

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: 149 Fourth Street East / APN 018-091-018 (aka Lot 2)

Staff Contact: David Goodison, Planner 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 149 Fourth Street East (APN 018-091-018 / Lot 2).

General Plan Designation: Hillside (H)

Planning Area: Northeast Area

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

Site Characteristics: The subject property is an interior 2.8-acre parcel with access from an existing private driveway originating at the intersection of Fourth Street East and Brazil Street. The property is undeveloped supporting open grassland, oak woodlands, and rock outcroppings.

Surrounding Land Use/Zoning: **North:** Single-family home/Hillside Residential
South: Single-family home/Hillside Residential
East: Single-family home/Hillside Residential
West: Recreation court and single-family home/Hillside Residential

Environmental Review:

<input type="checkbox"/> Categorical Exemption	<input type="checkbox"/> Approved/Certified
<input checked="" type="checkbox"/> Negative Declaration	<input type="checkbox"/> No Action Required
<input type="checkbox"/> Environmental Impact Report	<input checked="" type="checkbox"/> Action Required
<input type="checkbox"/> Not Applicable	

Staff Recommendation:

1. Environmental Review: Adopt Mitigated Negative Declaration.
2. Use Permit Review: Commission discretion.

PROJECT ANALYSIS

BACKGROUND

The subject property (149 Fourth Street East / Lot 2) 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 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-transferable 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 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 Lot 3, encompassing almost the entirety 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 Lot 3/228 was also considered that evening). After public testimony and discussion, the Planning Commission 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 and potential visual impacts associated with the proposed detached garage. In addition, through the course of the public hearing, the majority of the commission expressed concern that the project did not meet the intent of the City's hillside development criteria. The minutes from the meeting of March 9, 2017 are attached for reference. In response to the concerns expressed by the Commission, the proposal has been modified, as discussed below.

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

DETAILED PROJECT DESCRIPTION

The project involves construction of a ±5,230-square foot residence, ±900-square foot detached garage, ±2,110-square foot accessory structure, and swimming pool in the south/lower portion of the subject property, in an area behind (west) of the remodeled historic home at 131 Fourth Street East, and north of the Sebastiani residence at 175 Fourth Street East. Slopes across the development site vary, ranging from 5%-25%. The structures employ a modern farmhouse architectural style, utilizing neutral-colored exterior materials including gray/brown vertical siding and brown/charcoal metal roofing and window frames. The residence is designed as a single-story structure with varied roof elements not exceeding 25 feet in height. The detached garage with circular drive is located northeast of the home accessed via an extension off an existing private driveway. The swimming pool and accessory structure are located slightly below the residence to the south. Although the majority of trees on the site would be retained, an arborist report submitted with the application indicates that 39 trees would be removed, most being oak trees with a diameter of less than 12 inches. (A subsequent arborist peer review, attached, estimates that 40 trees would require removal, and identifies an additional six trees that would be significantly impacted.) Grading for the project would be balanced with earthwork calculations estimating 1,540 cubic yards of cut and 1,540 cubic yards of fill. The residential home site would be accessed by an existing private driveway that originates at the intersection of Fourth Street East and Brazil Street. A separate extension off the existing driveway is provided for fire truck access and turnaround west of the building site.

In response to feedback from the Planning Commission's review of the project on March 9, 2017, the applicant integrated the following changes into the project:

- The elevation of the pool terrace and auxiliary structure has been lowered by two feet, bringing the terrace closer to existing grade and reducing the amount and area of fill placement below the terrace by ±450 cubic yards.
- The area of impervious surfaces/concrete around the pool terrace has been reduced, allowing for more landscaping and lessening the amount soil disturbance and post-construction stormwater runoff.

In addition, more recently, a new project architect has been selected (Walton Architecture & Engineering) who has presented further project modifications in conjunction with the civil engineer (refer to attached plans dated July 28 and August 2, 2017 prepared by Walton Architecture & Engineering and Bear Flag Civil Engineering). The project modifications include the following additional changes and are outlined in greater detail in the architect's July 31, 2017 memo (attached):

- The amount of cut and fill for the project has been further reduced by ±240 cubic yards (from 1,780 to 1,540 cubic yards).
- The second floor level and 1,100 square feet of floor area has been eliminated from the accessory building, in conjunction with a reduction in height of three feet to the main roof peak.
- To further minimize grading, portions of structures are excavated into the hillside with changes to retaining walls.
- Four trees previously marked for removal would be preserved.
- The master suite roof form has been revised from a shed to gable.

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, the project would not have a significant impact on public views. Although a number of trees are proposed for removal, 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 be 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 in 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 and two-story accessory structure have been located on the property to meet the minimum 30-foot setback.

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 0.07 (6.8%). 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 lot coverage in the R-HS zone is 15% of the total lot area. The project would result in a lot coverage of 8%. Staff would note that 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 of ± 25 feet to the highest roof peak and the accessory structure, which is also proposed within the primary building envelope, would have a maximum height of ± 25 feet to the main roof peak and ± 29 feet to the top of the cupola.

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 exceeds the minimum 5-foot setback requirement.

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)	
<i>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.</i>	
Standard	Project Response
<p>1. Structure Height. The height of structures in a hillside area shall not exceed the maximum established by the applicable zoning district.</p>	<p>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 ±25 feet and the accessory structure would have a maximum height of ±25 to the main roof peak and ±29 feet to the top of the cupola</p>
<p>2. Grading and Drainage. (a) Grading shall be designed to:</p> <p>(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.</p>	<p>This standard is rather subjective and therefore subject to interpretation by the Planning Commission. In the project's favor, the use of an existing drive as the starting point for access reduces grading and changes to natural topographic features. In addition, a significant portion of the development site is gently sloping, thereby minimizing the need to alter the natural topography. The residence, detached garage, accessory building, and terraces/patios also generally follow the natural contour of the site and are at different elevations to step down the natural slope. That said, the area of lot pad grading exceeds Guideline 2 (following).</p>
<p>(ii) Retain major natural topographic features (i.e., canyons, knolls, ridgelines, and prominent landmarks).</p>	<p>The building site does not encompass any major natural topographic features as defined (i.e. canyons, knolls, ridgelines, and prominent landmarks).</p>
<p>(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.</p>	<p>This requirement is implemented by draft Condition of Approval 2.</p>
<p>(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.</p>	<p>2:1 slopes are proposed at certain locations, 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.</p>
<p>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.</p>	<p>In general, access to the project would be provided from an existing private driveway. Two extensions off the existing driveway are proposed, one to access the garage and a second to provide required Fire Department access and a fire truck turnaround.</p>

neer and fire department.	
Design Guidelines (19.40.050.E)	
<i>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.</i>	
Guideline	Project Response
1. <i>Terrain Alteration.</i> The project <i>should</i> 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 <i>shall</i> be avoided.	The project would alter the terrain to some degree. However, the development site was selected because of its gentle slopes and minimal visibility.
2. <i>Lot Pad Grading.</i> Lot pad grading <i>should</i> 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 <i>should</i> not exceed 5,000 square feet in total area.	Lot pad grading does not comply with this guideline. However, proposed grading is within the range of land disturbance associated with other hillside development in the immediate vicinity.
3. <i>Site and Structure Design.</i> Site design <i>should</i> utilize varying structure heights and setbacks, split-level foundations, and retaining walls to terrace structures with the direction of the slope.	The residence, detached garage, accessory building, and terraces/patios are at different elevations to step down the natural slope, in conjunction with retaining walls.
4. <i>Lot Line Locations.</i> Lot lines <i>should</i> 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. <i>Design and Location of Structures.</i> (a) The form, mass, and profile of the individual buildings and architectural features <i>should</i> 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;	Elements of the project are stepped on the slope, with the detached garage, residence, terraces/patios, pool and accessory building at different elevations
(ii) Detaching parts of a dwelling (e.g., garage); and	The garage is proposed as a detached building as well as the accessory structure.
(iii) Avoiding the use of gable ends on downhill elevations. The slope of the roof <i>should</i> be oriented in the same direction as the natural slope.	No gable ends are proposed on the east-facing downhill elevation.
(b) Excavate underground or utilize below grade rooms to reduce the visual bulk of a structure.	Not implemented. However, a large portion of the development site is gently sloping and public/private views of proposed improvements would be minimal.
(c) Use roofs on lower levels as open space decks for upper levels.	Not implemented, in part because the residence is a one-story building.
(d) Exterior structural supports and undersides of floors and decks not enclosed by	Not applicable.

walls may be permitted provided fire safety and aesthetic considerations have been adequately addressed.	
(e) Building materials and color schemes <i>should</i> blend with the natural landscape of earth tones and natural vegetative growth.	Neutral-colored exterior materials, including gray/brown vertical siding and brown/charcoal metal 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. <i>Retaining Walls</i> . Retaining walls that result in large uniform planes <i>shall</i> be avoided. Retaining walls <i>shall</i> be divided into elements and terraces with landscaping to screen them from view. Generally, no retaining wall <i>should</i> be higher than five feet. When a series of retaining walls is required, each individual retaining wall <i>should</i> be separated from adjacent walls by a minimum of five feet.	Proposed retaining walls are all less than five feet in height, except wrapping around the southeast corner of the main terrace, where the retaining wall reaches a height of ±7 feet.
7. <i>Slope Restoration</i> . Transitional slopes <i>shall</i> 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. <i>Reduced Public Street Widths</i> . 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 <i>shall</i> 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. <i>Preservation of Ridgelines</i> . Ridgelines <i>shall</i> be preserved. Structures <i>shall</i> 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 <i>shall</i> 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)	
<i>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.</i>	
Objective	Project Response

1. The preservation of natural topographic features and appearances by maintaining the natural topography to the greatest extent possible;	In part, the development site was selected because of its gentle slopes in order to minimize changes to the natural topography.
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;	Natural rock outcroppings at the site would largely be preserved, and while a significant number of trees are proposed for removal (40) the majority of trees on the property and around the development site would be retained.
3. The utilization of varying setbacks, building heights, foundation designs, and compatible building forms, materials, and colors that help blend buildings into the terrain;	The structures have varying setbacks and building heights and use neutral-colored exterior materials to blend with the natural environment. In addition, the development site was selected because of its gentle slopes and minimal visibility.
4. The utilization of clustered sites and buildings on more gently sloping terrain to reduce grading alterations on steeper slopes;	The auxiliary structure and a portion of the residence are proposed in an area with gentle slopes to reduce grading on steeper slopes.
5. The utilization of building designs, locations, and arrangements that protect views to and from the hillside area;	The development site was selected because of its gentle slopes and minimal visibility. In addition, the residence generally follows the contour of the land and has been kept at a single story to further minimize visual impacts on neighbors and the public.
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.	Access to the site is provided primarily from an existing private driveway to minimize grading.

While the project proposes a substantial amount of floor area, grading, and tree removal there are property characteristics and aspects of the project design that help to meet many objectives of the City's Hillside Development criteria as identified in the table above. The most notable inconsistency with the guidelines is that proposed lot pad grading for structures is roughly 7,000, and in combination with vehicle parking/drive areas, and patios/terraces totals over 15,000 square feet, 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. Another aspect of the most recent revision worth noting is the change in the master suite roof form from a shed to gable, which increases the volume and height of this element on the eastern and most visible portion of the residence.

As discussed in the under background, at the March 2017 review, the majority of the commission expressed concern that the project did not meet the intent of the City's hillside development criteria. Accordingly, the Planning Commission must determine whether the modifications to the project adequately respond to these concerns.

In terms of views, as discussed under Section 1 (Aesthetics) of the Initial Study, the proposed building site is relatively low on the hillside, not in proximity to a ridgeline, and well shielded from public views given the site terrain and surrounding trees that would be preserved. The residence has also been kept at a single-story and exterior building materials and colors have been selected to blend with the natural surroundings. As a result, the proposed improvements would be significantly screened from public view, although some elements of the project (i.e., the detached garage and east wing of the home) may be discernable from limited public views to the east. However, as demonstrated by the view perspectives provided within the project submittal these public views would be limited and filtered by other features, notably surrounding trees/foliage and the residence at 131 Fourth Street East.

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 Diagram 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 biological and cultural resources. The analysis and findings of the Initial Study in these areas are summarized below.

1. Trees. The arborist report indicates that constructing the project would require the removal of 38-40 trees, the majority of which are oak trees with a diameter of less than 12 inches. Of the tree proposed for removal, roughly 55% have a diameter of 8 inches or less, and roughly 30% have a diameter between 9 to 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 pre-construction drainage conditions 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.

- Grading for the residence consists of cut slopes on the uphill side and a fill slope downhill of the pool terrace. The downhill side of the residence is on-grade and does not include any major grading. Retaining walls have been designed to minimize impacts to a nearby grove of trees (trees 44, 45, 46, and 47 in the arborist report).
- The cut slope above the residence has been reduced to minimize impacts to uphill trees. Retaining walls are designed to pull excavation near or outside of the driplines of trees 21, 24, 33 and 34 in the arborist report.
- Small landscape walls have been designed to pull excavation out of driplines. These walls have been designed to reduce grading impacts on trees 21, 24, 31, and 33 in the arborist report.
- As part of the drainage plan, outlets for stormwater runoff have been located in areas that are not directly uphill of existing trees to avoid oversaturation 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. 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).

3. 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, 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 some of the proposed improvements would be discernable from limited public views to the east, in general, the project would not significantly impact public or private views. Mitigation for tree removal includes a 1.5:1 tree replacement program and restrictive covenants recorded on the property to ensure the long-term preservation of trees that provide screening of structures and improvements. Since the commission did not previously feel the project conformed to the intent of the hillside development criteria, the commission must evaluate and determine whether the project revisions to date adequately address concerns in this regard.

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: Commission discretion. The Planning Commission needs to determine whether the revisions made to the project are substantially responsive to the concerns expressed at the meeting of March 9, 2017.

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. *Revised Project Submittal from Walton Architecture & Engineering, dated July 28, 2017 and August 2, 2017 (for previous Nick Lee Architecture submittal refer to Initial Study Attachment 1)*
8. *Letter from the Inman Law Group, LLP to Ross Edwards, dated June 7, 2017 (refer to Initial Study Attachment 3)*
9. *Tree Diagram exhibit (refer to Initial Study Attachment 4)*
10. *Tree Preservation and Mitigation Report for 149 4th Street 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 (via email)
Ross Edwards, Caymus Builders (via email)
Bill Jasper (via email)

Arthur & Margaret Grandy
131 Fourth Street East
Sonoma, CA 95476

CITY OF SONOMA

RESOLUTION

**A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF SONOMA
ADOPTING FINDINGS OF NEGATIVE DECLARATION WITH REGARD TO THE
LOWER LOT 2, PROPOSED RESIDENCE AT 149 FOURTH STREET EAST
(APN 018-091-018 / LOT 2)**

WHEREAS, an application has been made for a Use Permit to construct a residence, detached garage, accessory structure, and swimming pool on a 2.8-acre hillside property at 149 Fourth Street East; 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
Lower Lot 2, Hillside Residence
149 Fourth Street East (APN 018-091-018 / Lot 2)

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.

City of Sonoma Planning Commission
**CONDITIONS OF PROJECT APPROVAL AND
MITIGATION MONITORING PROGRAM**

Lower Lot 2, Hillside Residence
149 Fourth Street East (APN 018-091-018 / Lot 2)

August 10, 2017

1. The project shall be constructed in conformance with the approved floor plans and exterior building elevations prepared by Walton Architecture & Engineering (Drawings a.2.1-a.3-6, dated July 28, 2017 and August 2, 2017), and the preliminary site plan and preliminary grading plans prepared by Bear Flag Engineering Inc. (Sheets C1-C3, dated July 28, 2017), except as modified by these conditions and the following:
 - a. The PG&E and AT&T/Comcast easement and associated utility lines that cross the lower part of the lot shall be re-located outside the limit/footprint of proposed structures.
 - b. An easement shall be recorded in favor of the subject property for the fire truck access and turnaround located on adjacent parcel(s).

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 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 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

149 Fourth Street East / Lower Lot 2, 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. *Revised Project Submittal from Walton Architecture & Engineering, dated July 28, 2017 and August 2, 2017 (for previous Nick Lee Architecture submittal refer to Initial Study Attachment 1)*
5. *Letter from the Inman Law Group, LLP to Ross Edwards, dated June 7, 2017 (refer to Initial Study Attachment 3)*
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9. *Preliminary Grading and Drainage Analysis prepared by Bear Flag Engineering, dated May 25, 2017 (refer to Initial Study Attachment 2)*

Chair Cribb closed the item for public comment.

Comm. Sek supported the master bedroom addition since it would be unobtrusive and would have no impact on any adjoining properties.

Comm. McDonald made a motion to approve the Exception, subject to conditions. Comm. Roberson seconded. The motion was unanimously approved 7-0.

Item #2 – Public Hearing – Consideration of a Use Permit to install a commercial kitchen for the preparation and sales of food at Putter’s mini golf within the Maxwell Village Shopping Center at 19171 Sonoma Highway.

Applicant/Property Owner: Lori and Eric Solis

Associate Planner Atkins presented the staff report.

Chair Cribb opened the item for public comment.

Eric Solis, applicant, is pleased to offer a child-friendly menu (no alcohol is proposed) for parties.

Chair Cribb closed the item for public comment.

Comm. Wellander supported the proposal as in his view Sonoma needs more and better venues for children and families.

Comm. Roberson, Willers and Chair Cribb concurred and are satisfied with the proposed use.

Comm. McDonald appreciated staff providing a parking space survey for the shopping center.

Comm. Roberson made a motion to approve a Use Permit to approve the Use Permit, subject to conditions. Comm. Willers seconded. The motion was unanimously approved, 7-0.

Item 3 – Public Hearing – Consideration of a Use Permit to construct a residence and related accessory structures on a hillside property at 149 Fourth Street East (APN: 018-091-018).

Applicant/Property Owner: Nick Lee Architecture/Bill Jasper

Senior Planner Gjestland presented the staff report.

Comm. Wellander inquired if safeguards were in place to prevent removing trees in the future.

Planning Director Goodison responded there are no built-in tree protection provisions in the Hillside standards addressing the long-term preservation of trees, but there may be options to address this issue in the conditions of approval.

Chair Cribb opened the item for public comment.

Nick Lee, Nick Lee Architecture, applicant, described the design intent and the measures that had been taken to respond to the Hillside Design Guidelines.

Jim Bohar, XXX First Street West, valued the bucolic setting and hoped to maintain the natural contours of the land. He stated that while he believed the homes would be fairly well shielded from public view, he had questions about grading and erosion impacts, compliance with the Hillside Design regulations, and potential visual impacts as viewed from paths and roads in the vicinity. He asked if this had been verified with visual simulations.

Richard Peters, 196 Second Street East, believed the citizens are the “guardian of the hills” and the City’s guiding principles should direct the Commission. He is disappointed with the proposal and felt it did not meet the Hillside guidelines.

Arthur Grandy, neighbor, (131 Fourth Street East), adjoining property owner, is disappointed with the change in the location of the detached garage location, especially as viewed from his property.

Vic Conforti, resident/local architect, posed questions related to site development and is concerned with the large building pads infringing on the view corridors of the hillside. He asked if story poles were recommended.

Karin Skooglund, resident/The North of the Mission Neighborhood Association President, is concerned with tree preservation and loss of protected habitat.

Ed Routhier, 302 Hatchery Lane, expressed the view that the proposal was in compliance with the Hillside development standards and was consistent with other examples of hillside development in the vicinity. He noted that the garage was a small, detached structure and stated that it would not have a significant impact on views from any property.

Bill Jasper, property owner, stated the hillside will continue to be maintained and the abundance of oak trees will be preserved following construction.

Chair Cribb closed the item for public comment.

Comm. Sek stated that she had conducted a visual inspection of the site and neighborhood and had met the applicant. She felt that the residence would be well-screened and felt the proposed grading is within an acceptable range. She suggested meetings between the applicant and the neighbor to resolve the neighbor concern about the garage.

Comm. Willers opposed the project as not meeting the intent of the Hillside regulations and guidelines. In his view, the application is over-scaled in terms of grading and does not do enough to respect the natural contours of the site. The ordinance calls for stepping building elements to preserve the natural contours, while in his view, the proposal flattens the portion of the site proposed for development. In his view, this issue should be addressed through an environmental review.

Comm. Wellander asked about the history of the Hillside parcels and the ten-acre minimum lot size set forth in the Development Code.

Planning Director Goodison stated that the historic parcels date back to the 1800’s and that the 10-acre minimum lot size was put into place to prevent further subdivision.

Comm. Wellander walked the site and is satisfied that views of the residence will be quite limited, but he had some concern that amount of grading proposed was excessive.

Comm. Roberson is satisfied that the project will not result in view impacts, because of the placement of the residence. His main concern is with the amount of proposed grading as a percentage of the lot area. In his view, the concerns expressed about the relationship of the garage to the neighboring property show that the site is relatively small. While he is satisfied with the project architecture and materials, he has qualms about the scale of the grading as being potentially inconsistent with the intent of the Hillside regulations and guidelines.

Comm. McDonald thanked the applicant and staff for the comprehensive information. He feels that the proposed architecture and proposed materials of the residence are tasteful and that it has been broken up to reduce its massing and blend with the surroundings. However, he is concerned with the overall amount of grading and potential negative impacts for the environment. While the proposed building sites are on the flattest portion of the site, there is still a great deal of topographic variation and it appears that extensive fill will be required. This is of particular concern to him with respect to the long-term health and success of the trees that are proposed to be preserved, as these trees provide needed screening. He wanted to make sure that if an environmental analysis is required for this site, similar reviews should be conducted for the other two vacant lots so that a complete understanding of the issues is available.

Chair Cribb visited the site and agreed with his fellow commissioners that although the residence does not raise concerns with respect to view impacts, the amount of grading may be excessive given the configuration of the property and that impacts on trees should be studied.

Planning Director Goodison noted that environmental review is an option, if the Planning Commission wishes to see additional analysis on specific topics.

Comm. Willers believes that a focused environmental analysis is necessary and he concurred with Comm. McDonald's comments with respect to looking at long-term tree health relative to grading and changes in drainage. This review should include an arborist review.

Comm. Roberson agreed with his fellow commissioners that while the general location of the proposed residence is appropriate, more scrutiny with respect to potential grading and erosion impacts on trees is needed before making a decision.

Comm. McDonald is of the opinion that the home is situated correctly in terms of minimizing impacts, but he questioned the size of the pad areas and expressed concern that the grading, compaction, and potential changes to drainage could affect the long-term health of the trees.

In response to a question from the Planning Director, Comm. Willers stated that he agreed that the grading analysis should focus on impacts to trees. In addition, he reiterated his view that the regardless of impacts on trees, he felt that the overall scale of the development was excessive and not in keeping with the intent of the Hillside regulations and guidelines.

Comm. McDonald inquired if the analysis would include the grading and drainage for the roadway to the adjoining site.

Planning Director Goodison explained that since the sites are the subject of separate applications, each must be addressed with its own initial study, if that is the direction that the Planning Commission chooses to take.

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

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).

June 15, 2017

City of Sonoma Planning Commission

RECEIVED

JUN 16 2017

CITY OF SONOMA

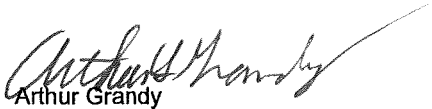
Dear Commissioners:

Re: Project at 149 4th St E Street – Applicant: Bill Jasper

We as the owners of the adjoining property at 131 4th Street East, had placed an objection to the project at the public meeting reference this project. Our objection was in regard to the placement of the garage very near and in view of our house from the rear side.

We have discussed this objection with Mr. Jasper's representatives, and agreed with them a planting plan to be installed and paid by them which will screen the objectionable view adequately.

In light of this we withdraw our objection to the project plan as proposed.


Arthur Grandy


Margaret Grandy

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

Date

31 July 2017

To

City of Sonoma
Planning Department
Rob Gjestland, Senior Planner

Subject

Narrative for Conditional Use Permit- Summary of Design Revisions

Project Information

APN: 018-051-007
Address: 149 4th Street East
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: 95 Brazil Street, Lot 1
131 Fourth Street East, APN 018-091-019
175 Fourth Street East, APN 018-091-016

Proposed Main House: 5,233 square feet
Proposed Garage: 904 square feet
Proposed Barn: 2,108 square feet

Total Lot Area: 2.803 Acres [122,099 square feet]
Allowable Coverage: 15% [18,315 square feet]
Proposed Coverage: 6.3% [7,651 square feet]

Allowable FAR: 10% [12,210 square feet]
Proposed FAR: 7.4% [8,980 square feet]

CEQA: Categorically Exempt

Standards: Hillside Development
Historic Overlay Zone

Project Revisions

1. Grading

To minimize the grading initially proposed for the project the following changes have been implemented into the design:

- a. Extension of retaining wall on the western side of the entry walkway from the house to the road.
- b. Removal of retaining wall on the northwest side of the guest bedroom wing. Rather than providing a retaining wall at this location, the house is excavated into the hillside by 4-feet.
- c. Addition of retaining wall on the east side of the auto court.
- d. Addition of retaining wall at lawn area on the east side of the barn.
- e. Excavating the barn and barn terrace into the uphill slope on the northwest side by 3-feet.

2. Trees

The following trees previously marked for removal are now saved in the revised design:

- a. The terrace on the south side of the residence is reconfigured to save the oak tree #38.
- b. The grading on the west side of the retaining wall at the main entry walkway is modified to save oak tree #20, #26 and #28.

3. Site Features

The following site features have been added to the design:

- a. Walk path added between the barn terrace and existing driveway on the western edge of the property.
- b. Walk path added with 30-inch maximum height stone retaining wall between the driveway and lawn area to the east of the barn.

4. Architectural Features

The following architectural features have been revised and/or added to the design:

- a. Loft removed from barn to reduce overall scale of structure.
- b. Portion of barn terrace adjacent to screen porch is covered with a roof for additional shade.
- c. Spa added to pool.
- d. Firepit added to intermediate terrace level.
- e. Main terrace geometries adjusted to incorporate planters. These planters help blend the structure into the landscape.
- f. Roof structure at the terrace east of the great room is revised to have a flat profile and cover the entire length of the usable space.
- g. Master suite roof form is revised from a shed to a gable. The gable is consistent with the other organizing roof forms.
- h. Family entry added north of the great room with a path from the main entry walkway.
- i. Planter added at the west side of the detached garage.

149 4th Street East

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CIVIL

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- C-2 PRELIMINARY GRADING PLAN
- C-3 PRELIMINARY GRADING PLAN

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- A-0.2 MODEL IMAGES
- A-0.3 MODEL IMAGES
- A-0.4 MODEL IMAGES
- A-2.1 MAIN HOUSE FLOOR PLAN
- A-2.2 DETACHED GARAGE + BARN FLOOR PLANS
- A-3.1 EXTERIOR ELEVATIONS
- A-3.2 EXTERIOR ELEVATIONS
- A-3.3 EXTERIOR ELEVATIONS
- A-3.4 EXTERIOR ELEVATIONS
- A-3.5 EXTERIOR ELEVATIONS
- A-3.6 EXTERIOR ELEVATIONS

SEPARATE EXHIBITS

- CUT/FILL EXHIBIT- RESIDENCE
- CUT/FILL EXHIBIT- GARAGE
- HYDROLOGY MAP

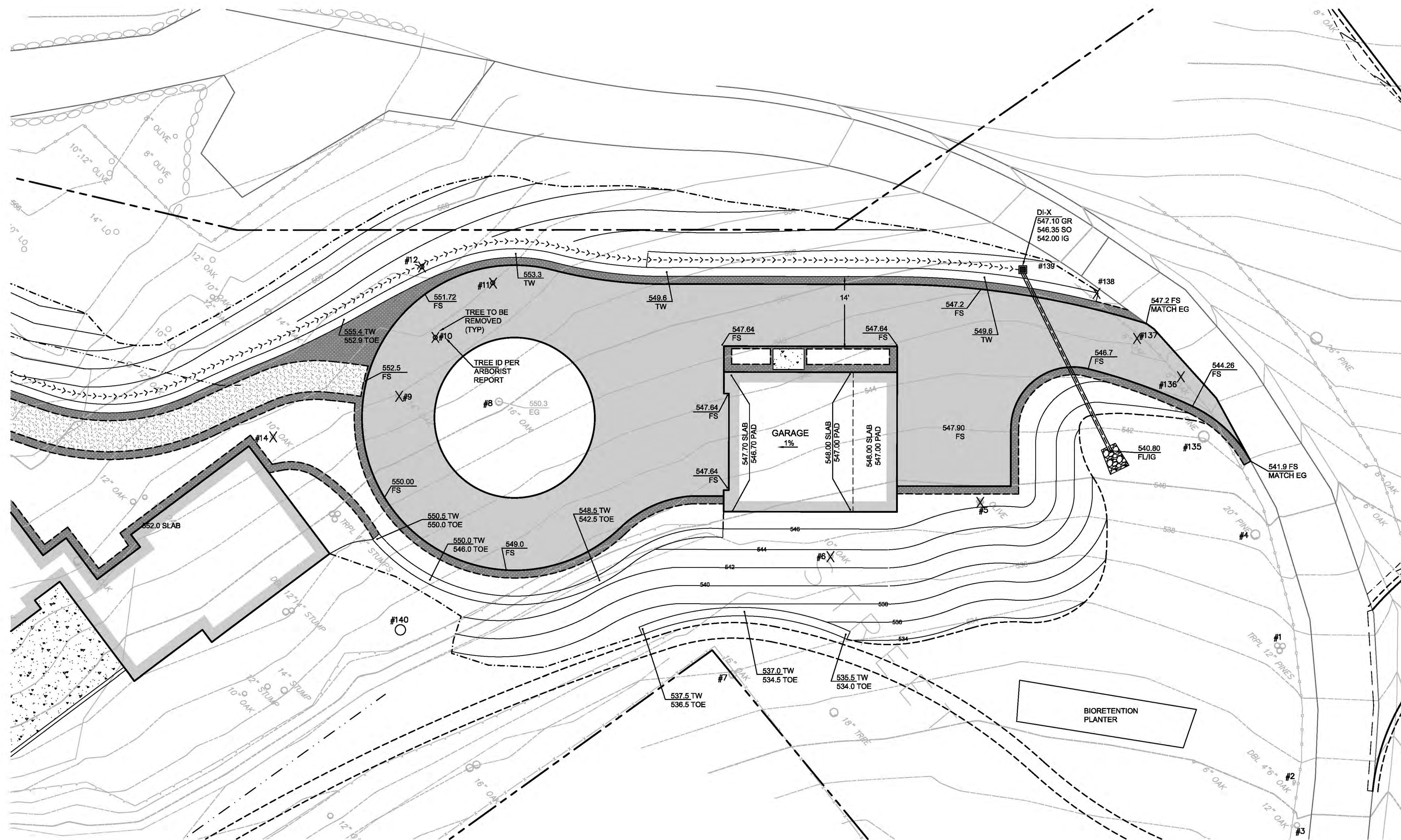


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ENGINEERING
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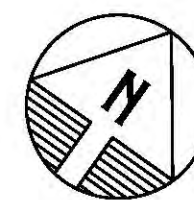
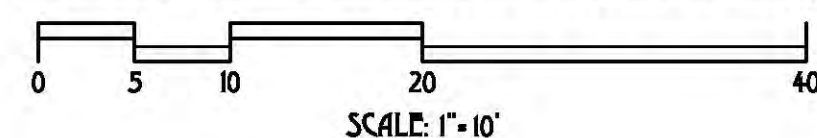
CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN

PO BOX 293, SONOMA, CA 95976
PHONE: (707) 481-9472
DEARFLAGCIVIL@GMAIL.COM

**PRELIMINARY DRIVEWAY GRADING PLAN
149 4TH STREET RESIDENCE
149 4TH STREET EAST, SONOMA, CA
APN: 018-091-018**



PRELIMINARY DRIVEWAY GRADING PLAN



REV	DATE	DESCRIPTION

DATE: 7/28/2017
DESIGN: CSM
PROJECT: 16002

SHEET
C3

OF 3 SHEETS



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CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN

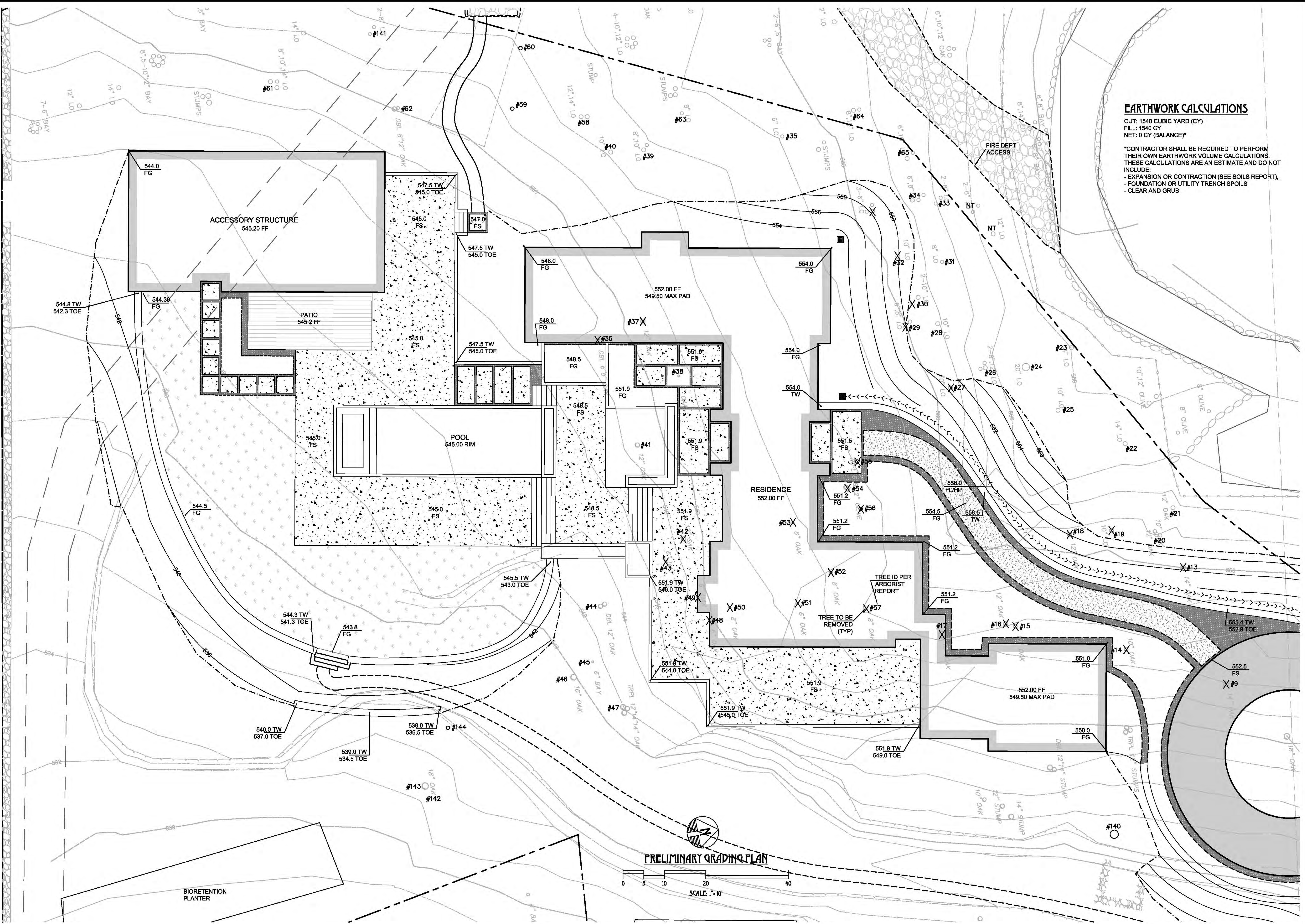
PO BOX 293, SONOMA, CA 95976
PHONE: (707) 481-9472
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PRELIMINARY GRADING PLAN
149 4TH STREET RESIDENCE
149 4TH STREET EAST, SONOMA, CA
APN: 018-091-018

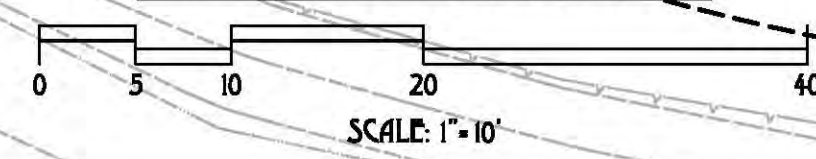
EARTHWORK CALCULATIONS

CUT: 1540 CUBIC YARD (CY)
FILL: 1540 CY
NET: 0 CY (BALANCE)*

*CONTRACTOR SHALL BE REQUIRED TO PERFORM
THEIR OWN EARTHWORK VOLUME CALCULATIONS.
THESE CALCULATIONS ARE AN ESTIMATE AND DO NOT
INCLUDE:
- EXPANSION OR CONTRACTION (SEE SOILS REPORT),
- FOUNDATION OR UTILITY TRENCH SPOILS
- CLEAR AND GRUB

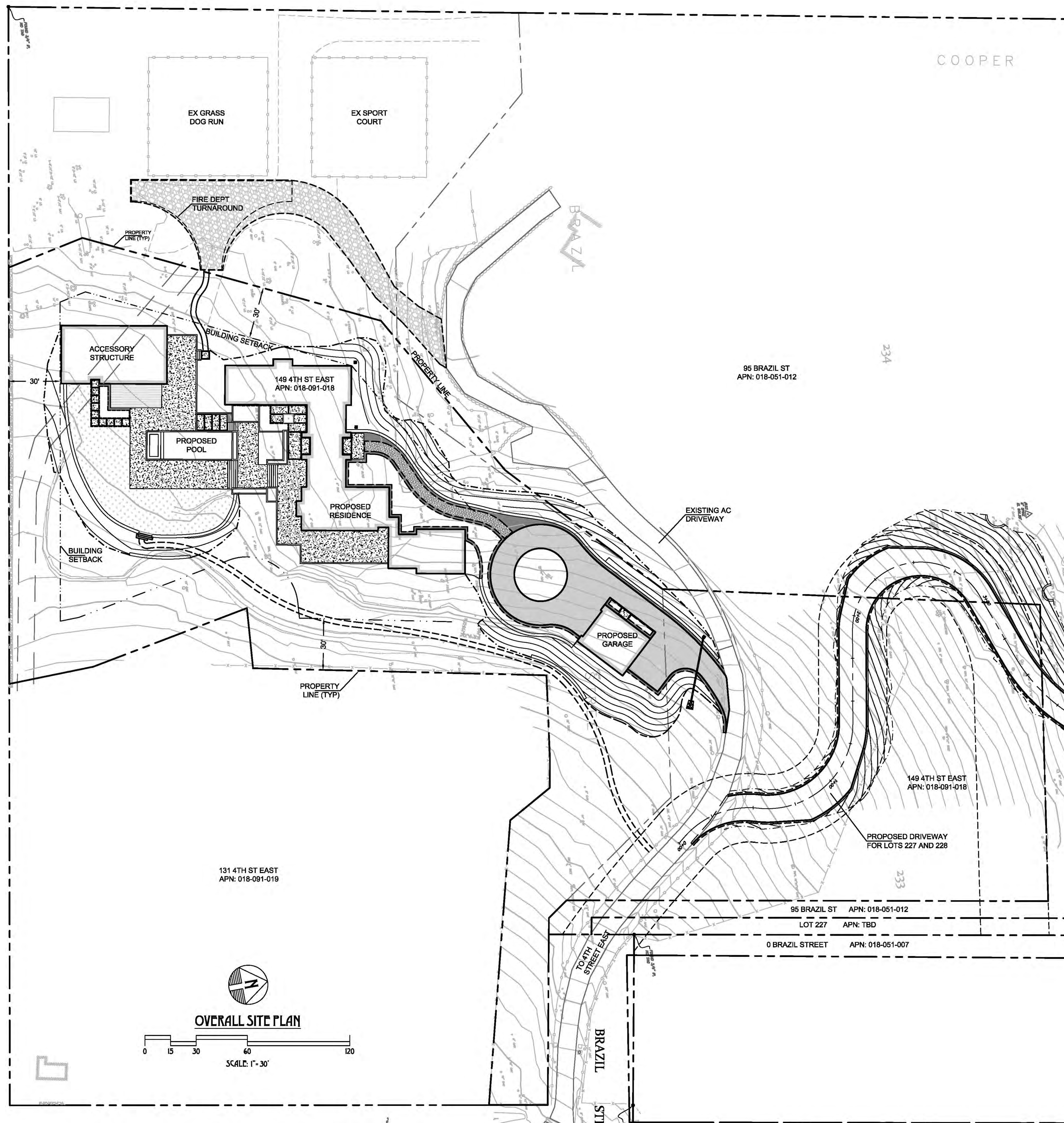


PRELIMINARY GRADING PLAN



REV	DATE	DESCRIPTION

DATE: 7/28/2017
DESIGN: CSM
PROJECT: 16002
SHEET
C2
OF 3 SHEETS



**BEAR FLAG
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INC**

CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN

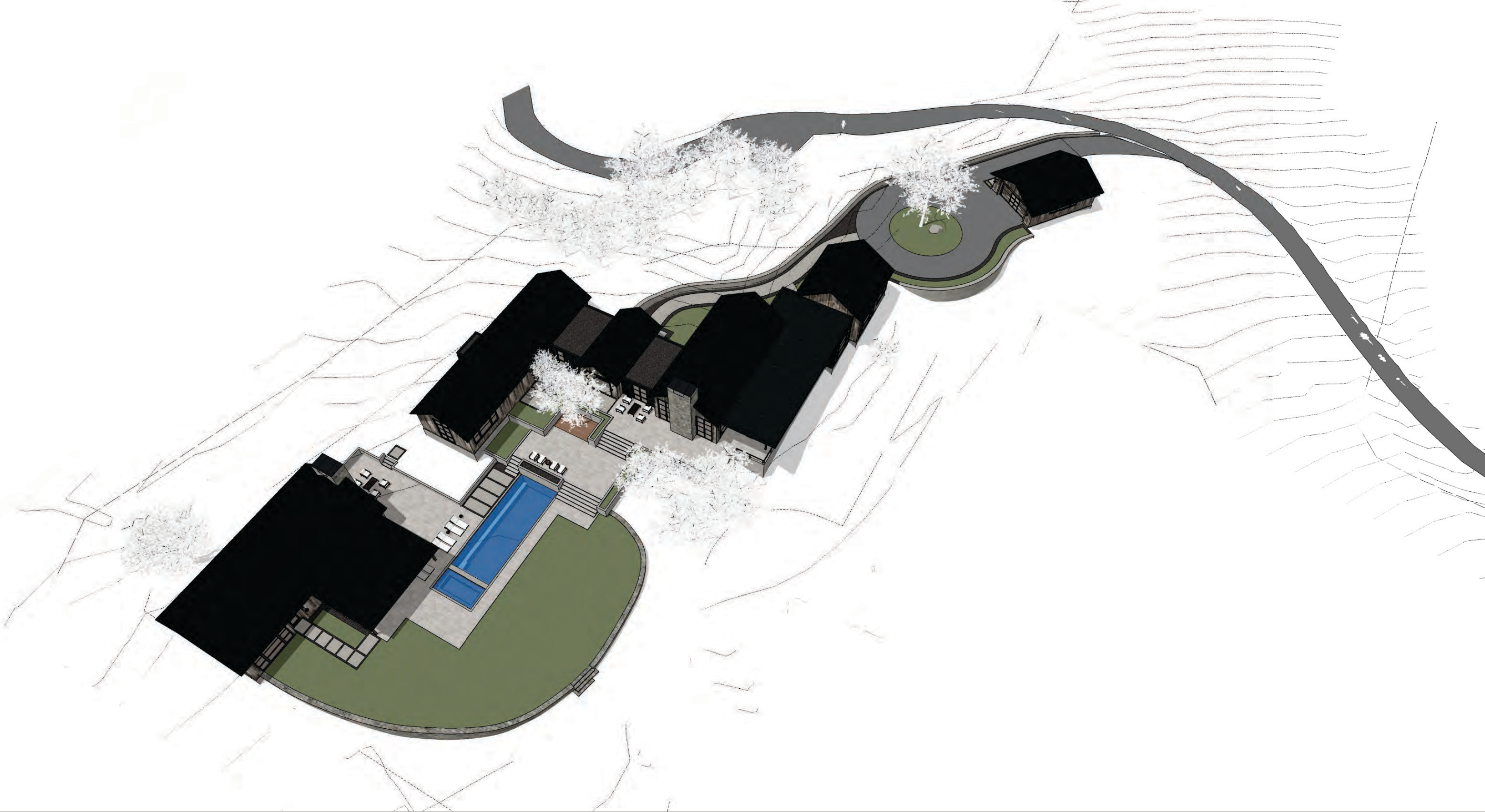
PO BOX 283, SONOMA, CA 95976
PHONE: (707) 481-9472
BEARFLAGCIVIL@GMAIL.COM

**PRELIMINARY SITE PLAN
149 4TH STREET RESIDENCE**
149 4TH STREET EAST, SONOMA, CA
APN: 018-091-018

REV	DATE	DESCRIPTION

DATE: 7/28/2017
DESIGN: CSM
PROJECT: 16002

SHEET
01
OF 3 SHEETS



4TH STREET EAST | SONOMA

aerial perspective



4TH STREET EAST | SONOMA

view towards main house, garage + barn







4TH STREET EAST | SONOMA

view towards barn + main house guest suite





4TH STREET EAST | SONOMA

downhill view from 4th street east towards garage, master suite + main house



4TH STREET EAST | SONOMA



4TH STREET EAST | SONOMA

view of garage



4TH STREET EAST | SONOMA

view towards garage + main entry



4TH STREET EAST | SONOMA

view towards garage



4TH STREET EAST | SONOMA

view towards main entry



4TH STREET EAST | SONOMA

view towards main entry



4TH STREET EAST | SONOMA

view towards main entry





4TH STREET EAST | SONOMA

view towards living room, outdoor dining + master suite



4TH STREET EAST | SONOMA

view towards outdoor dining + firepi



4TH STREET EAST | SONOMA

view towards main terrace



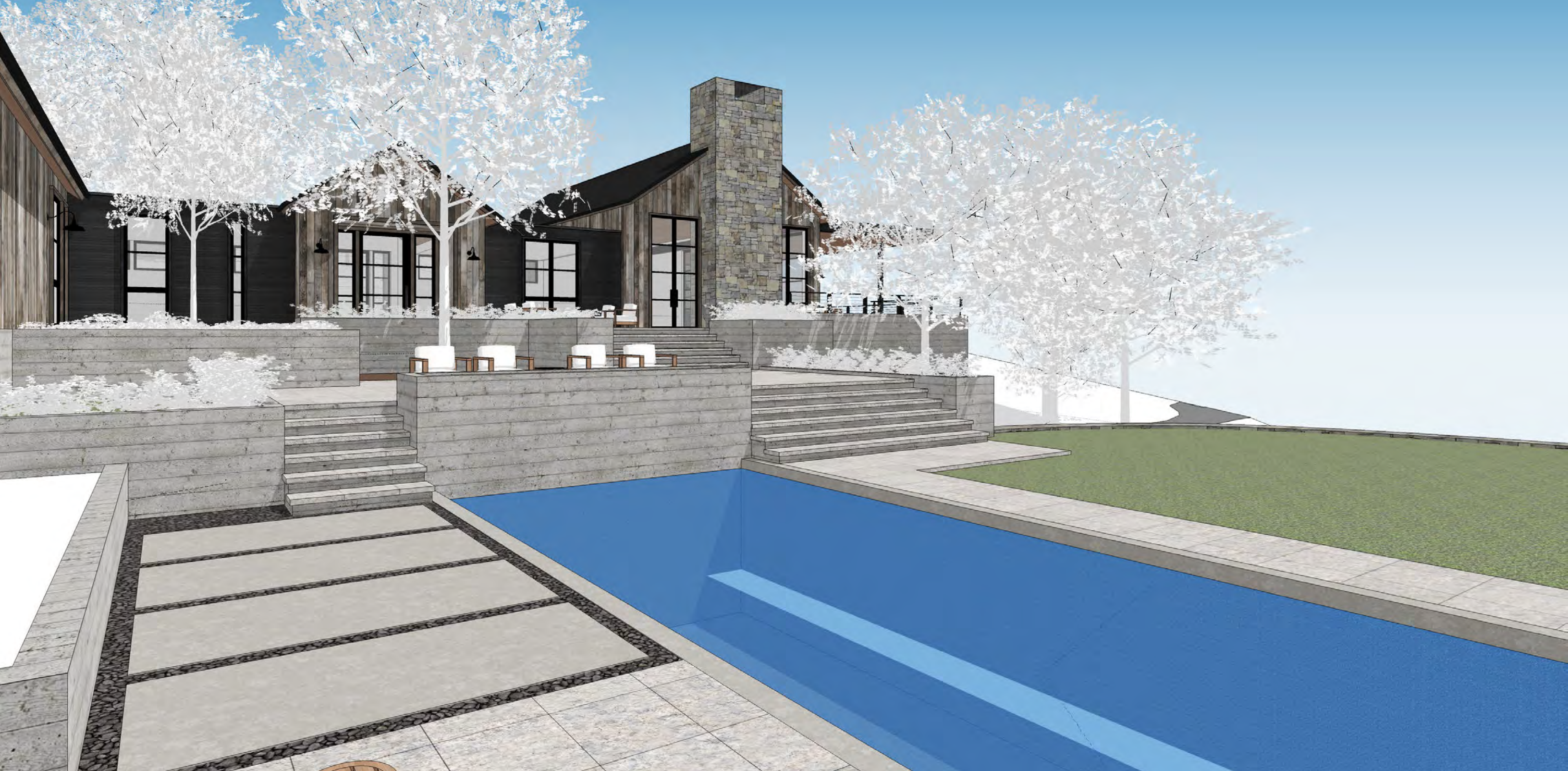
4TH STREET EAST | SONOMA

view towards main terrace



4TH STREET EAST | SONOMA

view towards main terrace + firepit terrac



4TH STREET EAST | SONOMA

view towards main terrace, firepit terrace + pool terrac

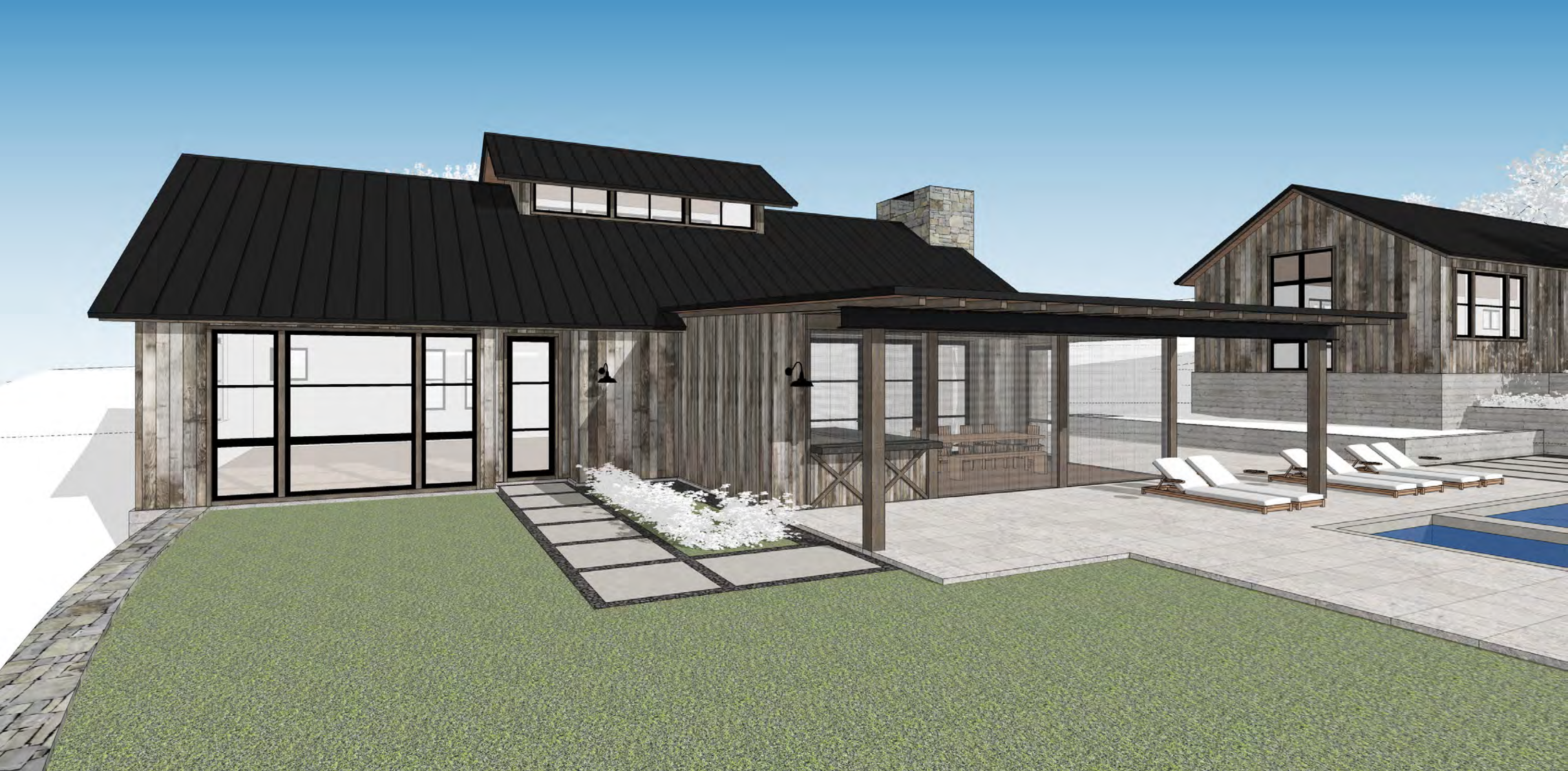






4TH STREET EAST | SONOMA

view towards barn + screened porch



4TH STREET EAST | SONOMA

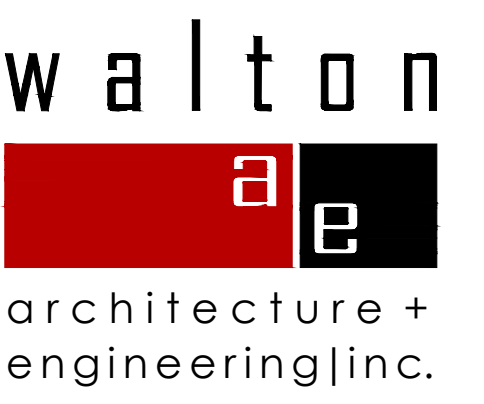
view towards barn + screened porch

SQUARE FOOTAGE ANALYSIS

HOUSE	
CONDITIONED SQUARE FOOTAGE	+ 5,233 SF
MAIN LEVEL	
UNCONDITIONED SQUARE FOOTAGE:	
DETACHED GARAGE	+ 904 SF
ACCESSORY STRUCTURE	
CONDITIONED SQUARE FOOTAGE	
MAIN LEVEL	+ 5,233 SF

GENERAL NOTES

- STAIRWAYS SERVING AN OCCUPANT LOAD LESS THAN 50 SHALL HAVE A WIDTH OF NOT LESS THAN 36 INCHES. (CG SECTION R311.1) 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 CONTINUOUS 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. (CG SECTION R311.2) WITHIN DWELLING UNITS, THE MAXIMUM RISER HEIGHT SHALL BE 7.3/4" THE MINIMUM TREAD DEPTH SHALL BE 10 INCHES. (CG SECTIONS R311.4.1 AND R311.4.2)
- GUARDRAILS AND HANDRAILS SHALL BE STRUCTURED TO WITHSTAND A 200# LATERAL LOAD.
- HANDRAILS: HANDRAIL HEIGHT, MEASURED ABOVE STAIR TREAD NOSINGS, SHALL BE UNIFORM, NOT LESS THAN 34 INCHES AND NOT MORE THAN 38 INCHES. (CG SECTION R311.1) 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. (CG SECTION R311.1.3) HANDRAILS WITHIN DWELLING UNITS ARE PERMITTED TO BE INTERRUPTED BY A NEEL POST AT A STAIR LANDING. (CG SECTION R311.1.2) CLEAR SPACE BETWEEN A HANDRAIL AND A WALL OR OTHER SURFACE SHALL BE A MINIMUM OF 1.5 INCHES. (CG SECTION 1022.6) PROJECTIONS INTO THE REQUIRED WIDTH OF STAIRWAYS AT EACH HANDRAIL SHALL NOT EXCEED 4.5 INCHES AT OR BELOW THE HANDRAIL HEIGHT. (CG SECTION 1022.6) PROVIDE CONTINUOUS HANDRAIL FOR STAIRWAY WITH 4 OR MORE RISERS AS PER R311.1.2
- 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 MUST BE 42 INCHES HIGH 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. (CG 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 OF 6 INCHES IN DIAMETER CANNOT PASS THROUGH THE OPENING. (CG SECTION R312.3)
- THE WALLS AND SOFFITS OF THE ENCLOSED SPACE UNDER STAIRS SHALL BE PROTECTED ON THE ENCLOSED SIDE WITH 1/2" GYPSUM HALFBLOOD. (CG SECTION R302.1)
- MINIMUM OCCUPANCY SEPARATION BETWEEN GARAGE AND RESIDENCE SHALL BE AS FOLLOWS: 1/2" GYPSUM HALFBLOOD SHALL BE INSTALLED ON THE GARAGE SIDE OF THE WALL SEPARATING THE GARAGE FROM THE RESIDENCE AND 5/8" TYPE-X GYPSUM HALFBLOOD AT THE UNDERSIDE OF THE HABITABLE ROOM ABOVE THE GARAGE. (CG SECTION AND TABLE R302.6)
- MINIMUM OPENING PROTECTION FOR DOOR BETWEEN GARAGE AND RESIDENCE SHALL BE THE INSTALLATION OF A SELF-CLOSING TIGHT-FITTING SOLID WOOD DOOR 36" IN HEIGHT AND A SELF-CLOSING TIGHT-FITTING DOOR HAVING A FIRE PROTECTION RATINGS OF NOT LESS THAN 20 MINUTES. (CG SECTION R302.5.1)
- 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. (CG 507.8 AND CG 507.9) 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. (CG 507.2)
- PROVIDE ROOF TERMINATION FOR GAS APPLIANCE. APPLIANCE SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. SEE FUE MANUFACTURER'S SPECIFICATIONS FOR FUE 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 4.505.
- PROVIDE 60" DV GAS FIREPLACE @ LIVING ROOM + BARN
- FIREPIT SHALL BE PLUMBED FOR GAS, PROVIDE (4) EQ. SPACED ADJUSTABLE GAS JETS SET IN BLACK VOLCANIC STONES.
- 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 WITH 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. (CG SECTION R308.4)
- CONTRACTOR SHALL VERIFY SAFETY GLAZING AT ALL LOCATIONS PER 2013 CGC.
- EXTERIOR WINDOWS, WINDOW WALLS, GLAZED DOORS, AND GLAZED OPENINGS WITHIN EXTERIOR DOORS SHALL BE INSULATING-GLASS UNITS WITH A MINIMUM OF ONE TEMPERED PANE. (CG SECTION R321.9.1)
- SLEEPING ROOMS BELOW THE FOURTH STORY ABOVE GRADE PLANE SHALL HAVE AT LEAST ONE EXTERIOR EMERGENCY ESCAPE AND RESCUE OPENING. (CG 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. (CG SECTIONS R310.1) THROUGH R310.3) EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE THE BOTTOM OF THE CLEAR OPENING NOT GREATER THAN 44 INCHES MEASURED FROM THE FLOOR. (CG SECTION R310.1)
- 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 NON-COMBUSTIBLE MATERIALS. (CG SECTION R321.1.3)
- NOTE NOT USED
- NOTE NOT USED
- OPENINGS IN THE BUILDING ENVELOPE SEPARATING CONDITIONED SPACE FROM UNCONDITIONED SPACE NEEDED TO ACCOMMODATE GAS PIPING, ELECTRICAL LINES, AND OTHER NECESSARY PENETRATIONS MUST BE SEALED IN COMPLIANCE WITH THE CALIFORNIA ENERGY CODE AND ALSO THE CALIFORNIA RESIDENTIAL CODE (CG 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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149 4th Street East

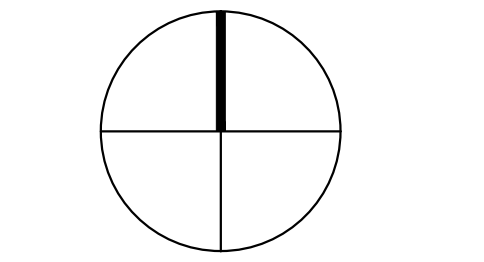
PRELIMINARY
Not for Construction

149 4th Street East
Sonoma, CA
APN 018-091-018

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Job Number
725
Issue Date
28 July 2017
Subject
PC Submittal

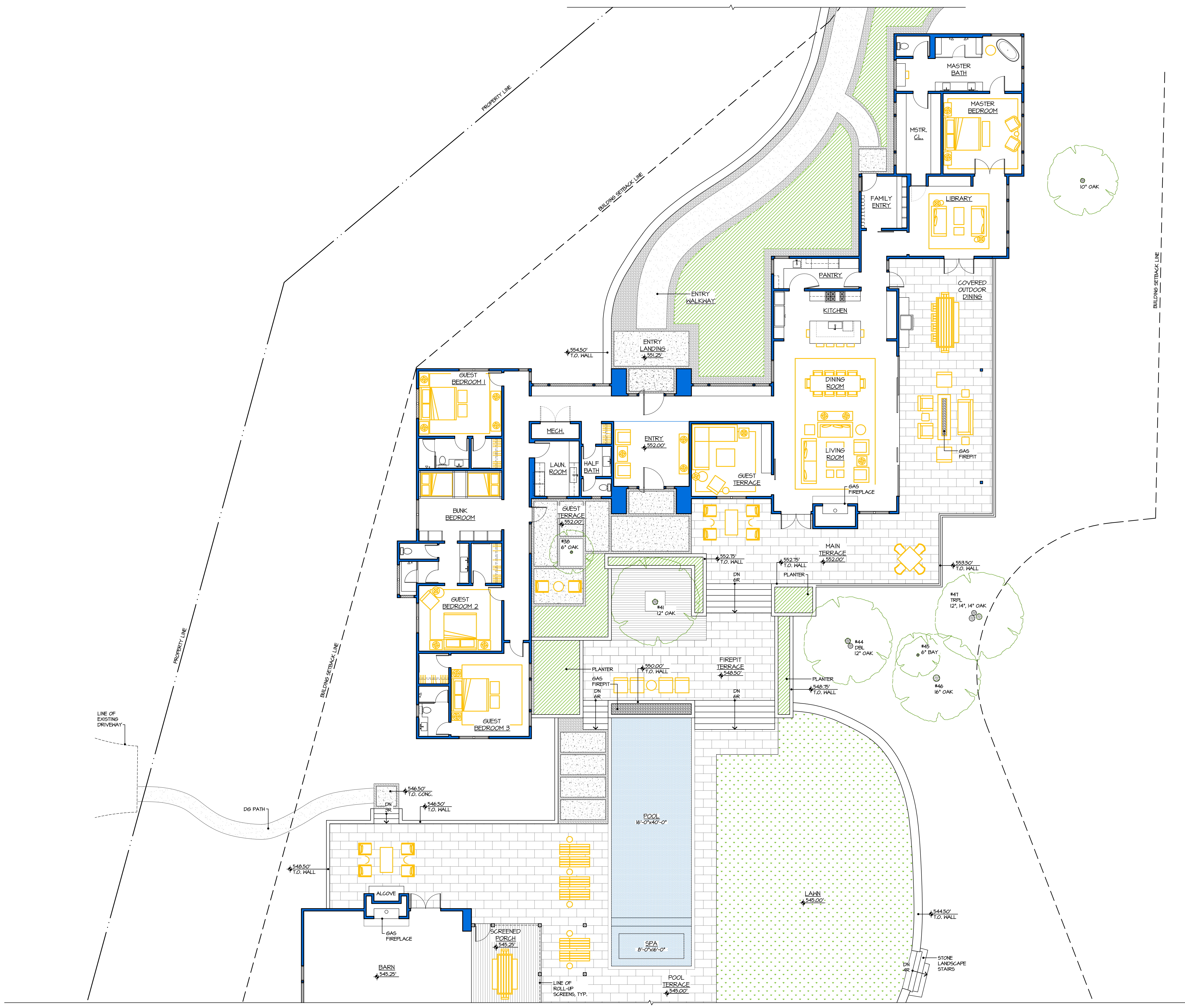
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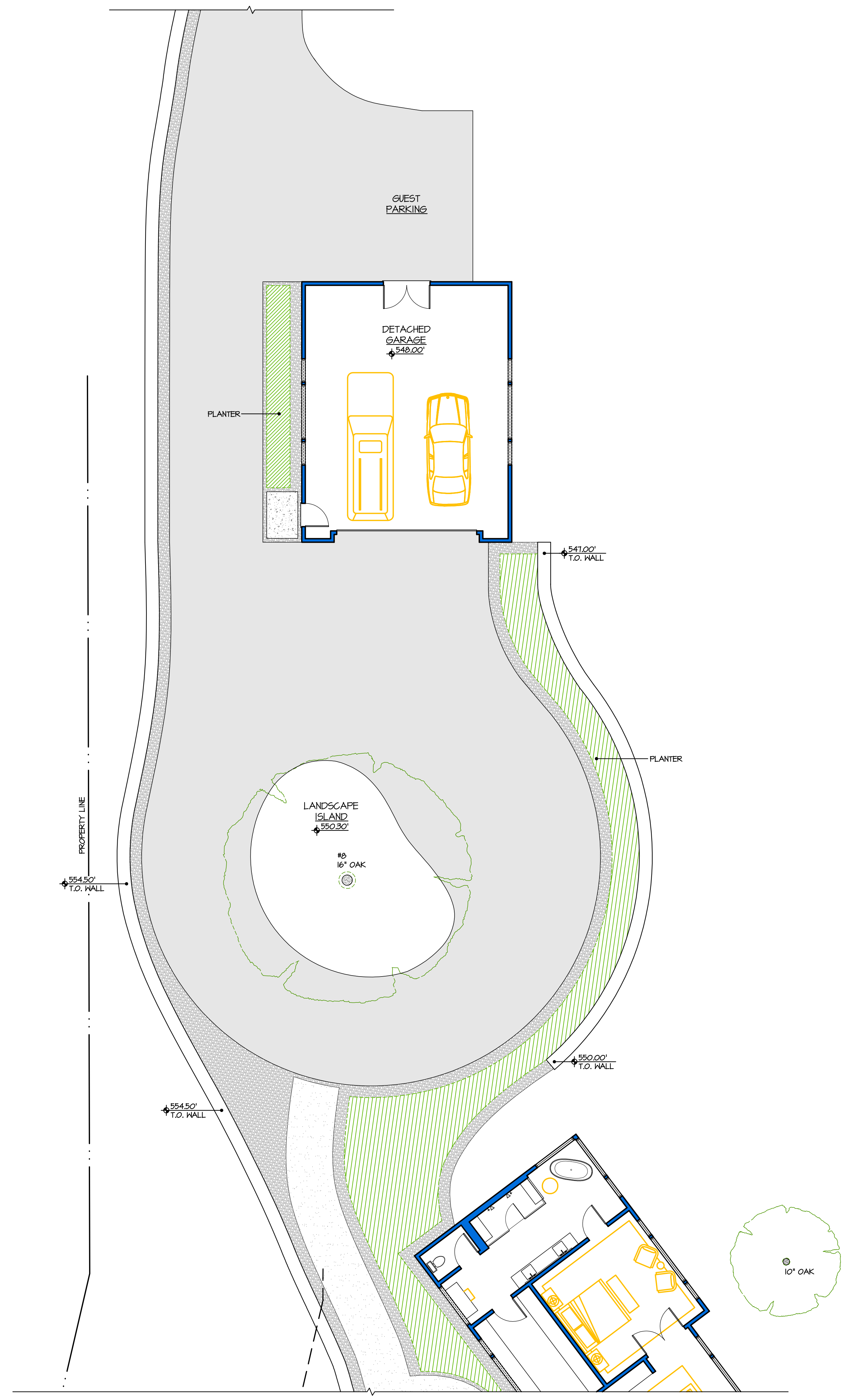
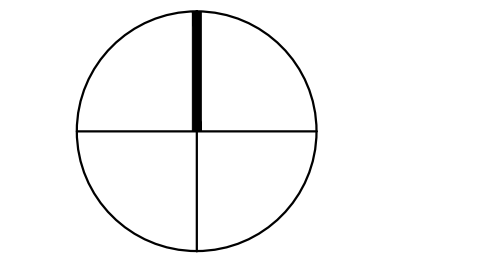
Drawing Title
Main House Floor Plan

Drawing Number

a 2.1



1 MAIN HOUSE FLOOR PLAN



1 DETACHED GARAGE FLOOR PLAN



2 BARN FLOOR PLAN

EXTERIOR FINISH LEGEND

SEE SHEET A-3.2

GENERAL NOTES

SEE SHEET A-3.2

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APN 018-091-018



1 SOUTH ELEVATION
MAIN HOUSE

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Drawing Title
Exterior Elevations

Drawing Number

a 3.1



2 NORTH ELEVATION
MAIN HOUSE

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Job Number
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Subject
PC Submittal

Drawing Title
Exterior Elevations

Drawing Number

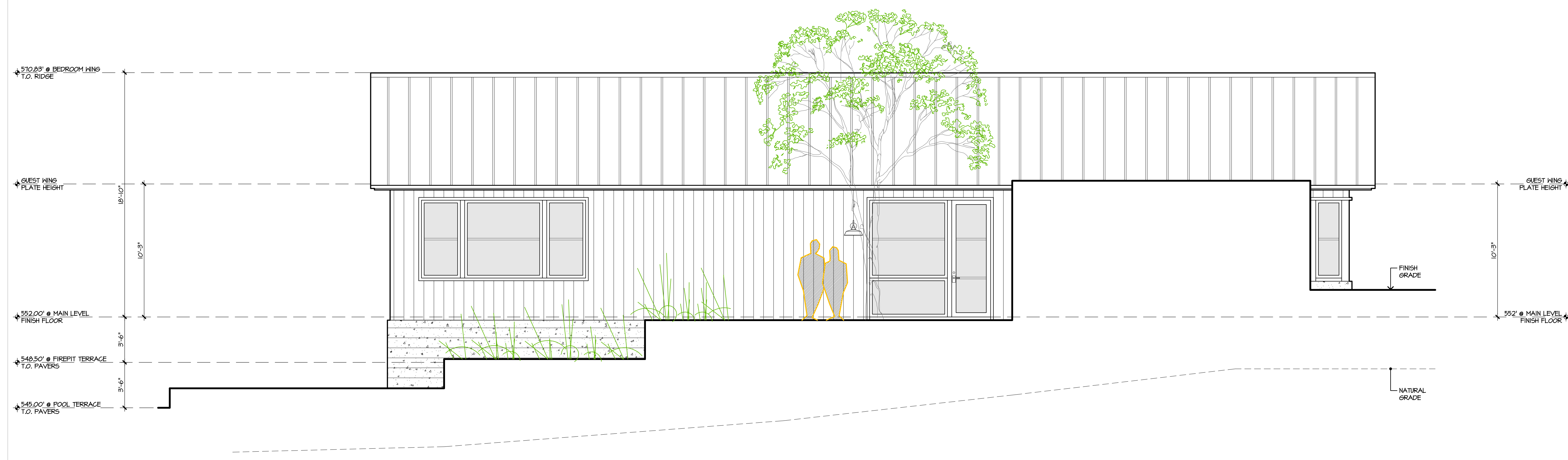
a 3.2

EXTERIOR FINISH LEGEND

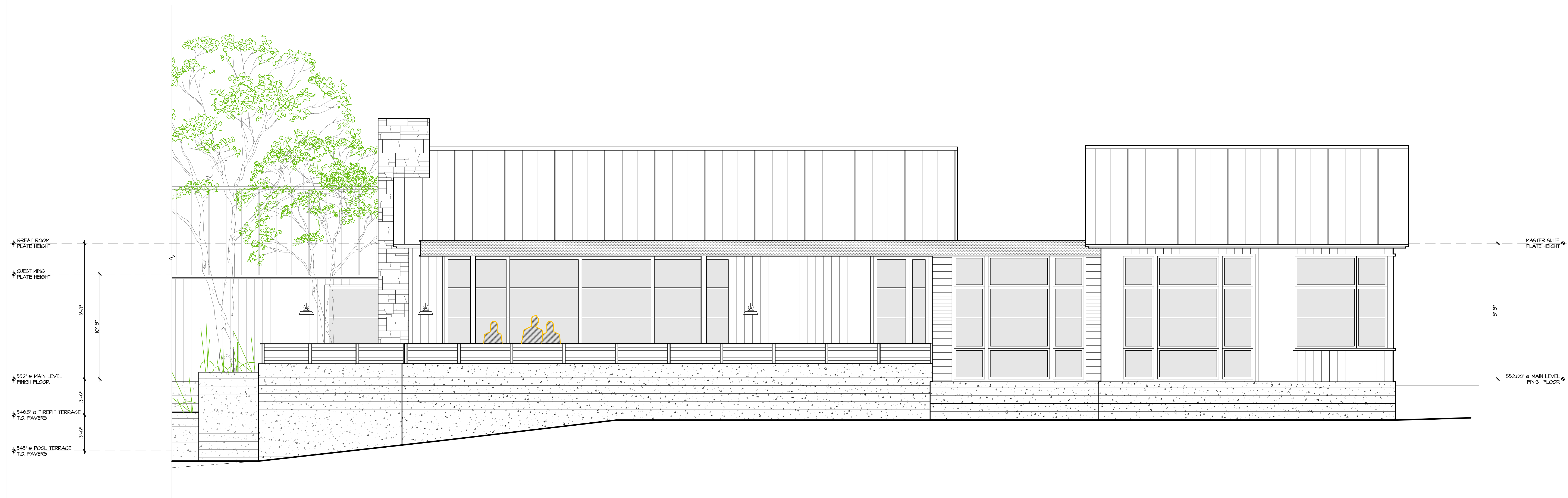
- FLASHING, GUTTERS + CHAINS: PAINTED METAL
COLOR: BLACK
- DOUBLE LOCK STANDING SEAM PAINTED METAL
COLOR: BLACK
- WOOD SIDING: GRAY BARNWOOD, 1x8, 1x6
STAIN: NONE
- WOOD SIDING ACCENT: WESTERN RED CEDAR, 5x6, RESAWN, 1x8, 1x6
STAIN: CHARCOAL
- TRIM: 2x AND 3x GRAY BARNWOOD
STAIN: NONE
- WINDOWS: ALUMINUM GLAD WOOD BY SIERRA PACIFIC
COLOR: BLACK
- STRUCTURAL MEMBERS: DOUGLAS FIR #1
STAIN: MATCH GRAY BARNWOOD
- SOFFITS: DOUGLAS FIR, GRADE D, RESAWN, 1x4, 1x6
STAIN: SINGER
- STONE VENEER: LEDGESTONE

GENERAL NOTES

- 1) ALL EXTERIOR MATERIALS TO COMPLY WITH R301 OF THE CALIFORNIA RESIDENTIAL CODE.
- 2) ALL EXPOSED MECHANICAL AND PLUMBING VENTING LOCATIONS TO BE APPROVED BY ARCHITECT PRIOR TO INSTALLATION AND PAINTED A COLOR THAT COMPLEMENTS THE SURROUNDING EXTERIOR MATERIALS.
- 3) WATER RESISTIVE BARRIERS SHALL BE INSTALLED AS REQUIRED IN SECTION R703.2 AND WHERE APPLIED OVER WOOD-BASED SHEATHING SHALL INCLUDE A WATER-RESISTIVE VAPOR-PERMEABLE BARRIER WITH A PERFORMANCE AT LEAST EQUIVALENT TO TWO LAYERS OF GRADE D PAPER. THE INDIVIDUAL LAYERS SHALL BE INSTALLED INDEPENDENTLY SUCH THAT EACH LAYER PROVIDES A SEPARATE CONTINUOUS PLANE AND ANY FLASHINGS (INSTALLED IN ACCORDANCE WITH SECTION R703.4) INTENDED TO DRAIN TO THE WATER-RESISTIVE BARRIER IS DIRECTED BETWEEN THE LAYERS. 2016 IRC R703.1.3
- 4) INSULATION MATERIALS, INCLUDING FACINGS, SUCH AS VAPOR RETARDERS AND VAPOR-PERMEABLE MEMBRANES INSTALLED WITHIN FLOOR-CEILING ASSEMBLIES, ROOF-CEILING ASSEMBLIES, CRAWL SPACES AND ATTICS SHALL HAVE A FLAME SPREAD INDEX NOT TO EXCEED 450 WHEN TESTED IN ACCORDANCE WITH ASTM E84 OR UL 723. EXCEPT WHEN MATERIALS ARE INSTALLED IN CONCEALED SPACES THE INDEXES DO NOT APPLY TO THE FACINGS WHEN FACING IS INSTALLED IN CONTACT WITH THE UNEXPOSED SURFACE OF THE CEILING, FLOOR OR WALL FINISH OR WHEN CELLULOSE LOOSE-FILL INSULATION WHICH IS NOT SPRAY APPLIED SHALL ONLY BE REQUIRED TO MEET THE SMOKE-DEVELOPED INDEX OF NOT MORE THAN 450. 2016 IRC SECTION R302.10
- 5) BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND. ADDRESS NUMBERS SHALL BE A MINIMUM OF 4 INCHES HIGH WITH A MINIMUM STROKE WIDTH OF 1/2 INCH. WHERE ACCESS IS BY MEANS OF A PRIVATE ROAD AND THE BUILDING ADDRESS CANNOT BE VIEWED FROM THE PUBLIC WAY, A MONUMENT, POLE OR OTHER SIGN OR MEANS SHALL BE USED TO IDENTIFY THE STRUCTURE. 2016 IRC R301.1



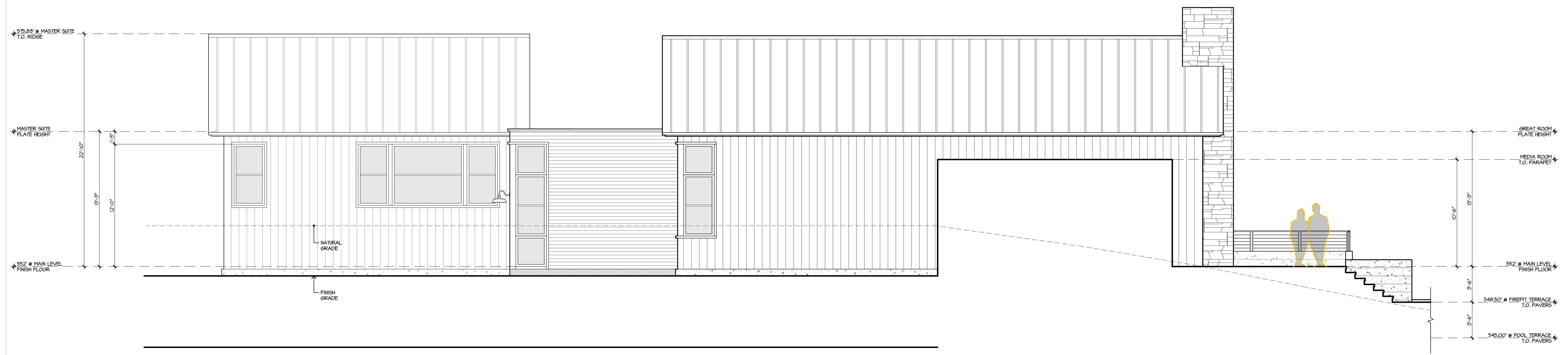
1 EAST ELEVATION
MAIN HOUSE



2 EAST ELEVATION
MAIN HOUSE



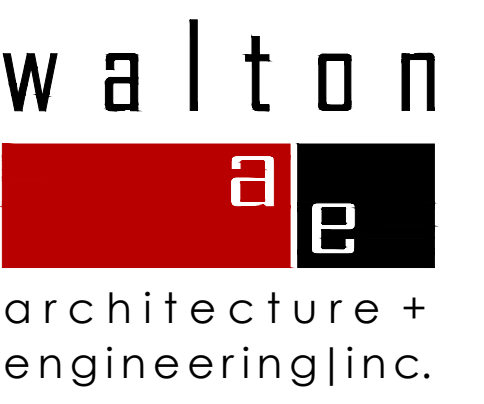
1 WEST ELEVATION
MAIN HOUSE - BEDROOM KING



2 WEST ELEVATION - SECTION AT MEDIA ROOM
MAIN HOUSE

EXTERIOR FINISH LEGEND
SEE SHEET A-3.2

GENERAL NOTES
SEE SHEET A-3.2



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149 4th Street East

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149 4th Street East
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APN 018-091-018

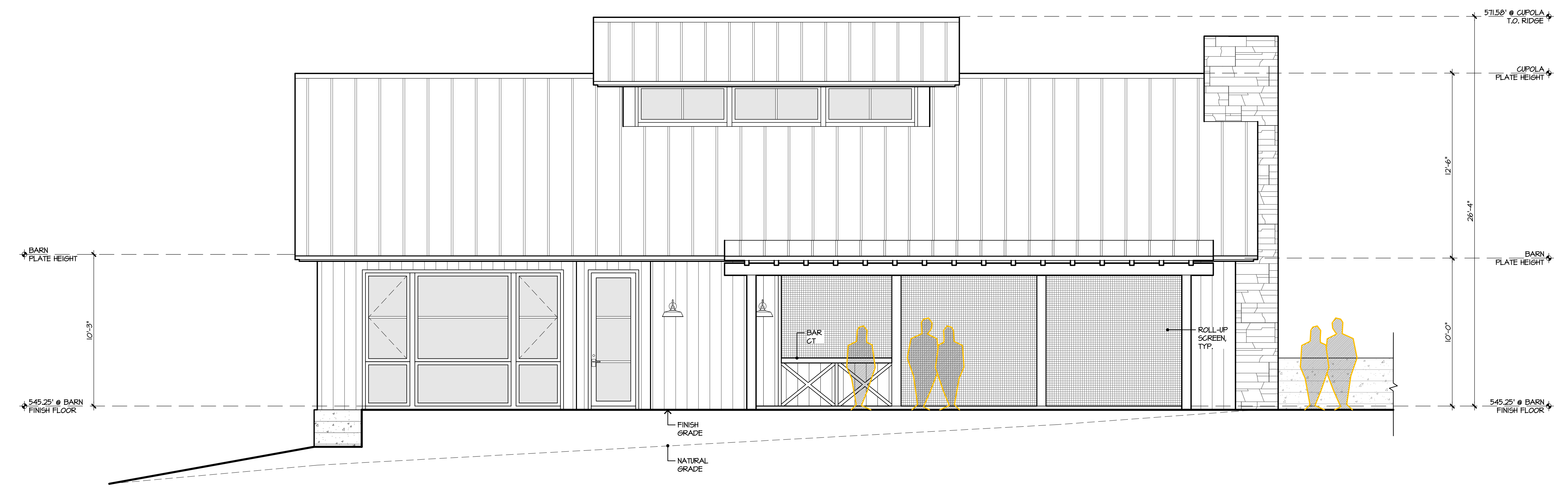
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Job Number
725
Issue Date
28 July 2017
Subject
PC Submittal

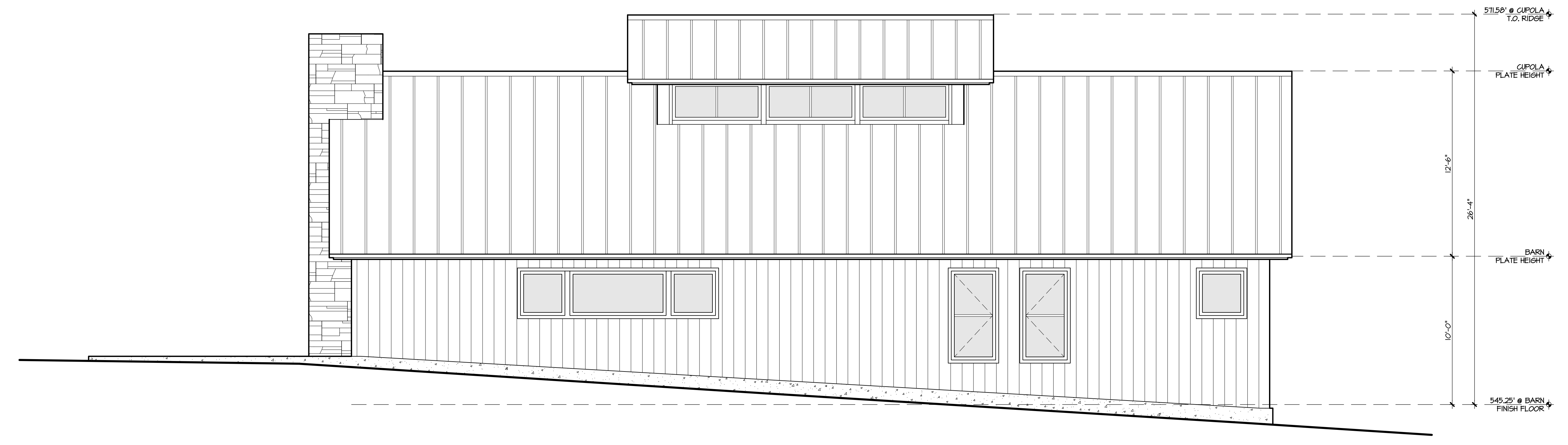
Drawing Title
Exterior Elevations

Drawing Number

a 3.4

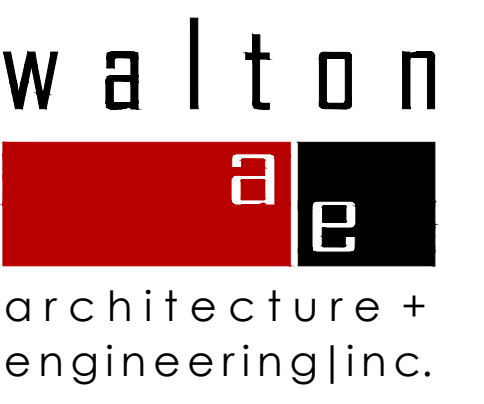


1 EAST ELEVATION
BARN



2 WEST ELEVATION
BARN

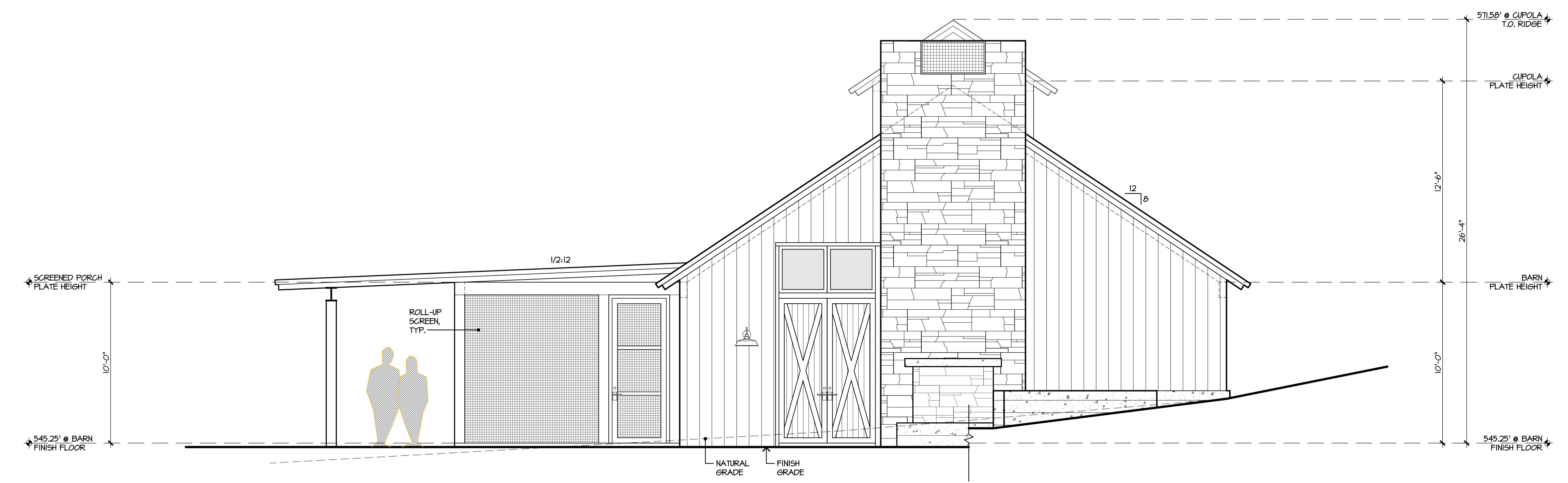
EXTERIOR FINISH LEGEND
 SEE SHEET A-3.2
 GENERAL NOTES
 SEE SHEET A-3.2



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149 4th Street East

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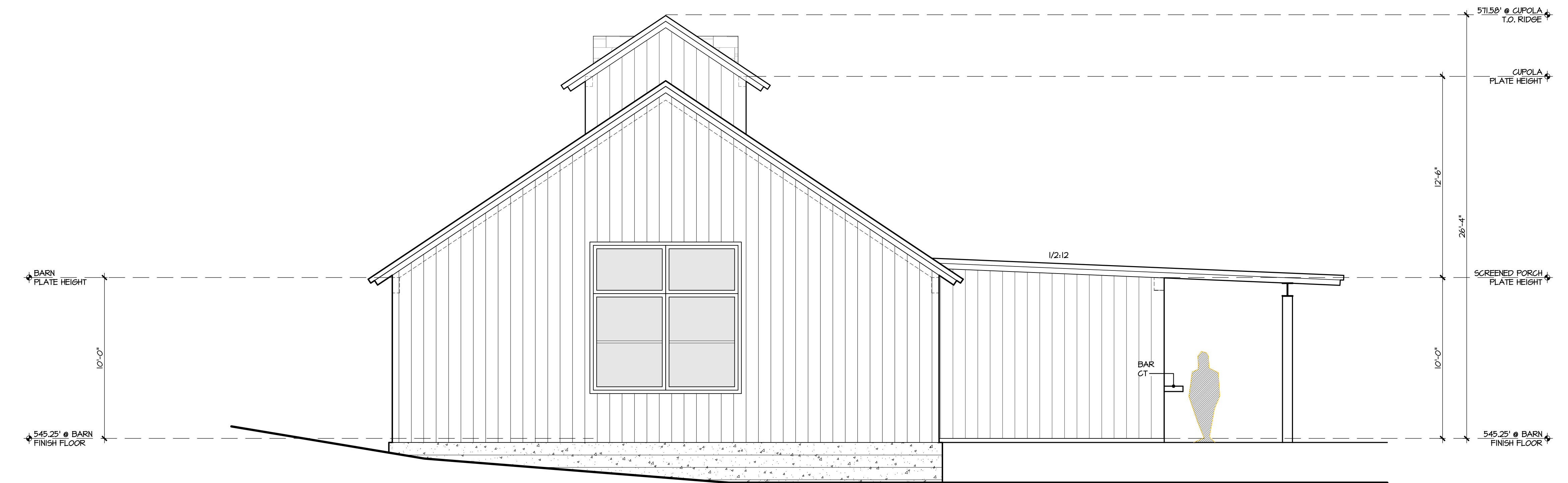


1 NORTH ELEVATION
 BARN

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 Issue Date
 28 July 2017
 Subject
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2 SOUTH ELEVATION
 BARN

Drawing Title
 Exterior Elevations

Drawing Number

a 3.5

EXTERIOR FINISH LEGEND

SEE SHEET A-3.2

GENERAL NOTES

SEE SHEET A-3.2

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PC Submittal - 07.28.17

Job Number

725

Issue Date

02 August 2017

Subject

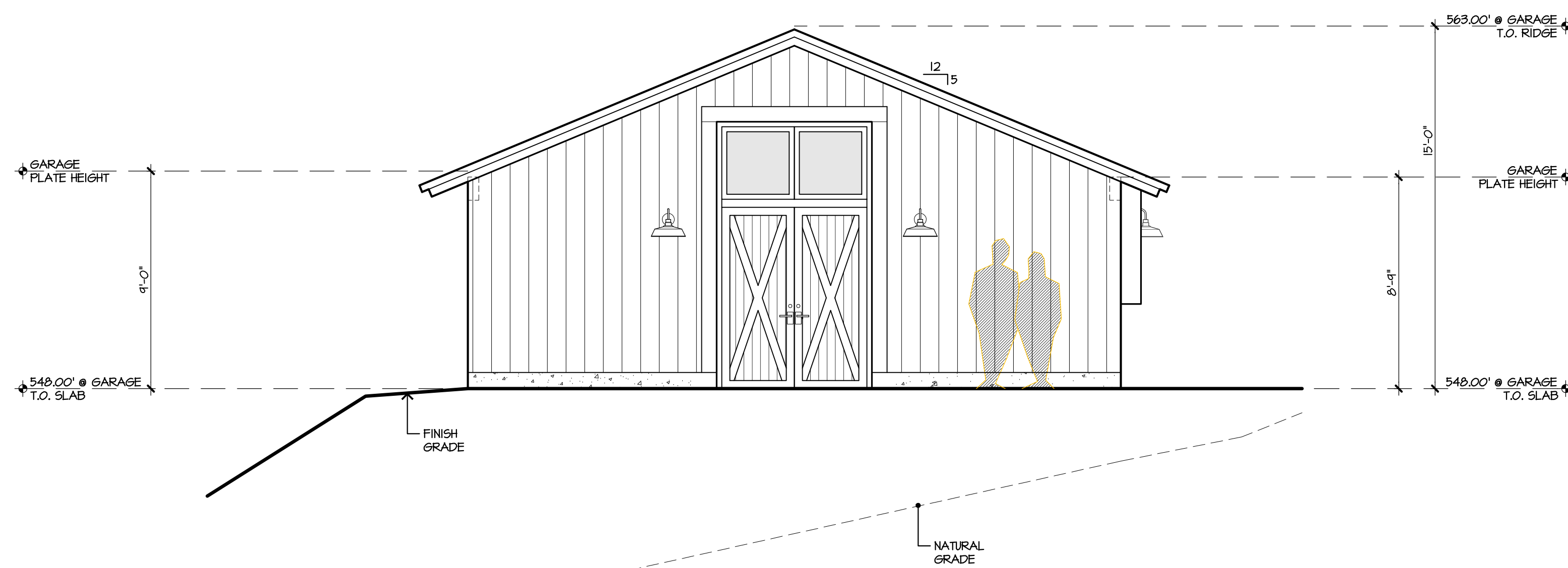
Revisions

Drawing Title

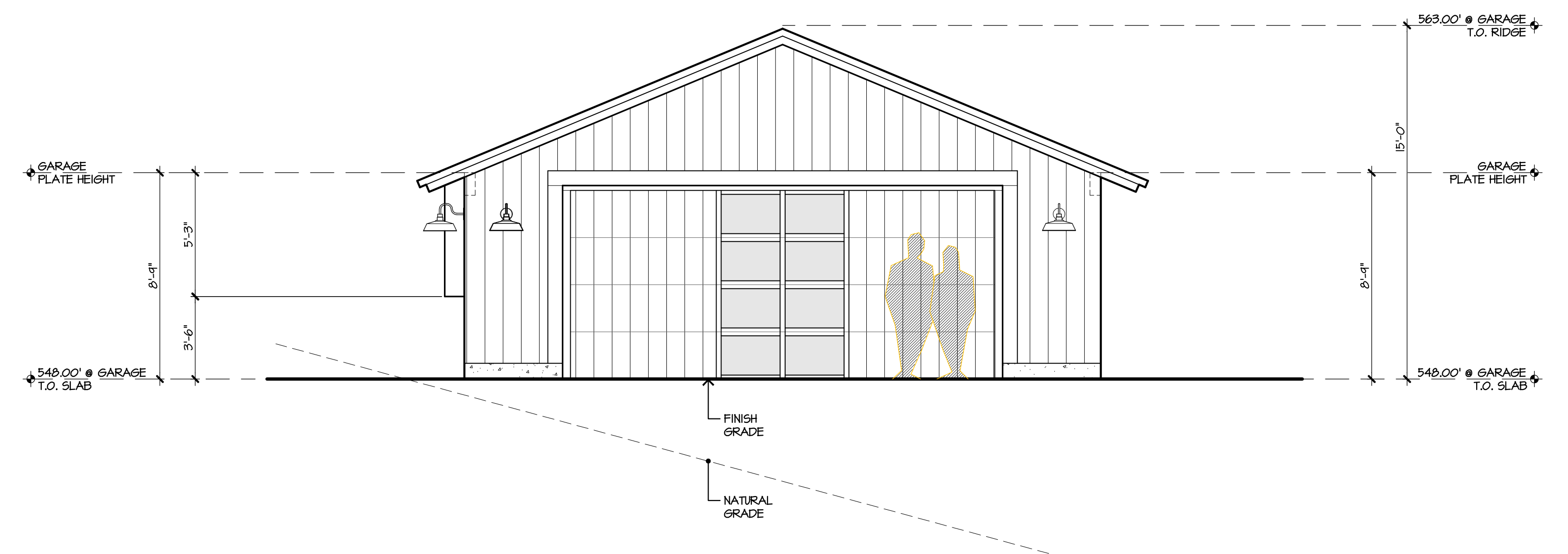
Exterior
Elevations

Drawing Number

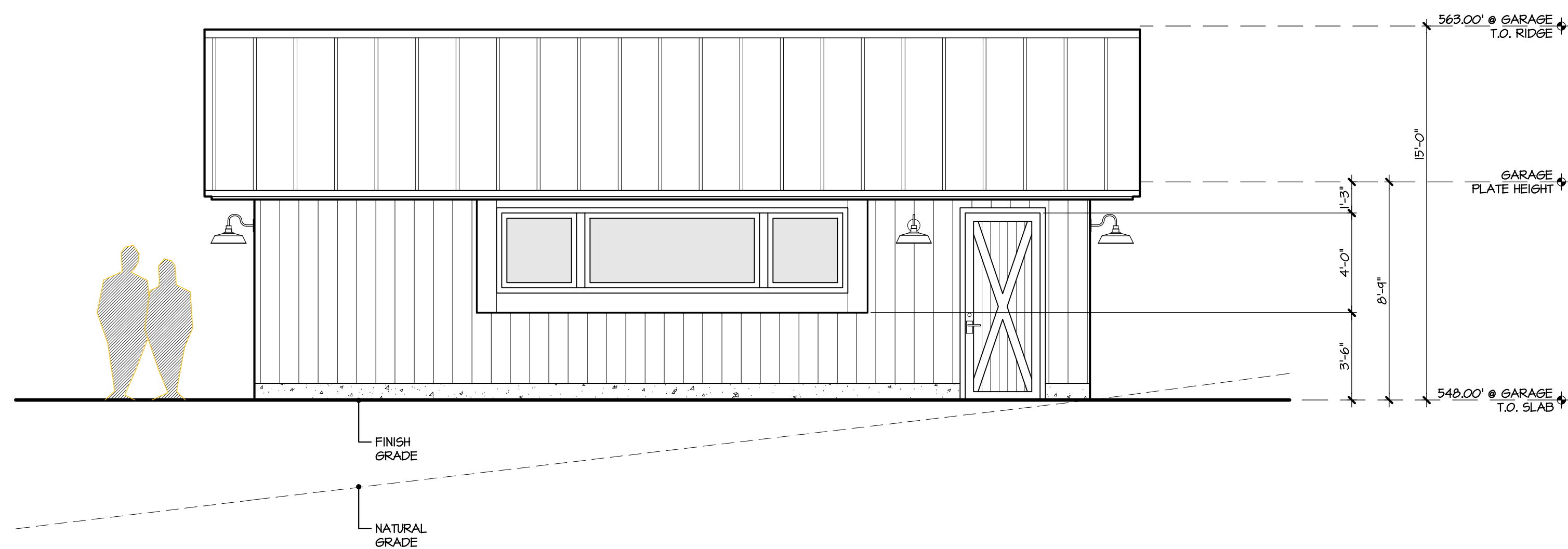
a 3.6



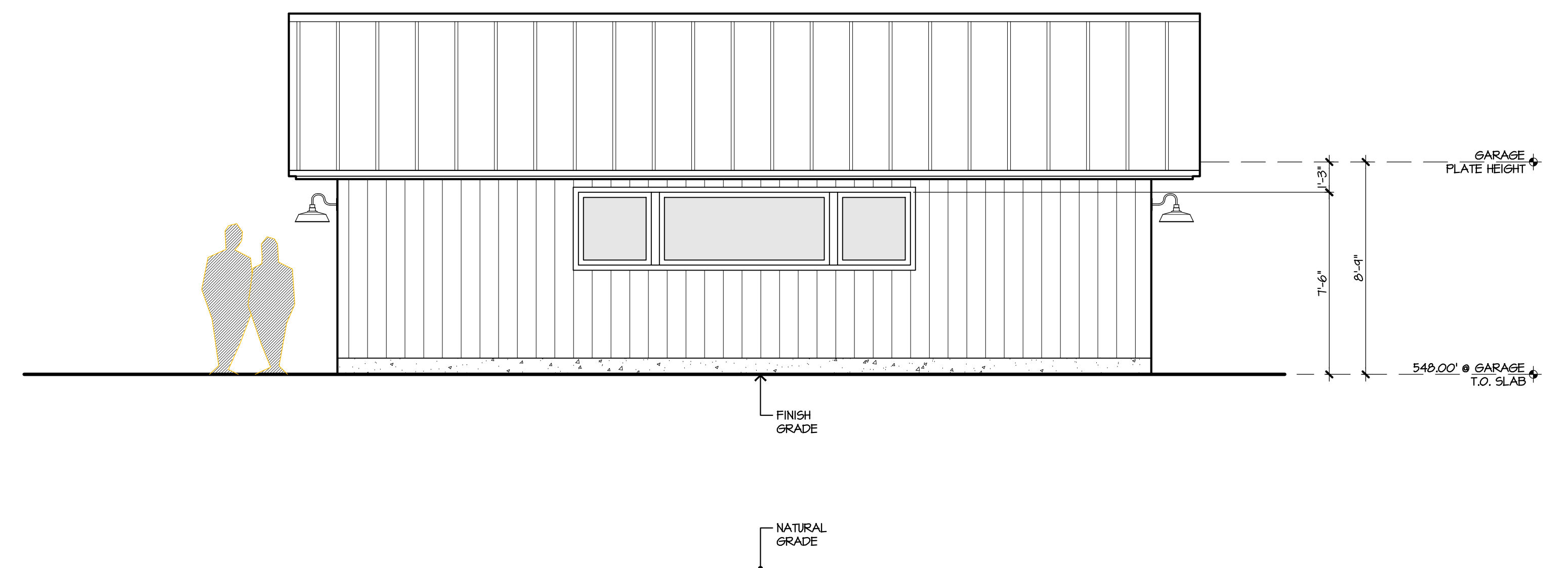
1 WEST ELEVATION
DETACHED GARAGE



3 WEST ELEVATION
DETACHED GARAGE



2 WEST ELEVATION
DETACHED GARAGE



4 EAST ELEVATION
DETACHED GARAGE

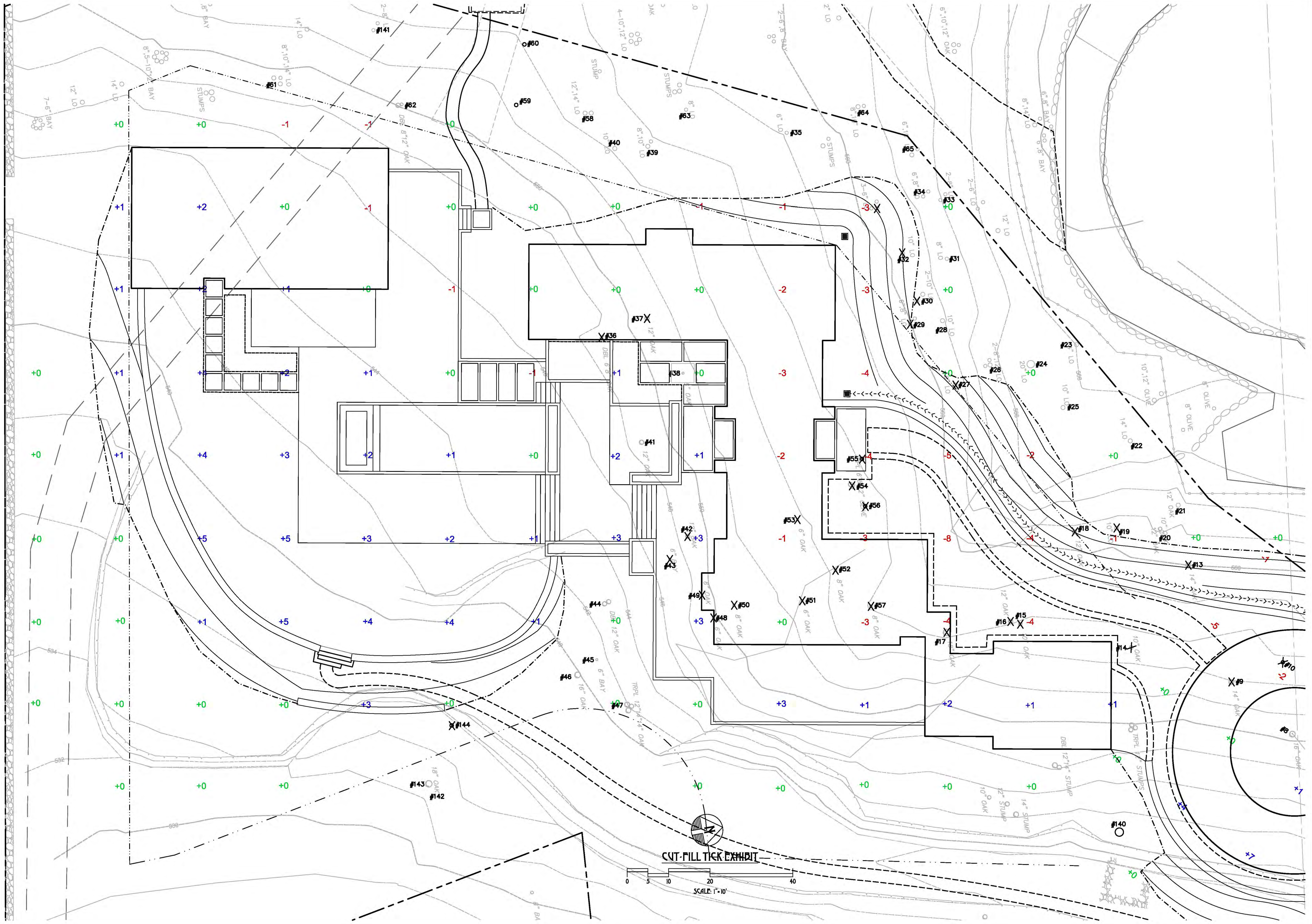


**BEAR FLAG
ENGINEERING
INC**

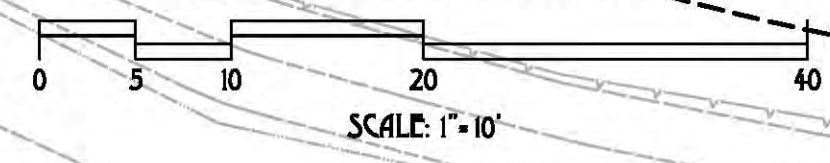
CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN

PO BOX 283, SONOMA, CA 95976
PHONE: (707) 481-9472
DEARFLAGCIVIL@GMAIL.COM

**CUT-FILL TICK EXHIBIT
149 4TH STREET RESIDENCE**
149 4TH STREET EAST, SONOMA, CA
APN: 018-091-018



CUT-FILL TICK EXHIBIT



REV	DATE	DESCRIPTION

DATE: 7/28/2017
DESIGN: CSM
PROJECT: 16002

SHEET
1
OF 2 SHEETS

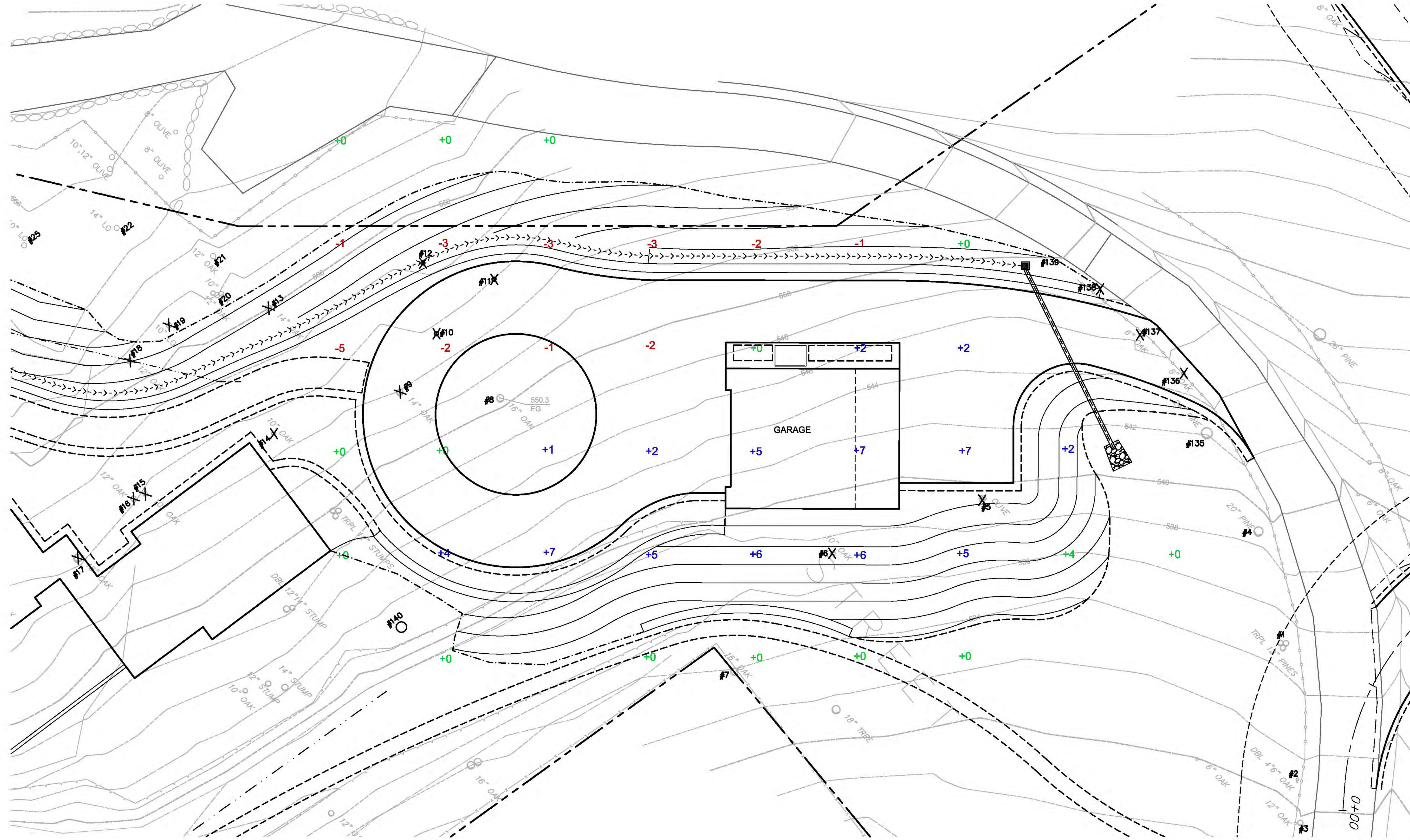


BEAR FLAG ENGINEERING INC

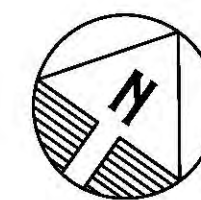
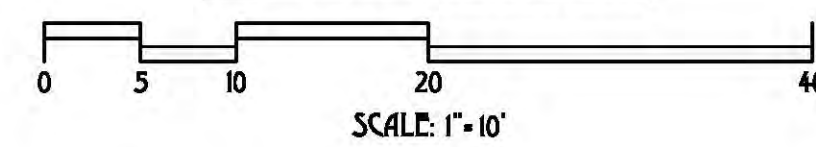
CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN

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CUT-FILL TICK EXHIBIT 149 4TH STREET RESIDENCE 149 4TH STREET EAST, SONOMA, CA APN: 018-091-018









CUT-FILL TICK EXHIBIT

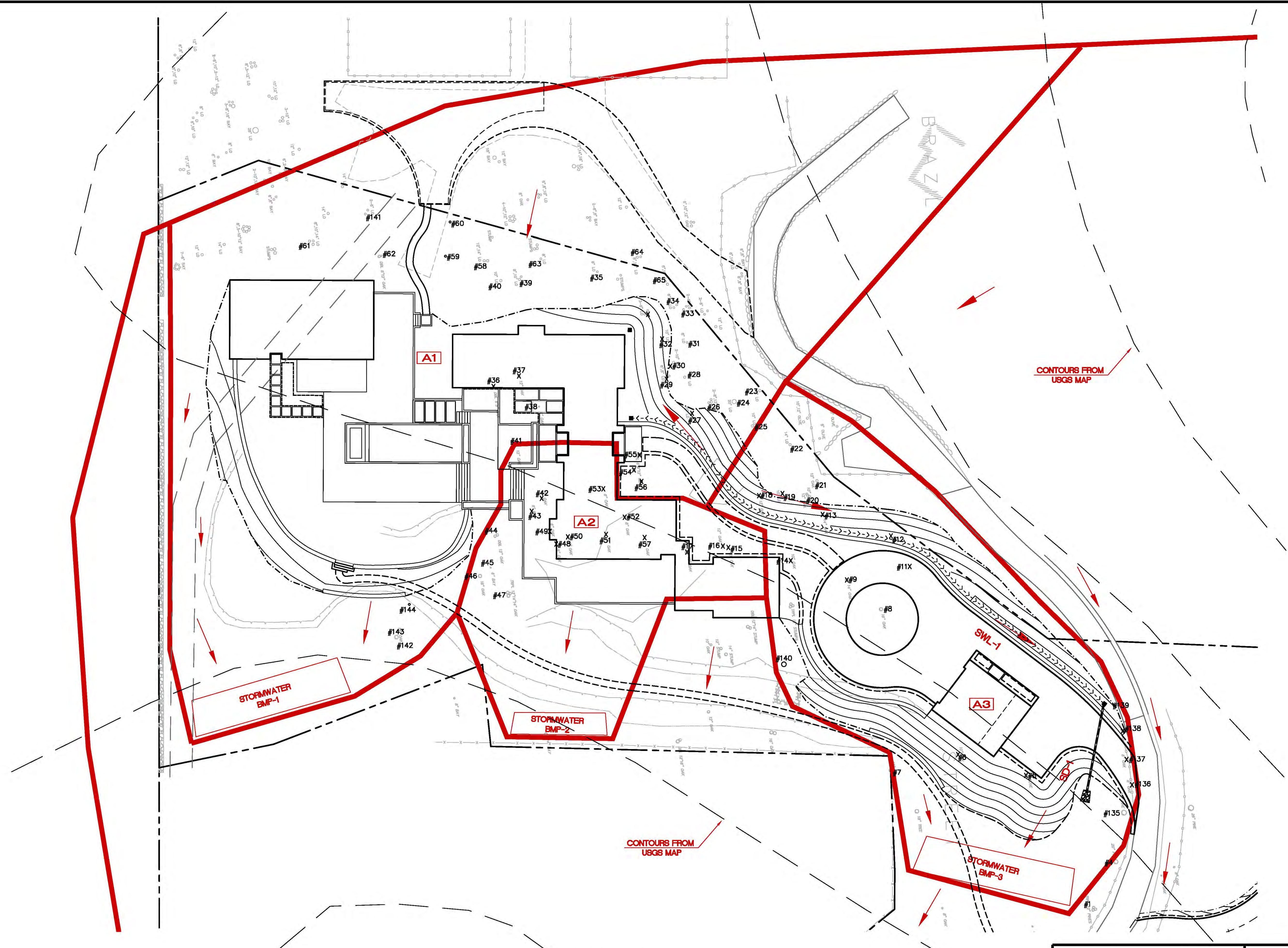


REV	DATE	DESCRIPTION

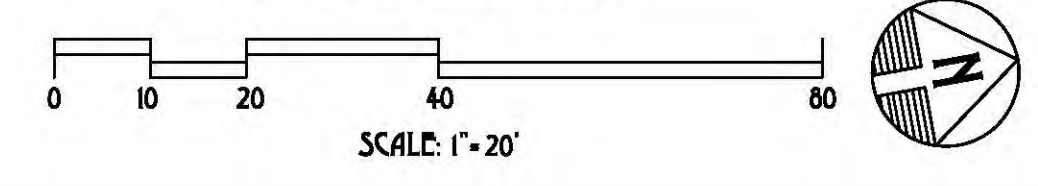
DATE: 7/28/2017
DESIGN: CSM
PROJECT: 16002

SHEET
2
OF 2 SHEETS

- DRAINAGE LEGEND**
-  WATERSHED BOUNDARY
 -  WATERSHED LABEL
 -  POINT OF CONCENTRATION
 -  SWALE #1
 -  STORM DRAIN #1
 -  OVERLAND FLOW DIRECTION



**POST-CONSTRUCTION
HYDROLOGY MAP**




**BEAR FLAG
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CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
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**POST-CONSTRUCTION
HYDROLOGY MAP
149 4TH STREET RESIDENCE**

149 4TH STREET EAST, SONOMA, CA
APN: 018-091-018

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 Zones¹ 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 be 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.

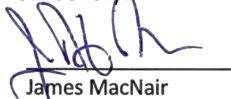
It is this author's opinion that this is an adequate and appropriate approach for replacement of the removed trees and to ensure future screening of the hillside residences.

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	<i>Pinus radiata</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Pinus radiata</i>	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	<i>Olea europaea</i>	Olive	2+4+4+5+6	10	15	12	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
6	<i>Quercus garryana</i>	Oregon Oak	10	10	22	14	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
7	<i>Quercus garryana</i>	Oregon Oak	14	14	35	25	4	3	Yes	1	1, 3, 4, 5, 6, 7, 8, 9	Not shown on plan.	4	?	
8	<i>Quercus douglasii</i>	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	<i>Quercus douglasii</i>	Blue Oak	16	16	35	24	4	3	Yes	3	2	Located within grading limits. Removal required.	4	RC	Yes
10	<i>Olea europaea</i>	Olive	4+12+10+10+5	20	30	18	4	3	Yes	3	2	Located within grading limits. Removal required.	5	RC	Yes
11	<i>Quercus douglasii</i>	Blue Oak	14	14	35	18	4	3	Yes	3	2	Located within grading limits. Removal required.	4	RC	Yes
12	<i>Quercus douglasii</i>	Blue Oak	5+5+6	9	12	10	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
13	<i>Quercus douglasii</i>	Blue Oak	12	12	35	18	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
14	<i>Quercus douglasii</i>	Blue Oak	10	10	30	12	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
15	<i>Quercus douglasii</i>	Blue Oak	10	10	15	12	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
16	<i>Quercus douglasii</i>	Blue Oak	12	12	30	18	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
17	<i>Quercus douglasii</i>	Blue Oak	20	20	40	18	4	3	Yes	3	2	Located within grading limits. Removal required.	5	RC	Yes
18	<i>Quercus douglasii</i>	Blue Oak	13	13	40	18	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
19	<i>Quercus douglasii</i>	Blue Oak	10	10	35	14	3	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
20	<i>Prunus dulcis</i>	Almond	10	10	30	12	2	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
21	<i>Quercus douglasii</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus douglasii</i>	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	<i>Olea europaea</i>	Olive	12	12	25	16	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
27	<i>Quercus douglasii</i>	Blue Oak	5+3	6	8	12	2	2	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
28	<i>Quercus douglasii</i>	Blue Oak	6	6	30	12	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
29	<i>Quercus agrifolia</i>	Coast Live Oak	6+4	7	22	12	2	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
30	<i>Quercus douglasii</i>	Blue Oak	6+9	11	21	15	3	3	Yes	3	3	Located within grading limits. Removal required.	3	RC	Yes
31	<i>Quercus douglasii</i>	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	<i>Quercus douglasii</i>	Blue Oak	6	6	25	14	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
33	<i>Quercus agrifolia</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus agrifolia</i>	Coast Live Oak	6+8	10	18	12	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
37	<i>Quercus douglasii</i>	Blue Oak	8+8	11	30	14	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
38	<i>Umbellularia californica</i>	California Bay	7	7	25	12	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
39	<i>Quercus douglasii</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus agrifolia</i>	Coast Live Oak	13	13	30	25	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
43	<i>Umbellularia californica</i>	California Bay	6	6	30	12	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
44	<i>Quercus agrifolia</i>	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	<i>Umbellularia californica</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus douglasii</i>	Blue Oak	6	6	25	14	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
49	<i>Quercus douglasii</i>	Blue Oak	6	6	30	16	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
50	<i>Quercus douglasii</i>	Blue Oak	7	7	30	16	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
51	<i>Quercus douglasii</i>	Blue Oak	6	6	22	16	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
52	<i>Quercus douglasii</i>	Blue Oak	7	7	30	15	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
53	<i>Quercus douglasii</i>	Blue Oak	7	7	30	15	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
54	<i>Quercus douglasii</i>	Blue Oak	6+8+12	16	35	20	3	2	Yes	3	2	Located within grading limits. Removal required.	4	RC	Yes
55	<i>Quercus douglasii</i>	Blue Oak	6	6	18	10	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
56	<i>Olea europaea</i>	Olive	4	4	20	10	4	3	Yes	3	2	Located within grading limits. Removal required.	1	RC	Yes
57	<i>Quercus agrifolia</i>	Coast Live Oak	9	9	21	12	3	2	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
58	<i>Quercus douglasii</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus agrifolia</i>	Coast Live Oak	8	8	20	10	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
137	<i>Quercus agrifolia</i>	Coast Live Oak	6	6	20	8	4	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
138	<i>Quercus agrifolia</i>	Coast Live Oak	4	4	14	5	4	3	Yes	3	2	Located within grading limits. Removal required.	1	RC	Yes
139	<i>Quercus agrifolia</i>	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	<i>Quercus lobata</i>	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	<i>Quercus agrifolia</i>	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	<i>Umbellularia californica</i>	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	<i>Quercus agrifolia</i>	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	<i>Olea europaea</i>	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

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?

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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Olea europaea</i>	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	<i>Quercus douglasii</i>	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	<i>Olea europaea</i>	Olive	5+10	11	30	14	3	3	Yes	3	2	Located in driveway grading limits. Removal required.	3	RC	Yes
95	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Olea europaea</i>	Olive	4x4	8	18	10	3	3	Yes	3	2	Located in driveway grading limits. Removal required.	2	RC	Yes
103	<i>Quercus agrifolia</i>	Coast Live Oak	12	12	18	18	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	3	RC	Yes
104	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Olea europaea</i>	Olive	6+4+2+2	8	16	14	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	2	RC	Yes
114	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	Coast Live Oak	8	8	35	14	4	3	Yes	3	2	Located in driveway grading limits. Removal required.	2	RC	Yes
125	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	Coast Live Oak	18	18	40	20	4	3	Yes	3	2	Located adjacent to driveway grading limits. Removal required.	5	RC	Yes
128	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Olea europaea</i>	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	<i>Quercus agrifolia</i>	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			
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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?
74	<i>Umbellularia californica</i>	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	<i>Umbellularia californica</i>	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	<i>Umbellularia californica</i>	California Bay	7	7	15	10	4	3	Yes	3	2	Located less than 5' driveway grading cut. Removal required.	2	RC	Yes
78	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	Coast Live Oak	12	12	25	18	4	3	Yes	3	2	Located within grading limits. Removal required.	3	RC	Yes
85	<i>Quercus agrifolia</i>	Coast Live Oak	14+15	21	30	18	4	3	Yes	3	2	Located within grading limits. Removal required.	5	RC	Yes
86	<i>Quercus agrifolia</i>	Coast Live Oak	24	24	40	28	4	3	Yes	3	2	Located within grading limits. Removal required.	6	RC	Yes
87	<i>Quercus agrifolia</i>	Coast Live Oak	12+12+6	18	20	20	3	3	Yes	3	2	Located within grading limits. Removal required.	5	RC	Yes
145	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Olea Europaea</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	Coast Live Oak	6	6	20	15	3	3	Yes	3	2	Located adjacent to grading limits. Removal required.	2	RC	Yes
160	<i>Quercus agrifolia</i>	Coast Live Oak	5+4+3	7	20	14	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
161	<i>Quercus agrifolia</i>	Coast Live Oak	6+6	8	12	18	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
162	<i>Quercus agrifolia</i>	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	<i>Aesculus californica</i>	California Buckeye	5	5	10	12	4	3	Yes	3	2	Located within grading limits. Removal required.	1	RC	Yes
164	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	Coast Live Oak	8	8	24	12	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
166	<i>Quercus agrifolia</i>	Coast Live Oak	5+7+9	17	10	10	3	3	Yes	3	2	Located within grading limits. Removal required.	4	RC	Yes
167	<i>Quercus agrifolia</i>	Coast Live Oak	6	6	10	12	3	3	Yes	3	2	Located within grading limits. Removal required.	2	RC	Yes
168	<i>Quercus agrifolia</i>	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	<i>Quercus douglasii</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Umbellularia californica</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus agrifolia</i>	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	<i>Quercus douglasii</i>	Blue Oak	3x12+14+14+15	32	30	20	3	3	Yes	3	2 (Removal)	Located in fill slope. Removal Required.	8	RC	Yes