	Yes	3	1, 3, 4, 5, 6, 7, 8, 9	Located in 16' diameter circle. Grading cut and fill zone on three sides of the tree. Significant to severe impact likely.	5	SI	Yes
9	*Quercus douglasii*	Blue Oak	16	16	35	24	4	3	Yes	3	2	Located within grading limits. Removal required.	4	RC	Yes
10	*Olea europaea*	Olive	4+12+10+10+5	20	30	18	4	3	Yes	3	2	Located within grading limits. Removal required.	5	RC	Yes
11	*Quercus douglasii*	Blue Oak	14	14	35	18	4	3	Yes	3	2	Located within grading limits. Removal required.	4	RC	Yes
12	*Quercus douglasii*	Blue Oak	5+5+6	9	12	10	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
13	*Quercus douglasii*	Blue Oak	12	12	35	18	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
14	*Quercus douglasii*	Blue Oak	10	10	30	12	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
15	*Quercus douglasii*	Blue Oak	10	10	15	12	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
16	*Quercus douglasii*	Blue Oak	12	12	30	18	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
17	*Quercus douglasii*	Blue Oak	20	20	40	18	4	3	Yes	3	2	Located within grading limits. Removal required.	5	RC	Yes
18	*Quercus douglasii*	Blue Oak	13	13	40	18	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
19	*Quercus douglasii*	Blue Oak	10	10	35	14	3	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
20	*Prunus dulcis*	Almond	10	10	30	12	2	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
21	*Quercus douglasii*	Blue Oak	13	13	30	10	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located within 4' of retaining wall on three sides and with a 4' cut. Removal likely required.	3	RC	No
22	*Quercus douglasii*	Blue Oak	14	14	35	15	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 6' from grading limits. Moderate impact likely.	4	MI	Yes
23	*Quercus douglasii*	Blue Oak	12	12	35	15	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 20' from grading limits. No impact expected.	3	NI	Yes
24	*Quercus douglasii*	Blue Oak	20	20	35	22	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 5' from retaining wall with 2' cut. Significant impact. Removal may be required.	5	SI	No
25	*Quercus douglasii*	Blue Oak	6	6	25	15	2	2	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 5' from grading limits. Limited impact likely.	2	LI	Yes
26	*Olea europaea*	Olive	12	12	25	16	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
27	*Quercus douglasii*	Blue Oak	5+3	6	8	12	2	2	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
28	*Quercus douglasii*	Blue Oak	6	6	30	12	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
29	*Quercus agrifolia*	Coast Live Oak	6+4	7	22	12	2	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
30	*Quercus douglasii*	Blue Oak	6+9	11	21	15	3	3	Yes	3	3	Located within grading limits. Removal required.	3	RC	Yes
31	*Quercus douglasii*	Blue Oak	7	7	35	15	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 6' from grading limits. Moderate impact likely.	2	MI	Yes
32	*Quercus douglasii*	Blue Oak	6	6	25	14	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
33	*Quercus agrifolia*	Coast Live Oak	6+6	8	20	12	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 6' from grading limits. Moderate impact likely.	2	MI	Yes
34	*Quercus douglasii*	Blue Oak	5+7	9	30	15	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 3' from grading limits. Moderate impact likely.	2	Mi	Yes
35	*Quercus douglasii*	Blue Oak	4	4	20	12	3	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 15' from grading limits. No impact.	1	NI	Yes
36	*Quercus agrifolia*	Coast Live Oak	6+8	10	18	12	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
37	*Quercus douglasii*	Blue Oak	8+8	11	30	14	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
38	*Umbellularia californica*	California Bay	7	7	25	12	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
39	*Quercus douglasii*	Blue Oak	12+18	22	40	22	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from grading limits. Moderate impact possible.	6	MI	Yes
40	*Quercus agrifolia*	Coast Live Oak	10	10	20	14	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 12' from grading limits. No impact expected.	3	NI	Yes

Caymus Builders 149 4th Street and Lots 227 and 228 Brazil Street Project
Tree Construction Impact Analysis Matrix

Horticultural Associates (HA) Tree Data												MacNair and Associates (MA) Impact Analysis			
Tree #	Species	Common Name	Trunk (DBH Inches)	Tree Protection Zone (radius in feet)	Height (± feet)	Radius (± feet)	Health 1 - 5	Structure 1 - 4	Tag?	Expected Impact	Recommendations	MA Construction Impact Analysis	Critical Root Zone (feet)	MA Impact Code	Analysis Consistent with HA Assessment?
41	*Quercus douglasii*	Blue Oak	12	12	35	18	4	3	Yes	3	1, 3, 4, 5, 6, 7, 8, 9	Located in 12' diameter circle. Fill zone on three sides of the tree. Removal likely required.	3	RC	No
42	*Quercus agrifolia*	Coast Live Oak	13	13	30	25	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
43	*Umbellularia californica*	California Bay	6	6	30	12	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
44	*Quercus agrifolia*	Coast Live Oak	11+12	16	30	18	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 6' and 8' from retaining wall. Significant impact likely.	4	SI	No
45	*Umbellularia californica*	California Bay	7	7	35	14	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from retaining wall. No impact expected.	2	NI	Yes
46	*Quercus agrifolia*	Coast Live Oak	18	18	35	25	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 15' from retaining wall. Limited impact expected.	5	LI	Yes
47	*Quercus agrifolia*	Coast Live Oak	12+16+16	26	40	28	4	2	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 5' from retaining wall. Significant impact likely.	7	SI	No
48	*Quercus douglasii*	Blue Oak	6	6	25	14	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
49	*Quercus douglasii*	Blue Oak	6	6	30	16	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
50	*Quercus douglasii*	Blue Oak	7	7	30	16	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
51	*Quercus douglasii*	Blue Oak	6	6	22	16	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
52	*Quercus douglasii*	Blue Oak	7	7	30	15	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
53	*Quercus douglasii*	Blue Oak	7	7	30	15	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
54	*Quercus douglasii*	Blue Oak	6+8+12	16	35	20	3	2	Yes	3	2	Located within grading limits. Removal required.	4	RC	Yes
55	*Quercus douglasii*	Blue Oak	6	6	18	10	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
56	*Olea europaea*	Olive	4	4	20	10	4	3	Yes	3	2	Located within grading limits. Removal required.	1	RC	Yes
57	*Quercus agrifolia*	Coast Live Oak	9	9	21	12	3	2	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
58	*Quercus douglasii*	Blue Oak	10+10	14	30	16	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located >25' from grading limits. No impact expected.	4	NI	Yes
59	*Quercus agrifolia*	Coast Live Oak	12	12	14	10	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located >25' from grading limits. No impact expected.	3	NI	Yes
60	*Quercus agrifolia*	Coast Live Oak	17	17	35	18	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located >25' from grading limits. No impact expected.	4	NI	Yes
61	*Quercus douglasii*	Blue Oak	14+8+8+5	19	40	20	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from 2' grading cut. Moderate impact likely.	5	MI	Yes
62	*Quercus douglasii*	Blue Oak	10+14	17	40	18	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 4' from 3' grading cut. Significant impact likely.	4	SI	Yes
63	*Quercus douglasii*	Blue Oak	5+4	6	25	14	3	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 20' from grading limits. No impact expected.	2	NI	Yes
64	*Quercus douglasii*	Blue Oak	12+13+13	22	40	22	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 15' from grading limits. Moderate impact expected.	6	MI	No
65	*Quercus douglasii*	Blue Oak	11	11	20	16	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 5' from grading limits. Moderate impact likely.	3	MI	No
136	*Quercus agrifolia*	Coast Live Oak	8	8	20	10	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
137	*Quercus agrifolia*	Coast Live Oak	6	6	20	8	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
138	*Quercus agrifolia*	Coast Live Oak	4	4	14	5	4	3	Yes	3	2	Located within grading limits. Removal required.	1	RC	Yes
139	*Quercus agrifolia*	Coast Live Oak	5	5	14	8	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Tree trunk location not shown on plan. Appears to be approximately 8' from grading limits. No impact expected.	2	NI	Yes
140	*Quercus lobata*	Valley Oak	25	25	40	18	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from grading limits. Drainage outflow nearby. Moderate to severe impact likely.	6	MI/SI	No
141	*Quercus agrifolia*	Coast Live Oak	7+9	11	25	12	4	3	Yes	3	2	Located >25' from grading limits. No impact expected.	3	NI	No
142	*Umbellularia californica*	Bay Laurel	3+4+4+9	11	20	10	4	4	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located >25' from grading limits. No impact expected.	3	NI	Yes
143	*Quercus agrifolia*	Coast Live Oak	24+24+10	35	40	20	3	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located >30' from grading limits. No impact expected.	9	NI	Yes
144	*Olea europaea*	Olive	5	5	20	10	4	4	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 20' from grading limits. No impact expected. Shown as a removal on plan.	1	NI	Yes

Horticultural Associates (HA) Tree Data												MacNair and Associates (MA) Impact Analysis			
Tree #	Species	Common Name	Trunk (DBH Inches)	Tree Protection Zone (radius in feet)	Height (± feet)	Radius (± feet)	Health 1 - 5	Structure 1 - 4	Tag?	Expected Impact	Recommendations	MA Construction Impact Analysis	Critical Root Zone (feet)	MA Impact Code	Analysis Consistent with HA Assessment?

Lots 227 and 228 Driveway Tree Construction Impacts

Horticultural Associates Tree Data												MacNair and Associates Impact Analysis			
Tree #	Species	Common Name	Trunk (DBH Inches)	Tree Protection Zone (radius in feet)	Height (± feet)	Radius (± feet)	Health 1 - 5	Structure 1 - 4	Tag?	Expected Impact	Recommendations	MA Construction Impact Analysis	Critical Root Zone (feet)	MA Impact Code	Analysis Consistent with HA Assessment?
66	*Quercus agrifolia*	Coast Live Oak	5+5+7+10+12	19	15	18	3	2	Yes	3	2	Located in driveway grading limits. Removal required.	5	RC	Yes
67	*Quercus agrifolia*	Coast Live Oak	3x4+3x10+5	22	18	18	3	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from driveway grading limits. Moderate impact possible.	6	MI	No
89	*Olea europaea*	Olive	7+7	10	15	12	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from driveway grading limits and retaining wall. Limited impact likely.	3	LI	Yes
92	*Quercus douglasii*	Blue Oak	15	15	30	15	4	3	Yes	3	1, 3, 4, 5, 6, 7, 8, 9	Shown on plan as located 10' from driveway grading limits and retaining wall. Moderate impact likely. Tagged in field in different location where removal would be required.	4	RC	No
93	*Olea europaea*	Olive	5+10	11	30	14	3	3	Yes	3	2	Located in driveway grading limits. Removal required.	3	RC	Yes
95	*Quercus agrifolia*	Coast Live Oak	3x12+2x10+4	25	22	16	3	3	Yes	3	1, 3, 4, 5, 6, 7, 8, 9	Located 5' from driveway grading limits. Significant impact.	6	SI	Yes
96	*Quercus agrifolia*	Coast Live Oak	15+5	16	25	16	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 20' from driveway grading limits and retaining wall. Limited impact possible.	4	LI	Yes
97	*Quercus douglasii*	Blue Oak	6+5	8	20	14	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 20' from driveway retaining wall. No impact expected.	2	NI	Yes
98	*Quercus agrifolia*	Coast Live Oak	3x6+7	13	21	14	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 12' from driveway grading limits and 15' from retaining wall. Limited impact possible.	3	LI	Yes
99	*Quercus agrifolia*	Coast Live Oak	3x8+2x12+10	24	18	21	3	2	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 15' from driveway grading limits and 20' from retaining wall. Moderate impact likely.	6	MI	Yes
100	*Quercus agrifolia*	Coast Live Oak	7+7+12+13	20	25	18	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from driveway retaining wall. Moderate to significant impact likely.	5	MI/SI	No
101	*Quercus agrifolia*	Coast Live Oak	10+10+12	19	25	20	3	3	Yes	3	2	Located in driveway grading limits. Removal required.	5	RC	Yes
102	*Olea europaea*	Olive	4x4	8	18	10	3	3	Yes	3	2	Located in driveway grading limits. Removal required.	2	RC	Yes
103	*Quercus agrifolia*	Coast Live Oak	12	12	18	18	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	3	RC	Yes
104	*Quercus agrifolia*	Coast Live Oak	11	11	15	12	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 5' from driveway retaining wall. Significant impact likely.	3	SI	No
105	*Quercus agrifolia*	Coast Live Oak	10x4	13	30	18	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from driveway retaining wall. Moderate impact likely.	3	MI	Yes
106	*Quercus agrifolia*	Coast Live Oak	6	6	14	19	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 6' from driveway retaining wall. Limited impact likely.	2	LI	Yes
107	*Quercus agrifolia*	Coast Live Oak	25	25	25	20	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 5' from driveway retaining wall. Impact within critical root zone. Removal likely required.	6	RC	No
108	*Quercus agrifolia*	Coast Live Oak	5+8+10	14	18	18	2	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from driveway retaining wall. Moderate impact likely.	4	MI	Yes
109	*Quercus agrifolia*	Coast Live Oak	12+12+6+18	25	45	22	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	6	RC	Yes
110	*Quercus agrifolia*	Coast Live Oak	10+10+8+8+6	19	35	18	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	5	RC	Yes
111	*Quercus agrifolia*	Coast Live Oak	10+10+12+12	22	45	24	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	6	RC	Yes

Caymus Builders 149 4th Street and Lots 227 and 228 Brazil Street Project
Tree Construction Impact Analysis Matrix

Horticultural Associates (HA) Tree Data												MacNair and Associates (MA) Impact Analysis			
Tree #	Species	Common Name	Trunk (DBH Inches)	Tree Protection Zone (radius in feet)	Height (± feet)	Radius (± feet)	Health 1 - 5	Structure 1 - 4	Tag?	Expected Impact	Recommendations	MA Construction Impact Analysis	Critical Root Zone (feet)	MA Impact Code	Analysis Consistent with HA Assessment?
112	*Quercus agrifolia*	Coast Live Oak	14+14+12	23	40	21	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from driveway retaining wall. Significant impact likely.	6	SI	No
113	*Olea europaea*	Olive	6+4+2+2	8	16	14	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	2	RC	Yes
114	*Quercus agrifolia*	Coast Live Oak	10+14	17	35	18	4	3	No	1	1, 3, 4, 5, 6, 7, 8, 9	Located >25' from driveway retaining wall. No impact expected.	4	NI	Yes
115	*Quercus agrifolia*	Coast Live Oak	12	12	35	18	4	3	No	1	1, 3, 4, 5, 6, 7, 8, 9	Located >25' from driveway retaining wall. No impact expected.	3	NI	Yes
116	*Quercus agrifolia*	Coast Live Oak	12	12	35	18	4	3	No	1	1, 3, 4, 5, 6, 7, 8, 9	Located >25' from driveway retaining wall. No impact expected.	3	NI	Yes
117	*Quercus agrifolia*	Coast Live Oak	8	8	35	18	4	3	No	1	1, 3, 4, 5, 6, 7, 8, 9	Located 18' from driveway retaining wall. No impact expected.	2	NI	Yes
118	*Quercus agrifolia*	Coast Live Oak	14	14	35	20	4	3	No	1	1, 3, 4, 5, 6, 7, 8, 9	Located 20' from driveway retaining wall. No impact expected.	4	NI	Yes
119	*Quercus agrifolia*	Coast Live Oak	13	13	35	20	4	3	No	1	1, 3, 4, 5, 6, 7, 8, 9	Located >25' from driveway retaining wall. No impact expected.	3	NI	Yes
120	*Quercus agrifolia*	Coast Live Oak	16	16	40	20	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Not found on plan.	4	?	
121	*Quercus agrifolia*	Coast Live Oak	12+9	15	40	20	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located >25' from driveway retaining wall. No impact expected.	4	NI	Yes
122	*Quercus agrifolia*	Coast Live Oak	12	12	25	21	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Not found on plan.	3	?	
123	*Quercus agrifolia*	Coast Live Oak	10	10	40	18	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located >25' from driveway retaining wall. No impact expected.	3	NI	Yes
124	*Quercus agrifolia*	Coast Live Oak	8	8	35	14	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	2	RC	Yes
125	*Quercus agrifolia*	Coast Live Oak	8+8+4	12	30	15	3	3	Yes	3	2	Located in driveway grading limits. Removal required.	3	RC	Yes
126	*Quercus agrifolia*	Coast Live Oak	3x12+2x15+4+14	33	45	30	2	2	Yes	3	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from driveway grading limits. Significant impact likely.	8	SI	Yes
127	*Quercus agrifolia*	Coast Live Oak	18	18	40	20	4	3	Yes	3	2	Located adjacent to driveway grading limits. Removal required.	5	RC	Yes
128	*Quercus agrifolia*	Coast Live Oak	3x18+3x12	40	40	30	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from driveway retaining wall. Significant impact likely.	10	SI	No
175	*Quercus agrifolia*	Coast Live Oak	4x12+3x15	35	45	30	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located in driveway grading limits. Removal required.	9	RC	No
176	*Quercus agrifolia*	Coast Live Oak	8+4	9	22	12	4	3	Yes	3	1, 3, 4, 5, 6, 7, 8, 9	Located less than 5' from driveway grading limits. Removal likely required.	2	RC	No
177	*Quercus agrifolia*	Coast Live Oak	13	13	40	25	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from driveway grading limits. Moderate impact possible.	3	MI	Yes
178	*Quercus agrifolia*	Coast Live Oak	5+12+13	18	40	25	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	5	RC	Yes
179	*Quercus agrifolia*	Coast Live Oak	8	8	30	16	4	4	Yes	3	1, 3, 4, 5, 6, 7, 8, 9	Located adjacent to driveway grading limits (grading cut). Removal likely required.	2	RC	No
180	*Quercus agrifolia*	Coast Live Oak	6+8	10	25	15	3	3	Yes	3	1, 3, 4, 5, 6, 7, 8, 9	Located adjacent to driveway grading limits (grading cut). Removal likely required.	3	RC	No
181	*Quercus agrifolia*	Coast Live Oak	12+15+20	28	45	25	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	7	RC	Yes
182	*Olea europaea*	Olive	6+5+4+3+3	10	18	12	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	3	RC	Yes
183	*Quercus agrifolia*	Coast Live Oak	6+10+10+12+14	23	45	28	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Not found on plan.	6	?	

Lot 227 Tree Construction Impact Analysis

Horticultural Associates Tree Data	MacNair and Associates Impact Analysis

Caymus Builders 149 4th Street and Lots 227 and 228 Brazil Street Project
Tree Construction Impact Analysis Matrix

Horticultural Associates (HA) Tree Data												MacNair and Associates (MA) Impact Analysis			
Tree #	Species	Common Name	Trunk (DBH Inches)	Tree Protection Zone (radius in feet)	Height (± feet)	Radius (± feet)	Health 1 - 5	Structure 1 - 4	Tag?	Expected Impact	Recommendations	MA Construction Impact Analysis	Critical Root Zone (feet)	MA Impact Code	Analysis Consistent with HA Assessment?
Tree #	Species	Common Name	Trunk (DBH Inches)	Tree Protection Zone (radius in feet)	Height (± feet)	Radius (± feet)	Health 1 - 5	Structure 1 - 4	Tag?	Expected Impact	Recommendations	MA Construction Impact Analysis	Critical Root Zone (feet)	MA Impact Code	Analysis Consistent with HA Assessment?
74	*Umbellularia californica*	California Bay	7	7	15	10	4	3	Yes	3	2	Located less than 5' from garage and substantial grading cut.. Removal required.	2	RC	Yes
75	*Umbellularia californica*	California Bay	5+5	7	15	10	4	3	Yes	3	2	Located less than 5' from garage and substantial grading cut.. Removal required.	2	RC	Yes
76	*Umbellularia californica*	California Bay	7	7	15	10	4	3	Yes	3	2	Located less than 5' driveway grading cut. Removal required.	2	RC	Yes
78	*Quercus agrifolia*	Coast Live Oak	8+10	13	14	12	3	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 15' from garage footprint corner. No impact expected.	3	NI	Yes
79	*Quercus agrifolia*	Coast Live Oak	6+8	10	16	12	3	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 15' from garage footprint corner. No impact expected.	3	NI	Yes
80	*Quercus agrifolia*	Coast Live Oak	18+18+12	28	21	15	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 15' from driveway and rock wall. Located 11' from drainage inlet. Moderate impact.	7	MI	Yes
81	*Quercus agrifolia*	Coast Live Oak	10	10	20	14	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 9' from grading limits. Limited impact expected.	3	LI	Yes
82	*Quercus agrifolia*	Coast Live Oak	4+4+6+6	10	18	12	3	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
83	*Quercus agrifolia*	Coast Live Oak	10+12+13	20	21	15	4	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 5' from edge of 1' fill zone. Moderate to significant impact possible.	5	MI/SI	No
84	*Quercus agrifolia*	Coast Live Oak	12	12	25	18	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
85	*Quercus agrifolia*	Coast Live Oak	14+15	21	30	18	4	3	Yes	3	2	Located within grading limits. Removal required.	5	RC	Yes
86	*Quercus agrifolia*	Coast Live Oak	24	24	40	28	4	3	Yes	3	2	Located within grading limits. Removal required.	6	RC	Yes
87	*Quercus agrifolia*	Coast Live Oak	12+12+6	18	20	20	3	3	Yes	3	2	Located within grading limits. Removal required.	5	RC	Yes
145	*Quercus agrifolia*	Coast Live Oak	6+8+9	13	20	14	3	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 18' from pool footprint and 20' from driveway grading limits. No impact expected.	3	NI	Yes
146	*Quercus agrifolia*	Coast Live Oak	6+10	12	25	15	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from pool footprint. Limited impact possible.	3	LI	Yes
147	*Quercus agrifolia*	Coast Live Oak	12+10+6+6+6+5+9	21	25	21	3	2.5	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 25' from grading limits. No impact expected. Note: trunk location not shown on plan.	5	NI	Yes
148	*Quercus agrifolia*	Coast Live Oak	12+12+6+6+5+12	21	25	22	3	2.5	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 15' from driveway grading limits and drainage rock outflow. Possible limited impact. Note: trunk location not shown on plan.	5	LI	Yes
149	*Quercus agrifolia*	Coast Live Oak	8+8+6+6+5+7	17	20	20	3	2.5	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located approximately 5 to 7' from drainage rock dispersal outlet. Moderate impact possible. Note: trunk location not shown on plan.	4	MI	Yes
150	*Quercus agrifolia*	Coast Live Oak	12+12+14+14+10	28	21	20	3	2.5	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 20 to 25' from grading limits. Moderate impact possible.	7	MI	Yes
151	*Quercus agrifolia*	Coast Live Oak	5+16	17	20	15	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 20 to 25' from grading limits. No impact expected.	4	NI	Yes
152	*Olea Europaea*	Olive	8+4+4	10	20	10	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 20 to 25' from grading limits. No impact expected.	3	NI	Yes
153	*Quercus agrifolia*	Coast Live Oak	6+6	8	15	10	4	4	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 20 to 25' from grading limits. No impact expected.	2	NI	Yes
154	*Quercus agrifolia*	Coast Live Oak	4	4	15	8	4	4	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located 5' from storm drainage line. Moderate impact possible.	1	MI	Yes
155	*Quercus agrifolia*	Coast Live Oak	12+12	17	18	25	3	3	Yes	3	1, 3, 4, 5, 6, 7, 8, 9	Located 10' from pool footprint. Moderate to significant impact possible.	4	MI/SI	Yes
156	*Quercus agrifolia*	Coast Live Oak	5	5	6	14	2	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located approximately 10' from building footprint. Located in apparent drainage swale. Moderate to significant impact potential. Note: trunk location not shown on plan.	1	MI/SI	No

Caymus Builders 149 4th Street and Lots 227 and 228 Brazil Street Project
Tree Construction Impact Analysis Matrix

Horticultural Associates (HA) Tree Data												MacNair and Associates (MA) Impact Analysis			
Tree #	Species	Common Name	Trunk (DBH Inches)	Tree Protection Zone (radius in feet)	Height (± feet)	Radius (± feet)	Health 1 - 5	Structure 1 - 4	Tag?	Expected Impact	Recommendations	MA Construction Impact Analysis	Critical Root Zone (feet)	MA Impact Code	Analysis Consistent with HA Assessment?
157	*Quercus agrifolia*	Coast Live Oak	5+5+7+8+10+12	20	40	21	3	3	Yes	2	1, 3, 4, 5, 6, 7, 8, 9	Located approximately 12' from building footprint. Located in apparent drainage swale. Moderate to significant impact possible. Note: trunk location not shown on plan. Clearance pruning likely required.	5	MI/SI	No
158	*Quercus agrifolia*	Coast Live Oak	12+5+10+15	22	40	20	3	3	Yes	3	2	Shown as removed on plan. Located 7' from building corner.	6	RC	Yes
159	*Quercus agrifolia*	Coast Live Oak	6	6	20	15	3	3	Yes	3	2	Located adjacent to grading limits. Removal required.	2	RC	Yes
160	*Quercus agrifolia*	Coast Live Oak	5+4+3	7	20	14	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
161	*Quercus agrifolia*	Coast Live Oak	6+6	8	12	18	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
162	*Quercus agrifolia*	Coast Live Oak	6+5+12+12	19	35	18	3	3	Yes	3	2	Located within grading limits. Removal required.	5	RC	Yes
163	*Aesculus californica*	California Buckeye	5	5	10	12	4	3	Yes	3	2	Located within grading limits. Removal required.	1	RC	Yes
164	*Quercus agrifolia*	Coast Live Oak	5+4+10+11	17	20	14	3	3	Yes	3	2	Located within grading limits. Removal required.	4	RC	Yes
165	*Quercus agrifolia*	Coast Live Oak	8	8	24	12	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
166	*Quercus agrifolia*	Coast Live Oak	5+7+9	17	10	10	3	3	Yes	3	2	Located within grading limits. Removal required.	4	RC	Yes
167	*Quercus agrifolia*	Coast Live Oak	6	6	10	12	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
168	*Quercus agrifolia*	Coast Live Oak	9	9	6	10	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes

Lot 228 Tree Construction Impact Analysis

Horticultural Associates Tree Data												MacNair and Associates Impact Analysis			
Tree #	Species	Common Name	Trunk (DBH Inches)	Tree Protection Zone (radius in feet)	Height (± feet)	Radius (± feet)	Health 1 - 5	Structure 1 - 4	Tag?	Expected Impact	Recommendations	MA Construction Impact Analysis	Critical Root Zone (feet)	MA Impact Code	Analysis Consistent with HA Assessment?
68	*Quercus douglasii*	Blue Oak	8+8+4	12	18	14	3	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Located 15' downslope of fill daylight line. No significant impact likely.	3	NI	Yes
69	*Quercus agrifolia*	Coast Live Oak	18+15+14	28	21	16	4	3	Yes	3	2 (Removal)	Located adjacent to fill and cut areas. Horizontal trunk structure extends into driveway. Removal required.	7	RC	Yes
70	*Quercus agrifolia*	Coast Live Oak	24	24	16	22	4	2	Yes	3	1, 3, 4, 5, 6, 7, 8, 9	1' to 2' fill shown around tree and within critical root zone. 2' grading cut upslope in adjacent driveway. Removal likely required.	6	RC	No
71	*Umbellularia californica*	California Bay	4+4+4	7	15	12	4	3	Yes	3	1, 3, 4, 5, 6, 7, 8, 9	1' to 2' fill shown around tree. 2' grading cut upslope in adjacent driveway. Could possibly be saved.	2	SI	Yes
72	*Quercus agrifolia*	Coast Live Oak	22	22	12	24	4	3	Yes	1.5	1, 3, 4, 5, 6, 7, 8, 9	Located 25' from garage and 20' from driveway. None or minor impact expected.	6	LI	Yes
73	*Quercus agrifolia*	Coast Live Oak	18+18	25	25	24	4	3	Yes	1.5	1, 3, 4, 5, 6, 7, 8, 9	Located 25' from garage and 20' from driveway. None or minor impact expected.	6	LI	Yes
88	*Quercus douglasii*	Blue Oak	3x12+14+14+15	32	30	20	3	3	Yes	3	2 (Removal)	Located in fill slope. Removal Required.	8	RC	Yes