CITY of CALABASAS

Community Development Department
Planning Division
100 Civic Center Way
Calabasas, CA 91302
T: 818.224.1600

www.cityofcalabasas.com

Notice of Preparation

TO: Property Owners, Responsible Agencies & Interested Parties

SUBJECT: **NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT.**

NOTICE IS HEREBY GIVEN that the City of Calabasas will be the Lead Agency and will prepare an Environmental Impact Report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The Project description, location and the probable environmental effects are contained in the attached materials. A copy of the Initial Study is attached.

A scoping meeting ☒ will, ☐ will not, be held by the lead agency. The City has voluntarily elected to host a scoping meeting, which will be held on **Thursday, June 12, 2014 at 7:00 p.m.** in Founder's Hall, located behind the public library at 200 Civic Center Way, Calabasas, California.

Your response must be sent at the earliest possible date, but **not later than 30 days** after receipt of this notice. Please send your response to Talyn Mirzakhanian at 100 Civic Center Way, Calabasas, CA, 91302 or via email at tmirzakhanian@cityofcalabasas.com. We will need the name of a contact person in your agency.

Project Title/File No.: 130000405

Project Location: 3121 Old Topanga Canyon Road (APN 2072-023-013), in the City of Calabasas, County of Los Angeles.

Project Sponsor: Hayne Architects, 22487 Pacific Coast Highway, Malibu, CA 90265

Project Description: The Project would consist of the construction of one single-family detached residence on a vacant, disturbed parcel located in the City of Calabasas, California, at 3121 Old Topanga Canyon Road. The Project will also involve selected vegetation removal, minor grading (less than 2500 CU. YDS.), slope stabilization, landscape installation, hardscape installation (including swimming pool and spa) or other site work necessary to complete the home construction. The Project will also include any off-site work required to extend infrastructure, such as potable water lines and electricity, to the site, any cleaning and repair of in-place drainage facilities, and any paving or re-paving of either the private driveway or Old Topanga Canyon Road required to either ensure adequate access or to repair a public or private street following installation of Project-associated infrastructure.

Consulting firm retained to prepare draft EIR:

Firm Name: Envicom Corporation

Address: 4165 E. Thousand Oaks Blvd. Suite 290, Westlake Village, CA 91362

Contact: Ms. Ellen Michiel

Date: May 30, 2014 **Signature:** 

Talyn Mirzakhanian

Title: Senior Planner

Phone: (818) 224-1712

3121 OLD TOPANGA CANYON ROAD RESIDENTIAL PROJECT
DRAFT INITIAL STUDY

Prepared for:

CITY OF CALABASAS
100 Civic Center Way
Calabasas, CA 91302
Contact: Ms. Talyn Mirzakhanian, Senior Planner
(818) 224-1600

Prepared by:

ENVICOM CORPORATION
4165 E. Thousand Oaks Blvd. Suite 290
Westlake Village, CA 91362
Contact: Ms. Ellen Michiel
(818) 879-4700

May 21, 2014

SECTION

FIGURES

APPENDICES

1.0 INTRODUCTION

The City of Calabasas, acting as Lead Agency, is conducting an Initial Study to determine whether the potential environmental impacts of a proposed single family residence, to be constructed at 3121 Old Topanga Canyon Road, City of Calabasas, require an Environmental Impact Report pursuant to the California Environmental Quality Act (CEQA) Statute and Guidelines. This Initial Study has been prepared pursuant to the CEQA Statute and Guidelines Section 15063(c)(3), to assist in that determination.

Section 15183 of the CEQA Guidelines mandates that projects that are consistent with the development density established by the existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific effects which are peculiar to the project or its site. This is intended to streamline the review of such projects and to reduce the need to prepare repetitive environmental studies. Impacts that are not peculiar to the parcel or project, that have been addressed in a prior certified EIR, or that can be substantially mitigated by the imposition of uniformly applied development policies or standards need not be discussed in any subsequent EIR. A function of this Initial Study is to help the City determine which potential effects of the Project can be addressed pursuant to Section 15183 (and to provide for mitigation measures pursuant to those standards and policies) and which effects may require further discussion in a focused EIR.

2.0 PROJECT DESCRIPTION

The Project would consist of the construction of one single-family detached residence on a vacant but disturbed parcel located in the City of Calabasas, California, at 3121 Old Topanga Road. Included in the definition of "Project" is any vegetation removal, grading, ground and slope stabilization, landscape installation, hardscape installation (including swimming pool and spa) or other work on the site necessary to complete the construction. The "Project" shall also be defined to include any off-site work required to extend infrastructure, such as potable water lines and electricity, to the site, any cleaning and repair of in-place drainage facilities, and any paving or re-paving of either the private driveway or Old Topanga Canyon Road required to either ensure adequate access or to repair a public or private street following installation of Project-associated infrastructure.

2.1 BACKGROUND

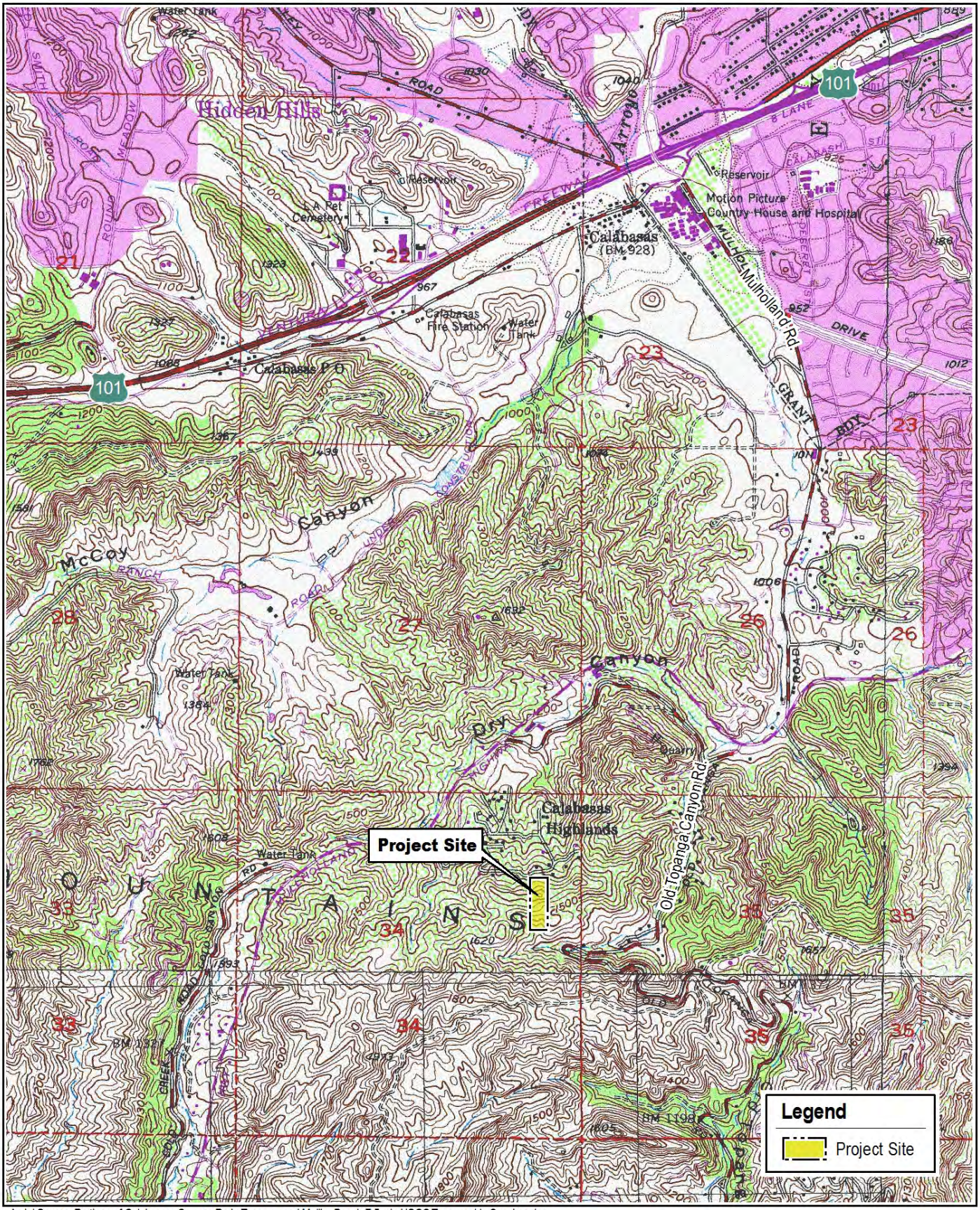
Prior to the incorporation of the City of Calabasas, the County of Los Angeles approved a subdivision of the area containing the Project site (Parcel Map No. 11026), approved a grading permit for a single-family residence on the Project site in 1991 and certified the graded pad. The grading permit also allowed construction of a driveway from Old Topanga Canyon Road, which provides access to the site. The proposed Project would be constructed on the existing certified building pad, although some additional grading would be required to accommodate a proposed basement level, swimming pool, patio and landscape. A regional site vicinity map is provided in **Figure 1** and an aerial view of the Project site is provided in **Figure 2**.

2.2 PROPOSED PROJECT

The Project site is a 5-acre parcel (APN 2072-023-013), with a net site area of 4.41 acres. This Project site is legally described as Parcel 1 of amended Parcel Map No. 11026, in the City of Calabasas, County of Los Angeles, State of California, as per Map recorded in Book 230 pages 55 through 57. This site is located within the NE quadrant of Section 34, Township 1.N., and Range 17.W of the USGS 7.5' Calabasas quadrangle (see Figure 1, Location Map). The Project site lies north of Old Topanga Canyon Road, approximately one mile south of Mulholland Highway. Each of the parcels in the recorded Map, including the Project site, is owned by a separate and independent entity.

The proposed single-family detached home is designed as a split-level structure with a single story elevation on the primary ridgeline as viewed from Old Topanga Road (north elevation) and a partial second story basement on the down slope portion of the site facing the Calabasas Highlands subdivision (south elevation). The structure's maximum building height is 25 feet as measured from the natural or finished grade, whichever is lower, at every point. The home contains approximately 7,633 square feet of habitable floor area. Accessory construction includes an attached three-car garage, outdoor swimming pool and related spa. Approximately 13,492 square feet of new landscaping is also proposed. The Project will provide on-site, off-street parking in the garage and on the driveway.

The Project will retain protected oak trees and is not expected to require removals of protected trees. Pervious paving material will be used to construct a Fire Department turnaround area at the terminus of the existing access driveway. The existing primary driveway would be extended to provide access to the attached garage.



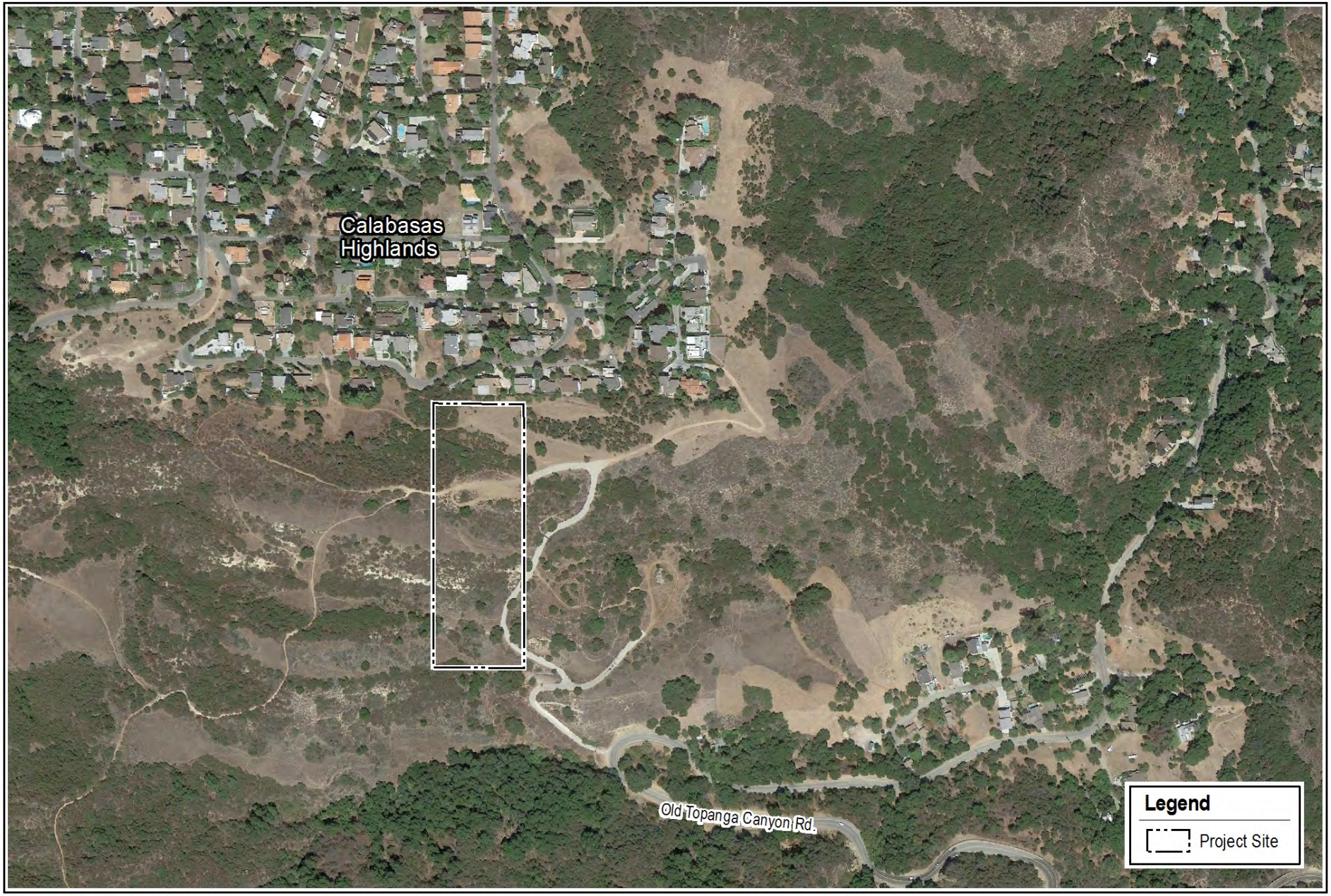
3121 OLD TOPANGA ROAD - INITIAL STUDY

ENVICOM CORPORATION

Regional Map

0 1,000 2,000 Feet

FIGURE 1



Source: GoogleEarth Pro, Aug. 27, 2012.

3121 OLD TOPANGA ROAD - INITIAL STUDY

ENVICOM CORPORATION

Vicinity Map

0 200 400 Feet

FIGURE 2

As the site is not served by municipal wastewater services, an on-site wastewater treatment system (OWTS) will be constructed.

The Project will require off-site improvements consisting of the extension of an existing potable waterline located within the Old Topanga Canyon Road right-of-way to provide potable water to the Project site. The water line will be extended within the existing private driveway to provide service to the proposed home. An erosion scar on the lot will be repaired in the course of site preparation. Repairs to the concrete drive will also take place and v-ditches will be cleaned and, where necessary, repaired.

The Project's landscaping plan is designed to provide visual screening of the structure from Old Topanga Canyon Road (a locally designated scenic drive and local historic landmark that is eligible for State landmark designation) as well from the Calabasas Highlands residential community. The landscaping plan would be consistent with City standards for residential landscape, with an emphasis on drought tolerant and fire resistant plant materials. The irrigation system will be designed pursuant to the water conservation standards of the Las Virgenes Municipal Water District. Fuel modification requirements will be implemented to create an adequate "defensible space" pursuant to the requirements of the Los Angeles County Fire Department. Portions of the fuel modification zones for the proposed home would overlap areas of existing fuel modification associated with the Calabasas Highlands community; however, fuel modification activity would not extend off-site into adjacent publically owned property.

2.3 ENVIRONMENTAL SETTING

The Project will be constructed on a lot that is characterized by steep hillside topography that slopes upwards and north from the southerly portion of the Project site. Building pad elevation ranges from approximately 1,595 feet above mean sea level (amsl) to 1,606 feet amsl. The lot's elevation varies from a low of 1,510 feet amsl to 1,610 feet amsl. The higher elevations of the site are located on a ridgeline that crosses the northern portion of the Project site. The 5-acre parcel is approximately 275 feet in width and 792 feet in length.

Adjacent land uses include the Calabasas Highlands residential community to the north, Parcels 2, 3, and 4 of Amended Parcel Map 11026 to the east and south, all of which may be developed with residential uses similar to the use proposed for the Project site. Dedicated publically-owned open space land, including property owned by the Santa Monica Mountains Conservancy, also abut the subdivision and the residential lot. Development in the general area consists of scattered rural residential uses on large lots with access from Old Topanga Road.

The Project site is currently vacant but heavily disturbed by an access driveway and a graded, certified building pad, built pursuant to a permit issued by Los Angeles County. The existing 20-foot wide access driveway is paved and provides access from Old Topanga Canyon Road. The driveway passes over and through the two adjacent parcels; however, as noted, these parcels are owned by others and are not part of this Project. The Project has a non-exclusive access easement over each of these adjacent parcels where the driveway crosses lot lines. In addition to the driveway, the Project site and adjacent parcels are improved with existing drainage facilities, including a v-ditch to collect and convey runoff from slopes graded for the driveway construction. An existing culvert, maintained by the City of Calabasas, conveys runoff flows from the Project site and adjacent parcels beneath Old Topanga Canyon Road, discharging into

an unnamed drainage to the south of the site, along Old Topanga Canyon Road, tributary to Dry Canyon Creek, which is tributary to the Arroyo Calabasas and the Los Angeles River.

Vegetation in the undisturbed portions of the site is predominately chaparral with patches of coastal sage scrub, and non-native grassland. The existing graded pad, however, is devoid of vegetation. No stream channels or jurisdictional wetlands are present on the Project site. Several protected coast live oak trees (Quercus agrifolia) are located within the site, as are scattered areas of scrub oaks (Quercus berberidifolia). Although no oak trees would be removed for this Project, some scrub oaks occur in areas that would be subject to fuel modification, which could include canopy thinning.

Portions of the Project site and adjacent private parcels are currently traversed by a number of unofficial hiking trails used by the public to link Old Topanga Canyon Road with the Santa Monica Mountains Conservancy land. The City's General Plan map of the Existing and Planned Trail System (Figure X-2 of the General Plan) shows this to be a non-official trail, with a mapped alignment that enters the site from public lands to the west, following the ridgeline through the project site to the existing concrete driveway, which is shown on the map as part of the trail, connecting to Old Topanga Canyon Road. The General Plan designates this unofficial trail, including the concrete driveway as "Trail – Existing Make Official".[1] Trail users currently access the concrete driveway portion of the unofficial trail from Old Topanga Canyon Road around a locked gate with no trespassing signs posted, or from the Calabasas Highlands, where a sign stipulates that, "permission to pass may be revoked by the owner at any time."

Figure X-2 of the General Plan also shows a "Proposed New Trail" alignment that would provide an alternate route for the existing unofficial trail; with a mapped alignment that would redirect trail users to the south, avoiding the proposed Project site and unofficial trail area. The "Proposed New Trail" alignment crosses the existing concrete driveway near Old Topanga Canyon Road, and continues east and north of the Project site extending towards Creekside Park.

The portion of Old Topanga Canyon Road from which the site is accessed is designated as a Scenic Corridor, as well as a Local Historic Landmark, with associated design guidelines and requirements.

2.4 DISCRETIONARY ACTIONS

Approval of the Project is within the purview of the City of Calabasas Planning Commission and is appealable to the City Council. The proposed Project would not trigger the need for a General Plan Amendment or a Zone Change. The following discretionary actions are required for the Project:

1. Site Plan Review
2. Variance
3. Scenic Corridor Permit
4. Oak Tree Permit

[1] City of Calabasas, 2030 General Plan, Figure X-2.

3.0 FINDINGS

The City of Calabasas finds, based on the Initial Study/Environmental Checklist and the accompanying discussion provided in Section 4, that the proposed Project would have no significant adverse effect on the environment in regard to the majority of the environmental impact issue areas listed in Appendix G of the CEQA Guidelines.

With the exception of three issue areas, the impacts associated with development of the Project have been determined to be either "Less Than Significant with Mitigation Incorporated", "Less Than Significant", or "No Impact". For issues that were determined to be "Less Than Significant with Mitigation Incorporated," mitigation measures consistent with the provisions of the CEQA Guidelines Section 15183 have been identified and included in the Initial Study that would reduce impacts to a less than significant level. These mitigation measures will be incorporated into a Mitigation Monitoring and Reporting Program (MMRP) that will be prepared for the Project.

As noted, the proposed Project is located on land zoned and General Plan designated as Hillside Mountainous, which permits 1 dwelling unit per legal lot. As the Project is in conformance with the development density established by an existing General Plan for which an EIR has been certified, and with its zoning, Section 15183 of the CEQA Guidelines mandates that the Project shall not require additional environmental review except as might be necessary to examine whether there are "project-specific significant effects" which are "peculiar to the project or its site." This Section of the CEQA Guidelines is consistent with Article VIII (Special Situations), Section 801 (Residential Projects Consistent with a Community Plan or Zoning) cited in the City's CEQA Local Implementation Guidelines. In such a case, the City's Guidelines require that the public agency limit its examination of environmental effects to those that the agency determines, in the Initial Study or other analysis:

1. Are peculiar to the project or the parcel on which the project would be located;
2. Were not analyzed as significant effects in a prior EIR on the zoning action, general plan or community plan, with which the project is consistent;
3. Are potentially significant off-site impacts and cumulative impacts, which were not discussed in the prior EIR prepared for the general plan, community plan, or zoning action; or
4. Are previously identified significant effects, which, as a result of substantial new information, which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR.

The City's CEQA Local Implementation Guidelines, Section 502, states that the Planning Director may require an EIR if: (a) it can be fairly argued on the basis of substantial evidence that the project may have a significant effect on the environment; or (2) there is serious public controversy concerning the environmental effects of a project; or (3) there is or it can be anticipated that there will be a substantial body of opinion that considers or will consider a project to have adverse environmental effects.

In the course of pre-development consultation with local agencies, the City was made aware of certain issues "peculiar to the project or the parcel on which the project would be located" consistent with the provisions of Section 15183 (i.e., potential effects that do not appear to be addressed adequately by uniformly applied development policies or standards such as public

access requirements, grading ordinances, hillside development ordinances, view protection ordinances, etc.). In a letter received from the Santa Monica Mountains Conservancy the issue of the location of the proposed residence on a designated "significant ridgeline" was raised as was the structure's potential impacts on a scenic corridor. The Conservancy also stated its concern regarding the potential effects of the Project on development of the General Plan trail program and the potential growth-inducing effects associated with the extension of a water line to the Project site.

In response to these comments, and consistent with its policies as expressed in the City of Calabasas CEQA – Local Implementation Guidelines and the previously cited State CEQA Guidelines, the City as Lead Agency has prepared this Initial Study (IS). The IS has identified three areas where potentially significant impacts potentially subject to public controversy and that are peculiar to the project site require further study to fully define the significance of the Project's potential effects and to determine whether site-specific mitigation measures that exceed common policy and standards are available that would reduce these potential impacts to a less than significant level. These issues fall under the topical headings Aesthetics (ridgeline development and impacts to the Old Topanga Canyon Road view corridor), Biological Resources (potential impacts to scrub oak and other sensitive species due to Project landscape plans and fuel modification activity), and Recreation (impacts to proposed trail alignments). In addition, the FEIR will address Mandatory Findings.

To ensure an appropriate level of review, the City has determined that it will prepare a focused EIR to address those potential impacts, that are considered "peculiar to the Project" based on its location, and which may have a more significant effect than was assessed in the General Plan FEIR.

4.0 INITIAL STUDY

City of Calabasas Planning Commission

CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL STUDY AND CHECKLIST

1. Project title:
3121 Old Topanga Canyon Road Residential Project

2. Lead agency name and address:
City of Calabasas
100 Civic Center Way
Calabasas, CA 91302

3. Contact person and phone number:
Ms. Talyn Mirzakhanian, Senior Planner
(818) 224-1600

4. Project location:
3121 Old Topanga Canyon Road
Calabasas, California

Lot 1 of Amended PM 11026

5. Project sponsor's name and address:
Broadway Trust
224 South Hamilton Dr #203
Beverly Hills, CA 90211
Anthony Carroll trustee

6. General plan designation:
Hillside Mountainous

7. Zoning:
Hillside/Mountainous

8. Description of Project:
The Project would consist of the construction of a single-family detached residence, landscape and ancillary facilities on a vacant, disturbed legal parcel that is part of a subdivision previously approved by the County of Los Angeles in 1991 and which has been graded for the intended purpose pursuant to a grading permit issued by the County of Los Angeles, which also certified the pad. Pursuant to County's approvals granted in the same action, a driveway was constructed to access the site from Old Topanga Canyon Road. The proposed Project would be constructed on the existing certified building pad and would be accessed via the existing driveway.

The single-family home proposed is a split-level building with a partial basement built into the down slope portion of the lot, with a maximum height of 25 feet measured from natural or finished grade, whichever is lower, at every point, and would contain approximately 7,633 square feet of habitable floor area. The home will also include a 3-car attached garage, swimming pool and spa. Approximately 13,492 square feet of new landscaping is also proposed. The Project will retain all protected oak trees on the site. A pervious paving material will be used to construct a fire department turnaround area at the terminus of the existing access driveway that would also serve the garage. As the site is not served by municipal wastewater services, a modern on-site wastewater treatment system (OWTS) will be constructed on site. An existing erosion scar would be repaired through the removal of loose material and the recompaction of soil to stabilize the slope. Additional grading, including cut and fill, may be required to reconstruct portions of the existing certified pad to support the proposed structure as designed.

The Project would require off-site improvements consisting of the extension of an existing potable waterline within the Old Topanga Canyon Road right-of-way to serve the project, as well as repairs to the existing private concrete driveway and installation of utility lines to serve the project site.

9. Surrounding land uses and setting:

Adjacent land uses include the Calabasas Highlands residential community to the north, publically-owned open space lands to the west, privately owned subdivided residential lots that are currently undeveloped to the east and privately owned, undeveloped land abutting Old Topanga Canyon Road to the south. The existing driveway that would serve the proposed project crosses the adjacent parcels to the east and south, for which a non-exclusive easement is in place to allow access to the Project site. Additional development in the area consists of scattered rural residential development along Old Topanga Canyon Road.

The Project site is characterized by hillside topography that slopes upwards from the southerly portion of the project site to the northerly portion, at elevations ranging from approximately 1,510 to 1,610 feet above mean sea level. The higher elevations of the site are located on a significant ridgeline that crosses the northerly portion of the project site. The 5-acre parcel is approximately 275 feet in width and 792 feet in length.

The Project site is a currently vacant residential lot that has been heavily disturbed by the construction of an access driveway and graded, certified building pad. The private property has been subject to trespass by individuals using the driveway and other portions of the private site as informal trails to access nearby public trails.

The portion of Old Topanga Canyon Road from which the site is accessed is designated as a local Scenic Corridor, as well as a Local Historic Landmark, with associated design guidelines and requirements.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.):
There are no federally regulated waters of the U.S. or state regulated streambed or riparian habitats on the project site requiring permitting by public agencies.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

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

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

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

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

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project. Therefore, an EIR Addendum will be prepared.

Signature

5-29-14
Date

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

a-b. The Project would consist of the construction of a single-family residence on an existing pad that was graded with approval by Los Angeles County prior to the incorporation of the City of Calabasas. The site was also disturbed by vegetation clearance and the construction of a private driveway from Old Topanga Canton Road to the Project site and by v-ditch drainage improvements associated with site grading. Subsequent to the County-approved construction, the City identified the Project site a significant ridgeline in its General Plan; however, this portion of the ridgeline has been altered prior to the City's ridgeline designation, and the site no longer presents a natural contour or vegetated cover.

The City has designated Old Topanga Canyon Road as a Scenic Corridor and Local Historic Landmark in the vicinity of the Project site; the southeast corner of which lies within the Scenic Corridor buffer that extends from the roadway. This issue is discussed further under Cultural Resources, below.

The City's Development Code Section 17.20.150 (Hillside and Ridgeline Development) includes ridgeline standards and states that structures should not be placed on or near ridgelines in such a way that they appear silhouetted against the sky when viewed from any point on a roadway designated as a scenic corridor, and should be located at least 50 vertical feet and 50 horizontal feet from the ridgeline. The Code allows exceptions to these ridgeline development restrictions in cases where parcel size or other constraints require the placement of a building within the restricted area. In such cases, the structure shall be located where it will minimize its visual impact when viewed from adjacent properties and scenic corridors.

The proposed residential structure would be constructed on an existing graded pad; although some additional grading would be required to permit construction of the Project. By using the existing graded pad, previously cleared of vegetation during the initial site grading, the Project would avoid many areas of undisturbed vegetation within the site. With requirements regarding the materials used, the placement and type of landscaping, restrictions on exterior lighting, height restrictions and other mitigation measures, and with a thorough examination of the Project's visual effects through the use of visual simulations, it may be possible to demonstrate that the Project's construction on the ridgeline would satisfy the intent of the exceptions granted

pursuant to the City's Development Code. This issue will be explored in more detail in the Project's EIR.

b. Since the proposed Project will be located on a designated significant ridgeline it may be visible from a designated scenic corridor. In this case, however, prior grading has significantly modified the ridgeline's natural contours. The site is also devoid of most vegetation within and adjacent to the graded pad. Accordingly, this specific site may qualify for an exception from the City's Development Code as described in the foregoing analysis. The structure could be constructed in a manner that will not result in adverse impacts to the views available from the Old Topanga Canyon Road scenic corridor through the imposition of mitigation measures on design, building height, materials, and landscaping. Visual simulations will be used to assess potential impacts on the Old Topanga Canyon Road scenic corridor in the Project's EIR.

c. The Project would construct a single-family residence on a low-density lot that is designated for such land use in the City's General Plan Land Use map and Zoning map. The proposed residence would be constructed on an existing graded pad, and accessed by an existing driveway. Single-family detached residential units occupy large lots in the vicinity of the Project site. A single-family residential subdivision, constructed at a much higher density is located immediately to the north of the Project site and shares a boundary with it. A substantial portion of the 5-acre Project site would remain largely undisturbed or would be repaired to eliminate an unsightly erosion scar that mars the hillside. For these reasons, the proposed Project appears to be consistent with surrounding development. As noted previously, mitigation measures could be imposed that could increase the Project's compatibility with surrounding residential uses while blending with nearby open space so as not to degrade the existing visual character of the area. This issue will be further explored in the Project's EIR.

d. The Project would introduce light for indoor and outdoor safety and security generally associated with residential use. As the site is presently vacant, this would represent a new light source; however, the Project's lighting would be consistent with the City's lighting Code and with residential lighting produced by similar uses in the immediate Project vicinity. Light generally associated with single-family residential units is produced by low intensity fixtures that are wall-mounted or at ground level when used outdoors and are rarely intrusive.

Glare is defined as a harsh uncomfortably bright light, and can be either direct from a light source, or indirect from reflected light. The reflection of light from smooth surfaces such as window glass may be perceived as glare. However, glare may be mitigated through the use of landscape that covers or reduces exposure of reflective surfaces to sunlight. It may also be mitigated by glass coatings and by use of non-reflective surfaces. The proposed Project is a single-family home with a low profile and the majority of surfaces are low-reflective or non-reflective earth-toned stucco, rock fascia, clay roof tile and natural wood finishes. Glare from reflective window surfaces would be reduced to a less than significant level through the use of overhanging eaves, orientation away from roadways, and the effects of site topography. With appropriate mitigation measures incorporated into the Project design, the Project's potential light and glare impacts could be mitigated to a less than significant level. Specific mitigation measures will be identified in the Project's EIR.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
II.	**AGRICULTURAL RESOURCES**. Would the project:				
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b.	Conflict the existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	☒
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e.	Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forestland to non-forest use?	☐	☐	☐	☒

a-e. The California Department of Conservation Farmland Mapping and Monitoring Program map of Los Angeles County Important Farmland 2010 designates the project site as Other Land, which indicates that the project site is not located on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). Lands designated as Other Land include low-density rural developments, brush, and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities. The land is not under a Williamson Act contract and there are no General Plan or Zoning designations that apply to lands within the City that would support farming. The Project site does not contain forestland or forestry resources. The Project would not result in conversion of Farmland to non-agricultural use or conversion of forestland to non-forest use. **No Impact** would occur with respect to Agricultural and Forest Land Resources.

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

a.-c. Residential projects do not directly relate to the Air Quality Management Plan (AQMP) as there are no specific air quality programs or regulations governing general development. As the AQMP is based upon the expected overall level of development in the region, a project that is in conformance with a jurisdiction's adopted plans, forecasts and programs and consistent with population, housing, employment and land use plans and forecasts, would not conflict with the local AQMP. The proposed Project is an allowable use under the City's General Plan and Zoning designations, and would introduce one single-family residence, already accounted for in the City's population and land use projections. Therefore, the Project would not conflict with or obstruct implementation of the AQMP, and **no impact** would occur.

d. The proposed single-family home would not generate emissions of criteria pollutants in quantities that would substantially contribute to existing or projected air quality violations, or make a cumulatively considerable contribution to any existing or projected violations. As the Project would be constructed on an existing graded pad with an existing driveway, construction period air pollutant emissions generally attributed to earthmoving activities would be reduced below ordinarily anticipated thresholds. All construction equipment would be required to comply with current standards and City Code requirements, which would reduce construction-phase emissions to a **Less than Significant** level. The Project's operational phase would have **No Impact.**

e. The Project would include an on-site septic system for wastewater treatment that would be installed and maintained as permitted and is designed to prevent odors. The nearest potentially sensitive receptors for objectionable odors would be single-family residences approximately 250 feet south of the Project site. Odors associated with the septic system are possible and would be associated with a system failure or maintenance requirement. Since a new system would be installed and regularly maintained, system-related odors would be infrequent and at sufficient distance from any sensitive receptor to be unobjectionable. The Project would have **No Impact** with respect to odors.

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

a. A Biological Resources Inventory and Impact Assessment report dated November 18, 2013 was prepared for the Project site and updated in April, 2014.

Four plant species that the California Native Plan Society (CNPS) strongly recommends be evaluated during preparation of environmental documents due to limited distribution were determined to have low potential to occur at the site and none were identified during site surveys. Based on the intensity, timing, and negative results of the field surveys of the site, these species are likely absent from this site.

Most special-status wildlife species that may potentially occur at the site are capable of escaping harm during project development, including grading and construction, or fuel modification. Special-status species that could be directly impacted include potentially occurring land dwelling animals, including the coast horned lizard and San Diego desert woodrat.

Habitat loss associated with the Project is not expected to significantly impact a population of a potentially occurring special-status wildlife species, given the relatively low acreage of habitat that would be affected and the amount of remaining suitable habitat in the surrounding area; however, this issue will be reviewed in detail in the Project's EIR.

b. The Project's Biological Resources Inventory and Impact Assessment reported that a total of 0.09 acres of California brittlebush shrub land (Encelia californica), a CDFW Natural Community of Special Concern, would be impacted by the proposed Project. Impacts would result from grading to repair an erosion scar on the property, and required fuel modification of areas within 200 feet of proposed structures. Other minor areas of impact to this community would occur from installation of a fire hydrant, landscaping, and cleaning/repair of the existing concrete v-ditch. The Biological Impact Assessment identified a mitigation measure requiring replacement of impacted California brittlebush shrub land at a 2:1 ratio to reduce these impacts, provided the ratio is acceptable to any agency with jurisdiction over the resource. The issue will be discussed in greater detail in the Project's EIR.

The Project could also impact scrub oak habitat (Quercus berberifolia), which is protected by the City of Calabasas Oak Tree Ordinance (Section 17.32 of the Calabasas Municipal Code). A total of 0.21 acres of scrub oak habitat could be removed by grading in the residential footprint, and an additional 0.002 acres of scrub oak habitat could be removed by excavation to repair the onsite erosion scar. Fuel modification vegetation thinning could alter a total of 0.85 acres of scrub oak habitat, within a 200-foot distance from proposed structures. Of the 0.85 gross acres of scrub oak habitat that would be impacted by fuel modification, 0.34 acres are currently subject to fuel thinning to protect residences at the Calabasas Highlands, for a net increase of 0.51 acres of altered scrub oak habitat due to fuel modification activity on the Project site.

Removal or alteration by development activities of scrub oak habitat requires an Oak Tree Permit issued by the City. Also, pruning of scrub oak habitat to meet City fuel modification requirements requires an Oak Tree Permit. Therefore, the Applicant shall be required to comply with the conditions of any Oak Tree Permits obtained from the City prior to removal, alteration, or disturbance of scrub oak habitat. In addition to compliance with the City's Oak Tree Permit, mitigation has been identified that would require protection and monitoring of scrub oak habitat to be preserved adjacent to project construction areas, and replacement of permanently removed scrub oak habitat at a 1:1 ratio to reduce these impacts. Additional mitigation would be achieved by revisions to the Project's landscape plans to remove ornamental landscape from areas occupied by scrub oak identified in the field. A revised landscape plan must be submitted and the Project's Oak Tree Report must be revised and updated.

Implementation of mitigation measures to replace impacted California brittlebush shrub land and scrub oak habitat will be evaluated in the Project's EIR to determine whether they would be sufficient to reduce potential impacts to less than significant level.

c. There are no federally regulated waters of the U.S., or State regulated streambed or riparian habitats within the Project site. The Project site is located in a sub-watershed of the Dry Canyon watershed, which is tributary to the Los Angeles River. There are no wetlands or jurisdictional habitat on the Project site; however, jurisdictional habitat may be located in proximity to the site. The Biological Assessment did not identify any actions planned in connection with the development of the site that would result in direct removal, filling, or hydrological interruption of these resources. Protection of any resources potentially subject to

indirect impacts during the Project's construction or in the course of off-site installation of infrastructure in Old Topanga Canyon Road will be required if determined necessary by the Project's Biologist or the City. The issue will be discussed in greater detail in the Project's EIR.

d. The following documents have been reviewed by the Project's Biologist to determine whether the Project site is within an area that has been identified as important to wildlife movement, such as a regional-scale habitat linkage or a wildlife movement corridor:

- City of Calabasas 2030 General Plan
- Santa Monica Mountains National Recreation Area Land Protection Plan (NPS, March 1998)
- South Coast Missing Linkages Project: A Linkage Design for the Santa Monica Mountains-Sierra Madre Connection (Penrod, K. et. al., 2006)
- California Essential Connectivity Project: A Strategy for Conserving a Connected California (Spencer et al., February 2010)

The Project site was evaluated in the field as well, to determine its potential importance to wildlife movement within the region. Portions of the Project site located below the ridgeline are undisturbed by existing fuel modification activities and human trespass and contain sufficient vegetative cover to provide suitable habitat for many species; however, neither the Project site as a whole, nor the building site on the ridgeline, have any demonstrated importance to wildlife movement. The site is not situated within a bottleneck of habitat between larger areas of core suitable habitat, it does not contain an important wildlife crossing, and it is not necessary for wildlife to pass through the site to access essential resources for water, foraging, breeding, or cover. The Project site is situated within an area that is still largely rural and surrounded by extensive areas of permanently undisturbed native habitats of the Santa Monica Mountains, which provide more desirable wildlife movement corridors and habitat patches identified at the north end of Dry Canyon. Accordingly, the Biological Assessment concluded that development of the site would not impede wildlife movement through the region. This issue will be discussed in greater detail in the Project's EIR.

e. An Oak Tree Report was prepared for the project by L. Newman Design Group, Inc, revised August 15, 2013 and reviewed by certified arborists from the Davey Resource Group October 17, 2013. The Oak Tree Report and subsequent review concluded that the project would not remove any protected oak trees from the site; however, some root protection zone encroachments would occur. The current Oak Tree Report located a total of twenty-five (25) protected trees could experience encroachment into the drip line or protected zone as a result of the proposed on-site and off-site improvements. Off-site encroachments are generally related to excavation of a trench for the installation of the waterline within Old Topanga Canyon Road to serve the Project. The Project would be required to obtain appropriate permits and observe requirements regarding monitoring and treatment during the construction period.

Based on field surveys conducted by Envicom Corporation biologists in 2014, scrub oaks occur in the area of the proposed residence, and may be impacted by the Project or have canopies thinned for fuel modification. A total of 1.06 acres of scrub oak habitat (Quercus berberifolia) could be impacted by the proposed project as a result of fuel modification and proposed landscaping.

Based on additional site review, the Biologist has recommended that the Applicant revise its landscape plan to avoid areas currently occupied by scrub oak. In addition, the Oak Tree Report should be fully updated.

By City Ordinance, removal or alteration of scrub oak habitat by development activities requires an Oak Tree Permit issued by the City. The Applicant would be required to comply with permit conditions, including the placement of exclusionary fencing and on-site or off-site replacement in kind. The Project's EIR will review the revised landscape plan and updated Oak Tree report and other documentation and discuss in detail what is required for the Project to conform to the City's ordinances and plans.

f. As there is no habitat conservation plan that applies to the site, the project would have **no impact** in regard to this issue.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES:** Would the project:				
a.	Cause a substantial adverse change in significance of a historical resource as defined in CEQA Section 15064.5?	☐	☐	☒	☐
b.	Cause a substantial adverse change in significance of an archaeological resource pursuant to CEQA Section 15064.5?	☐	☒	☐	☐
c.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d.	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

a. The Project site is vacant but has been disturbed by the construction of a concrete driveway, v-ditch drainage structures, and a graded building pad. There are no historic structures on the property or adjacent properties. A Cultural Resources Inventory and Impact Assessment for the Project site, conducted on March 31, 2014, indicated that the City of Calabasas is in the process of completing National Register documentation for Old Topanga Canyon Road, which lies immediately to the east of the project location and will provide access to the site. Therefore, Old Topanga Canyon Road was evaluated as a historic resource. The project would result in trenching and installation of the proposed water line within Old Topanga Canyon Road, from its current terminus within the right-of-way to the existing driveway at the site entrance, where it will be extended up the driveway to serve the Project. Project activities to install the waterline will not impact the integrity of the road as a cultural resource, nor will this Project result in any alteration of the historic landscape adjacent to the road. Impacts related to historic resources would be **less than significant**.

b. A cultural resource literature review and records search at the City of Calabasas on Tuesday, March 18th, 2014, as well as a field survey of the site, and a search of the Native American Heritage Council (NAHC) database indicated that the site and near vicinity does not contain cultural resources that have been previously identified. No such resources were readily observed on the surface. The Project as designed is unlikely to encounter undisturbed pre-

modern native soils where cultural resources may be found; however, if such soils are encountered, the following mitigation measures will be required and will reduce impacts to a less than significant level:

CULTURAL RESOURCES MITIGATION MEASURE: A qualified archaeologist shall monitor construction until recent historic fill or modern natural sterile layers are again encountered. In the event that cultural resources are exposed during Project-related activities, construction activities shall be halted immediately. An archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards (National Park Service 1983) shall be retained to evaluate the finds' significance under CEQA.

c. The potential for paleontological resources to be found during grading or trenching on or in the vicinity of the site is moderate to high based on the findings of prior surveys of nearby areas with similar geologic characteristics. With the exception of trenching for the proposed water line, the depth of excavation planned for the Project does not appear to be sufficient to uncover new paleontological resources, based on the depth of prior finds. The Project as designed is unlikely to encounter undisturbed pre-modern native soils where paleontological resources may be found; however, if such soils are encountered, the following mitigation measures will be required and will reduce impacts to a less than significant level.

PALEONTOLOGICAL RESOURCES MITIGATION MEASURE: A qualified paleontologist shall monitor trenching in Old Topanga Road, along the concrete driveway, and any excavation on the Project site until recent historic fill or modern natural sterile layers are encountered. In the event that paleontological resources are exposed during Project-related activities, construction activities shall be halted immediately and a paleontologist shall evaluate the finds' significance under CEQA.

d. The Project as described is unlikely to encounter human remains, however, in the event that human remains are uncovered in the course of grading and excavation, the following mitigation measures shall reduce the potential impact to a less than significant level.

HUMAN REMAINS MITIGATION MEASURE: If human remains are uncovered, the County Coroner must be notified and, if the remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) must be notified and permitted to identify the Most Likely Descendant (MLD). The treatment of the remains and associated funerary items will be coordinated between the MLD and the landowner or the landowner's authorized representative per the requirements of Public Resources Code Section 5097.98, and archaeological consultant. All non-funerary materials recovered from this property must be curated in a federally recognized repository.

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

a. i. There are no known active or potentially active faults on the Project site. The site is not located within an Alquist-Priolo Earthquake Fault Zone as defined by the State Geologist. The potential for ground rupture due to faulting on site is **less than significant**.

a. ii. The Project site is located in southern California and in common with the rest of the region is subject to periodic seismic activity. State and local building codes have been developed that incorporate specific requirements for grading, pad construction, slope stabilization, foundations, and other features designed to reduce impacts associated with seismic events, including strong ground shaking, to a **less than significant** level.

An Updated Soils and Engineering Report for this Project, dated June 17, 2013, concluded that the site is considered to be suitable from a soils engineering and geologic standpoint for construction of the proposed residence, swimming pool, and associated retaining walls, provided recommendations included in the updated report, and those in previous soils reports for the site that were not superseded by the latest update, are followed and integrated into final

foundation and building plans. Adherence to the recommendations contained in the Updated Soils and Engineering Report and constructing the Project pursuant to the City's adopted Building Code, would ensure that impacts associated with strong ground movement would be reduced to a **less than significant** level.

a. iii-iv. The California Department of Conservation Seismic Hazard Zones for the Calabasas Quadrangle (1998) indicates that the site does not contain areas where geological, geotechnical, or groundwater conditions indicate a potential for liquefaction that would require mitigation. The Project's development pad is not located in an area with potential for earthquake-induced landslides. A small portion of the lot, located downslope and to the south of the proposed home site is subject to landslide risk as shown on the State's Seismic Hazard Zones Map. The proposed home would be constructed on an existing certified building pad. The pad would be subject to remedial work if identified by the Project's geotechnical engineer to bring the pad up to current building code standards and would be constructed to address any potential geologic hazard issues. The proposed placement of the home would result in **less than significant** impacts associated with landslide and soil instability.

b. The Project would be constructed on an existing certified building pad and would be served by an existing driveway; however, additional grading, including remedial grading, and excavation for utility trenches, septic system installation and pool installation will be required. Therefore, there would be potential for erosion to occur during the construction phase of the Project. Erosion control BMPs would be required by the City pursuant its building codes, including protection of any nearby watercourses or other vulnerable resources.

The Project would include the repair of an existing erosion scar within the Project site on the slope to the southwest of the proposed home site, which would be a beneficial impact. Compliance with existing code requirements including the installation and maintenance of erosion control BMPs would reduce impacts associated with erosion to a **less than significant** level.

c-d. An Updated Soils and Engineering Report for this Project, dated June 17, 2013, concluded that the site is considered to be suitable from a soils engineering and geologic standpoint for construction of the proposed residence, swimming pool, and associated retaining walls, provided recommendations included in the updated report, and those in previous soils reports for the site that were not superseded by the latest update, are followed and integrated into final foundation and building plans. No evidence of expansive soils is contained in the reports and the site is not subject to landslide, lateral spreading, subsidence, liquefaction, or collapse. Construction pursuant to the City's building code and grading code will be sufficient to ensure that impacts associated with geologic stability would be **less than significant**.

e. The Project would include installation of an on-site wastewater treatment system with seepage pits rather than leach lines. A Seepage Pit Percolation Investigation report, dated September 19, 2005, has indicated that this design is preferable. Subsequent reports have been provided as reviews and addendums to the 2005 report, including a July 25, 2013 Update and Addendum Letter that concluded the subject property is considered a suitable site for the proposed wastewater treatment system from a geologic standpoint. The proposed seepage pits as designed per recommendations of the various system studies and reports for the Project site and will be protected from any hazards associated with landslide, settlement or slippage. The

wastewater treatment system would not have an adverse effect on the geologic stability of the property either onsite or outside of the building site. This impact would be **less than significant**.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
VII.	**GREENHOUSE GAS EMISSIONS.** Would the project:				
a.	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b.	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

a-b. The proposed single-family home would not generate greenhouse gas emissions from either stationary or mobile sources in quantities that would make a substantial contribution to regional emissions either directly or indirectly. The Project would not exceed regional growth projections and would be constructed in accordance with mandatory Green Building Code requirements and would not conflict with adopted plans for reducing greenhouse gas emissions. The Project would have a **less than significant** impact regarding greenhouse gas emissions.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☒
b.	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☒
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d.	Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for	☐	☐	☐	☒

	people residing or working in the project area?				
f.	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for the people residing or working in the area?	☐	☐	☐	☒
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h.	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☒	☐	☐

a-b. The Project would consist of a single-family residence and would not be used for the routine transport, use, or disposal of hazardous materials. Common household items such as cleaning products and chemicals for swimming pool maintenance would likely be used at the residence, but not in quantities that would pose a significant hazard to the public or environment. The Project would not create a significant hazard through the reasonably foreseeable upset or accident conditions involving the release of hazardous materials.

c-d. The Project is not located within one-quarter mile of a school and is located on a vacant site that has not been used for storage or use of hazardous materials and is not listed as a hazardous materials site.

e-f. The project is not located within an airport land use plan and is not within the vicinity of an airport or private airstrip.

g. The project would develop a single residence that would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

h. The Project is located within the City of Calabasas, and is in a high fire hazard zone. The residence would be constructed in conformance with Los Angeles County Fire Department requirements for providing adequate emergency vehicle access, fire hydrant water pressure, and defensible space around the home perimeter through fuel modification achieved through vegetation clearance and thinning around all structures and the use of fire resistant vegetation as part of the home's ornamental landscape. As required by the building code, the home would be equipped with an interior sprinkler system, would have fire resistant roofing materials, boxed eaves, and would avoid the use of highly flammable exterior building materials. No home built in a high fire hazard area can completely mitigate risk from wildland fire; however, compliance with building code requirements adapted for high fire hazard areas and a maintenance of defensible space pursuant to Fire Department regulations will provide the maximum level of mitigation feasible and reduce impacts associated with wildland/urban interface to a less than significant level consistent with existing codes.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the proposal result in:				
a.	Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b.	Substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned land uses for which permits have been granted)?	☐	☐	☐	☒
c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off site?	☐	☐	☒	☐
e.	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f.	Otherwise substantially degrade water quality?	☐	☐	☐	☒
g.	Place housing within a 100-year flood plain as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h.	Place within a 100-year flood plain structures, which would impede or redirect flood flows?	☐	☐	☐	☒
i.	Expose people or structures to a significant risk of loss, inquiry or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j.	Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

a. During construction, sediment and erosion Best Management Practices (BMPs) will be used to minimize sediment transport off the site. The Project would not be served by a municipal wastewater system and will develop an on-site wastewater treatment system with seepage pits designed on the basis of percolation testing of the soil and substrate, which will provide adequate filtration. The on-site wastewater treatment system will be required to conform to all existing regulations regarding the placement and maintenance of such systems and would result in a **less than significant impact** on water quality.

b. Potable water will be provided by the Las Virgenes Municipal Water District (LVMWD), which obtains its water supplies from imported sources. Accordingly, the Project would have no impact on groundwater supplies.

c-d. There are no streams on the Project site; however the site is located within a sub-drainage of the Dry Canyon watershed, which contributes to the Los Angeles River. The project would result in minor alteration of the existing drainage pattern of the site once a home is constructed over the existing graded pad and both hardscape and driveways are installed. An existing drainage system, previously constructed, would continue to direct site runoff towards Old Topanga Canyon Road and recommendations are contained in the site's Geotechnical Report for the installation of sub-drains below the swimming pool. The proposed drainage improvements, including repair of the concrete driveway and the cleaning and continued maintenance of v-ditches previously installed, together with the use of pervious paving to construct a turnaround area for emergency vehicles on the project site and a driveway to the home's garage, would allow infiltration of stormwater and minimize potential erosion or siltation impacts to downstream drainages. Compliance with existing building codes and the recommendations of the Project's geotechnical report and hydrology and drainage plans pursuant to existing City codes would adequately mitigate any impacts associated with alteration of existing drainage patterns and would maintain storm flows from the site at their existing levels. The repair of an existing erosion scar would be a **beneficial effect**.

e. A Conceptual Hydrology and Hydraulic Report for the project site, dated October 8, 2013, was prepared to provide hydrology calculations to determine the adequacy of the existing drainage devices on the site. The drainage system was evaluated for design and capacity to provide adequate protection from storm water for the project site as well as neighboring properties and those downstream. The analysis was based on a 50-yr frequency storm event with burnt and bulked conditions for the natural areas, and a 25-yr frequency storm event for the developed portion of the site without bulking. The report concluded that the existing drainage facilities have been adequately sized and, with Project-related repair work to clean out concrete v-ditches and repair an existing erosion scar, runoff water from the site would not exceed the capacity of existing stormwater drainage system or provide substantial additional sources of polluted runoff. This impact would be **less than significant**.

f-j. The Project would develop a single-family residence. Neither construction nor operation of the Project would substantially degrade water quality. Repair of an erosion scar, which is a part of the Project, would reduce sediment runoff from the site. The site is not mapped on a Flood Hazard Boundary or Flood Insurance Rate Map and would not place housing or structures within a flood plain or an inundation zone subject to dam or levee failure. The Project site is not located downslope from any water storage structures subject to seiche conditions, is not located in a tsunami hazard area, and would not be subject to mudflows, as no slopes in the vicinity would rise above the elevation of the proposed home. The Project would have **no impact** regarding these issues.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
X.	**LAND USE AND PLANNING**. Would the project:				
a.	Physically divide an established community?	☐	☐	☐	☒
b.	Conflict with applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐
c.	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

a. The Project site is located on a vacant residential lot in the City of Calabasas. Portions of the site are used informally by nearby residents and others as a hiking trail; however the trail utilizes the concrete driveway leading from Old Topanga Canyon Road and crosses the site well below the ridgeline. No existing development located in the immediate proximity of the Project site has a street connection to the site. Therefore, the Project would not divide an established community.

b. The Project would be consistent with the City's zoning and land use plan designation, and would be consistent with the General Plan, with the potential exception of policies concerning the significant ridgeline that exists on the site. Although the Project site does occupy a significant ridgeline, design features such as placing the home on an existing building pad requiring minimal vegetation clearance and grading, limiting the height to one story with a basement area built on the down slope portion of the site, and the placement of screening vegetation will minimize impacts related to this site are consistent with measures required for projects built on significant ridgelines when permitted pursuant to the General Plan. Mitigation measures required to deal with the site's location will be discussed in full in the Aesthetics section of the Project's EIR and would be required to demonstrate compliance with the General Plan. This issue will be addressed in the Aesthetics section of the focused EIR.

c. The Project site is not located within a habitat conservation plan or natural community conservation plan.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XI.	**MINERAL RESOURCES**. Would the project:				
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

b.	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

a-b. According to the City's General Plan, the Project site does not contain significant mineral resources, as defined by the Surface Mining and Reclamation Act, and would not be appropriate for mineral extraction if significant resources were found at some future date. As the City has not been identified as having significant mineral resources, the Project would have **no impact** on mineral resources.

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

a-d. Excessive noise and vibration levels from construction activities are generally attributed to grading and earthmoving activities, the majority of which have previously been accomplished at this site during construction of the existing driveway and building pad. The Project site is located away from commercial or industrial land uses, and roadways with significant traffic, and as such, the vicinity is relatively quiet under existing conditions. The Project would be required to limit construction activities to the hours of seven a.m. to six p.m. on any day except Saturday in which no construction is allowed before eight a.m. or after five p.m. No construction is allowed on Sunday's or federal holidays. By compliance with the City's construction noise ordinance, noise impacts associated with site construction would be **less than significant.** Noise

generated by a single-family home would not violate existing City code requirements for outdoor noise and **no impacts** are anticipated. No vibration impacts associated with either construction or operation of the project are anticipated.

e-f. The project is not located within an airport land use plan and is not within the vicinity of an airport or private airstrip. The project would have **no impact** regarding these issues.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII.	**POPULATION AND HOUSING**. Would the project:				
a.	Induce substantial population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐
b.	Displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c.	Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a. The Project's development of a single residence would not induce substantial population growth in the area. At most, the Project's development could result in subsequent development of two of the previously subdivided 3 lots, of which the site is a part, as each would be served by the single repaired driveway and potable water line. Since these are residentially zoned lots pursuant to the City's General Plan and Zoning Code, the growth associated with the extension of water and electricity to the Project site that might facilitate development off adjacent lots would be consistent with the growth anticipated by the General Plan and would be a **less than significant** impact.

b-c. The Project would be developed on a vacant site and would neither displace existing housing nor displace people.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV.	**PUBLIC SERVICES.** Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a.	Fire protection?	☐	☐	☒	☐

b.	Police protection?	☐	☐	☒	☐
c.	Schools?	☐	☐	☒	☐
d.	Parks?	☐	☐	☒	☐
e.	Other public facilities?	☐	☐	☐	☒

a-d. The Los Angeles County Fire Department would provide fire protection services to the Project site, and has provided a letter to the City regarding review requirements that would be applicable to this Project. The Fire Department's letter, dated August 27, 2013, indicated the Fire Prevention Land Development review had no requirements regarding this Project, although review of the Project by Fire Prevention Engineering and by the Fire Department's Forestry Section would be required. As stated in the Project Description, in addition to the existing driveway that was constructed for adequate emergency vehicle access, a fire department turnaround area and a fire hydrant with adequate water service and water pressure would be provided at the residence location per Fire Department regulations, subject to review by the Department. No additional Fire Department facilities or staffing would be required to serve the Project site and impacts would therefore be **less than significant**.

The Los Angeles Sheriff's Department was contacted regarding the preparation of this Initial Study, but to date, the Sheriff's Department has not provided comment on the Project and **less than significant** impacts to law enforcement are anticipated.

The Las Virgenes Unified School District provides educational services in Calabasas. The school district student generation rates for residential development indicate that each level of school facilities (elementary, middle, and high schools) experience an increase of less than one student per new residential dwelling unit, which would be a **less than significant** impact.

The Project's single residence would not result in a need for new or physically altered governmental facilities for the provision of fire protection, police protection, schools, or parks. The addition of one family to the area would result in a small incremental increase in demand for these public services; however, the demand increase would be de minimis and therefore **less than significant**.

e. The Project would not result in a need for new or altered public service facilities.

		Potentially Significant Impact	**Potentially Significant Unless Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
XV.	**RECREATION.**				
a.	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b.	Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☒	☐	☐	☐

a. The Project's development of a single residence would not result in a need for new recreational facilities and would not increase the use of existing parks such that substantial deterioration of those facilities would occur. The Project is a private, single-family residence that would include a private a swimming pool and spa onsite for the resident's use. The addition of one family to the area would result in a de minimis increase in demand for recreation facilities that would be **less than significant**.

b. As previously noted, the Project site was part of a subdivision (Parcel Map) that has remained largely undeveloped since the early 1990's when the driveway was constructed, pads were graded and drainage facilities were installed. The driveway is gated at its intersection with Old Topanga Canyon Road and posted "No Trespassing" but the gate has been vandalized repeatedly and now leans over on its hinges, permitting access on foot. The concrete driveway is noted in the General Plan as part of a non-public, informally used "trail" to access the ridgeline at the Project site and connect with public lands to the west. The General Plan designates this unofficial trail, including the concrete driveway, as "Trail – Existing Make Official." Additionally, the unofficial trail on the site is accessed from the north by a hand-hewn "trail" that leads up to the ridgeline from the Calabasas Highlands subdivision below. The "trail" is posted "Permission to Enter Subject to Revocation" at the owner's discretion.

As previously noted, the General Plan designates a "Proposed New Trail" as an alternate route for the unofficial trail that currently traverses the ridgeline and the concrete driveway; with a mapped alignment that would redirect trail users to the south, avoiding the proposed project site and unofficial trail area. The "Proposed New Trail" is shown to cross the existing concrete driveway near Old Topanga Canyon Road, and connect to existing trails on public lands to the west, and also extend to the east and north of the project site continuing towards Creekside Park.

The construction of the Project would not require the construction or expansion of recreational facilities but could prevent continued use of all or a portion of the driveway from Old Topanga Canyon Road. Further development of the adjacent lots, owned by others, could interfere with the continued use of informal trails through those properties. However, Project development does open up the possibility of obtaining a permanent legal trail easement through undeveloped portions of the Project site and adjacent lots. Such an easement would be consistent with the City's General Plan objectives. The construction and maintenance of a public trail would have a potential impact on the environment, but such impacts have already been contemplated by the General Plan. Unauthorized public use of this private property is not consistent with current law. Impacts potentially associated with the dedication of a public trail through the site, including any potential impacts associated with construction of a trail along the proposed alignment, will be discussed in the Project's EIR.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI.	**TRANSPORTATION/CIRCULATION**. Would the project:				
a.	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
b.	Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c.	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d.	Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
e.	Result in inadequate emergency access?	☐	☐	☒	☐
f.	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

a-b. Construction of the Project would result some import or export of soils for remedial grading and excavation/backfill of utility trenches and foundations, but would not require extended periods of truck hauling on area roadways. The project's development of a single residence would result in a de minimis incremental increase in traffic on the area's roadway system that would be **less than significant**.

c. The Project is not located in the vicinity of an airport and would not alter air traffic patterns.

d. The Project would be accessed from Old Topanga Canyon Road via an existing driveway. Although the driveway intersects with Old Topanga Canyon Road at a sharp curve, the driveway is on the outside edge of the curve, giving vehicles exiting the site an adequate line of sight along Old Topanga Canyon Road in each direction of travel. The proposed residence would not be an incompatible use in the area which includes land uses that are predominantly single-family residences and open space. This impact would be **less than significant.**

e. The Project would be accessed from Old Topanga Canyon Road via an existing driveway constructed to Fire Department standards for emergency vehicle access. A fire department turnaround area would be provided at the residence as part of the Project, per Fire Department regulations. Impacts regarding emergency access would be **less than significant.**

f. The site is not served by public transportation. The Project would not interfere with bicycle or pedestrian use of Old Topanga Canyon Road and, therefore, would not interfere with adopted policies, plans, or programs regarding such facilities. The Project would have **no impact** regarding public transit, bicycle, or pedestrian policies or plans, and would not interfere with the use of such facilities. Potential dedication of a public pedestrian trail easement through the site, discussed under "Recreation" would be a potentially beneficial impact.

		Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII.	**UTILITIES AND SERVICE SYSTEMS.** Would the project:				
a.	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b.	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c.	Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d.	Have sufficient water supplies available to serve the project from existing entitlements and resource, or are new or expanded entitlements needed?	☐	☐	☒	☐
e.	Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f.	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g.	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

a. The Project would construct a modern onsite wastewater treatment facility (OWTS) designed in compliance with Regional Water Quality Control Board requirements. The system's design would rely on geologic percolation tests to place seepage pits that would allow for adequate filtration, pursuant to existing Codes and regulations, resulting in a less than significant impact**.**

b. The Project site is not served by a municipal wastewater treatment utility and would not require construction or expansion of wastewater treatment facilities provided by a utility.

The Las Virgenes Municipal Water District (LVMWD) will provide potable water to the site. LVMWD provided a Conditional Statement of Water Service, dated July 22, 2013, which indicated the Project will be assured of connection to the water system provided it meets the conditions for service in the LVMWD Code. The Project design meets those conditions and the single family home will not require construction of additional water treatment facilities to meet its potable water demand.

The Project will require an off-site extension of an existing potable water distribution line within the Old Topanga Canyon Road right-of-way to the Project site pursuant to Title 3 of the LVMWD Code, Ordinance No. 11-86-161. The water line extension would be installed within an existing roadway with minor environmental effects limited to potential intrusion of the trench into the protected drip line of several oak trees lining Old Topanga Road and the restoration of pavement once installation is completed, which will have no impact on the cultural integrity of the site. Impacts regarding treatment facilities for wastewater and water supply would be **less than significant.**

c. As discussed above in Section IX. e; the Project site has an existing stormwater drainage system that has been evaluated and has sufficient capacity to convey runoff from the Project site. This impact would be **less than significant**.

d. See XVII.b. **less than significant**.

e. See XVII.a. **less than significant**.

f-g. The single residence proposed by this project would not generate solid waste in quantities that would exceed existing capacities of facilities that may serve the Project, including the Calabasas Landfill. The Project would comply with solid waste disposal regulations including local construction debris recycling requirements. The Project would include ample room for the storage of residential solid waste containers, including separate bins for recyclable materials, and green wastes from landscape maintenance activities. Solid waste impacts would be **less than significant**.

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

b.	Does the project have impacts, which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).	☐	☐	☒	☐
c.	Does the project have environmental effects, which cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a. See Section IV.a-b. **Less than significant with mitigation**.

b. The remote nature of the Project site limits its potential to contribute considerably to potential cumulative impacts associated with the development of the City of Calabasas. There are three additional currently undeveloped lots, which are a part of the same subdivision as the proposed Project site and are located adjacent to the east. These lots are without significant biological resources and are zoned to allow a single-family residence. These adjacent lots have existing graded pads and are accessed by the same driveway that serves the proposed Project. As with the proposed residence, the majority of impacts regarding grading, vegetation removal, and establishment of a drainage system for these sites have already occurred. The construction of three additional residences in the immediate vicinity of the Project site would not result in a cumulatively considerable impact, as each project would be required to comply with City and County ordinances and applicable building codes and the sites are, in combination, considered in the City's population projections and land use plans.

Public ownership of adjacent property within the immediate vicinity of the Project site precludes their future development, while other projects in the general vicinity would require discretionary actions and adequate mitigation of impacts including biological, cultural, and aesthetic resources and would be speculative in any case.

c. See above sections regarding impacts that could affect humans, i.e. air quality, hazards, noise, etc. **Less than significant**.

5.0 AGENCIES CONTACTED

1. City of Calabasas Development Review Committee
2. Santa Monica Mountains Conservancy
3. Mountains Trust (Debbie Sharpton, Executive Director dsharpton@mountainstrust.org
4. Los Angeles County Fire Department
5. Los Angeles County Sherriff's Department
6. Las Virgenes Municipal Water District

6.0 PERSONS INVOLVED IN THE PREPARATION OF THE INITIAL STUDY

CITY OF CALABASAS:

Talyn Mirzakhanian, Senior Planner

ENVICOM CORPORATION

Ellen Michiel, Senior Project Manager
Wayne Bischoff, Ph.D., Director of Cultural Resources
James Anderson, Senior Biologist
Charles Cohen, Senior Analyst
Chris Boyte, GIS

HAYNE ARCHITECTS

Robbin Hayne, Principal
Holli L. Jackowski, Project Manager/Designer

APPENDIX A
BIOLOGICAL ASSESSMENT

BIOLOGICAL RESOURCES INVENTORY AND IMPACT ASSESSMENT

Broadway Trust Residence
3121 Old Topanga Road
City of Calabasas, California

Prepared for:

City of Calabasas
100 Civic Center Way
Calabasas, CA 91302

Prepared by:

Envicom Corporation
28328 Agoura Road
Agoura Hills, California 91301

November 18, 2013

APPENDICES

1.0 INTRODUCTION

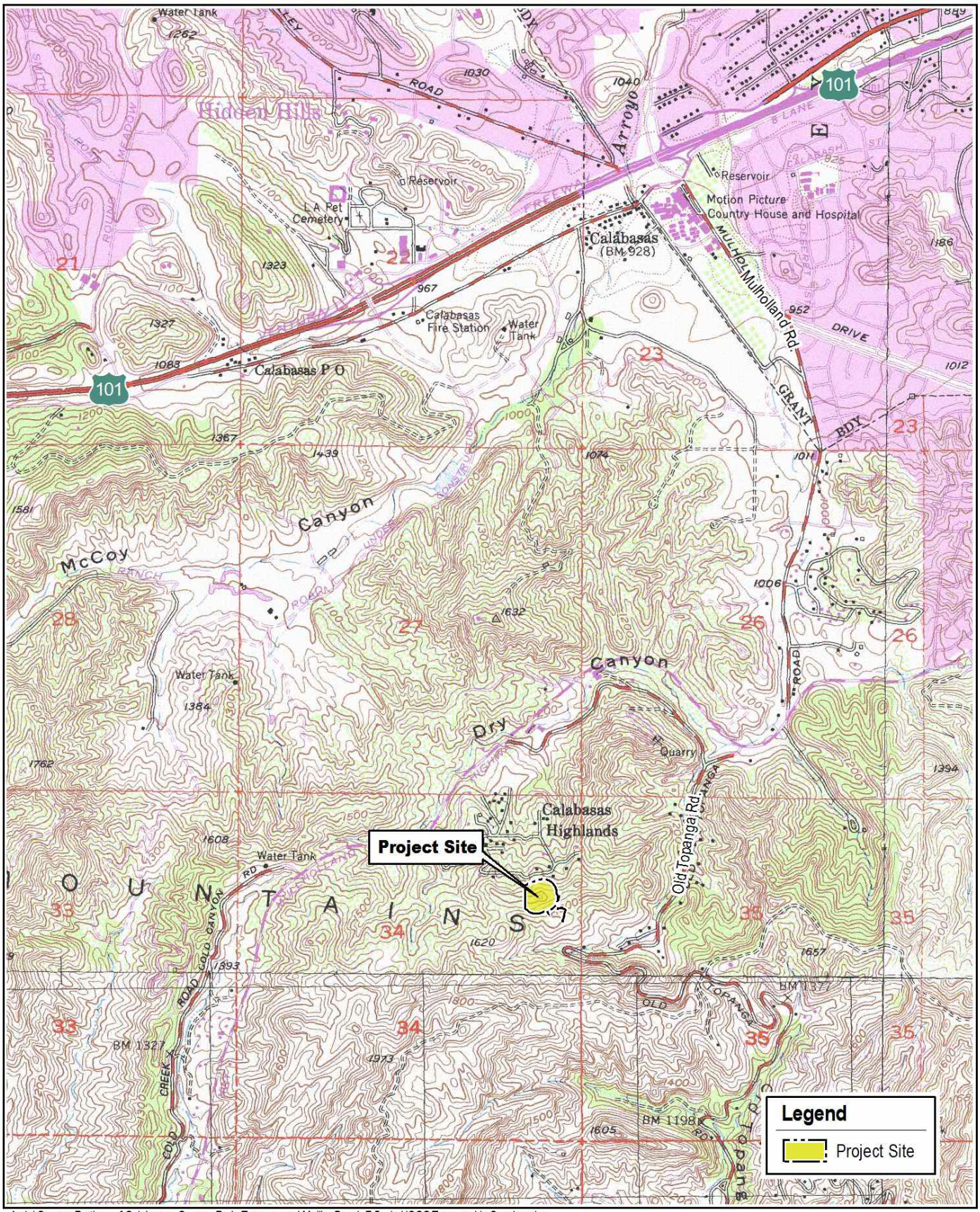
Envicom Corporation has prepared this biological inventory and impact assessment for the proposed Broadway Trust Residence at 3121 Old Topanga Road in the City of Calabasas. The project site is located to the north of Old Topanga Canyon Road and south of Mulholland Highway and the community of Calabasas Highlands within the NE ¼ of Section 34, Township 1.N., and Range 17.W of the USGS 7.5' Calabasas quadrangle (See **Figure 1**, Location Map). The site is currently vacant land improved with a paved access driveway and graded pad. The driveway is 20 feet in width and provides access from Old Topanga Road.

This report provides an inventory of the biological resources at the project site and an analysis of impacts to biological resources for use in preparation of a CEQA document for the proposed project. The report first covers the literature reviewed and field surveys conducted to identify the biological resources at the site, followed by a discussion of existing biological conditions including vegetation and plant communities, natural communities of special concern, observed plant species, special-status plant species, protected trees, jurisdictional areas, observed wildlife, special-status wildlife, and habitat linkages and wildlife movement. A vegetation map and representative photographs of habitat conditions at the site are provided. The existing biological conditions discussion is followed by project impacts and recommended mitigation measures to offset the impacts. Lists of plant and wildlife species observed, as well as an assessment of the potential for occurrence of special-status plant and wildlife species at the site are provided as appendices to the report.

2.0 METHODS

A literature review was performed in preparation for field surveys that included information available in standard biological references (e.g., Baldwin et al. 2012; Sawyer, Keeler-Wolf, and Evens 2009; Reid 2006; Stebbins 2003; and Raven, Thompson, Prigge 1986), and relevant lists and databases pertaining to the status and known occurrences of sensitive and special-status resources. Other sources of information included aerial photographs, topographic maps, soil survey maps, climatic data, and relevant policy and planning documents. The following sources were among those reviewed in preparation for field surveys, or that were consulted during preparation of this report (for a complete list see the references section):

- *Biogeographic Information and Observation System (BIOS)*, California Department of Fish and Wildlife (CDFW), formerly the California Department of Fish and Game (CDFG), data as of June 25, 2013;
- *California Natural Diversity Database (CNDDB) Rarefind 4* report for the 7.5' USGS Calabasas quadrangle and eight surrounding quadrangles, CDFW, data as of June 24, 2013;
- City of Calabasas 2030 General Plan Conservation Element, City of Calabasas, December 2008;
- *California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California* report for the 7.5' USGS Calabasas quadrangle and eight surrounding quadrangles, CNPS, data as of June 25, 2013;
- *FWS Critical Habitat Mapper for Threatened and Endangered Species*, U.S. Fish and Wildlife Service (USFWS), data as of June 24, 2013;
- *List of Special Vascular Plants, Bryophytes, and Lichens*, CDFW, July 2013;
- *List of Vegetation Alliances and Associations (Natural Communities List)*, CDFW, September 2010; and,
- *Special Animals*, CDFW, January 2011.



Aerial Source: Portions of Calabasas, Canoga Park, Topanga and Malibu Beach 7.5 min USGS Topographic Quadrangles.

Location Map

0 1,000 2,000 Feet

FIGURE 1

The biological survey of the site was conducted on June 26, 2013 by Erin Avina, Biologist/Restoration Ecologist, and Jim Anderson, Senior Biologist, of Envicom Corporation. The survey involved a search for protected and regulated biological resources, including rare, threatened, and endangered plant and wildlife species, special habitats, sensitive natural communities, jurisdictional wetland and non-wetland Waters of the U.S., jurisdictional streambed and riparian habitat, and locally sensitive resources, as well as to evaluate the importance of the site for wildlife movement. The survey extent included all areas potentially subject to ground or vegetation disturbance by the proposed project, including but not limited to the proposed residential envelope, potential fuel modification zones, an erosion scar, as well as other areas subject to temporary construction disturbance. The entire survey area was accessible. The survey was conducted between the hours of 9:00 a.m. and 12:30 p.m. in warm to hot conditions (low-80s to low-90s °F) with no clouds and no wind to light wind. The survey was performed by slowly walking several transects across the site and by investigating particular areas thoroughly as necessary. The survey methodology resulted in a thorough investigation of all plant communities and habitat types within the survey area. A complete inventory of vascular plants and wildlife observed was recorded, with all species identified to the taxonomic level necessary to determine their status. Vascular plant species determinations were made using *The Jepson Manual: Vascular Plants of California, 2nd edition*. Natural community classifications were correlated with the *Vegetation Classification of the Santa Monica Mountains Natural Recreation Area and Environs in Ventura and Los Angeles Counties, California* (CDFW/CNPS, January 2006) and the *List of Vegetation Alliances and Associations (Natural Communities List*) (CDFW, September 2010). Vertebrate wildlife species observed at and in the vicinity of the site were identified by direct observation, sign (e.g., tracks, scat, or burrows), or vocalization. Wildlife species identification relied upon Reid (2006), Sibley (2009), and Stebbins (2003). Several photographs were taken as a record of site conditions at the time of the survey.

3.0 ENVIRONMENTAL SETTING

The project site is undeveloped and naturally vegetated except for a paved access driveway and a graded pad on which the residence would be built. The graded pad sits atop a ridge that is surrounded by north and south facing slopes. The slope to the north of the pad descends to the Calabasas Highlands community, which abuts the northern boundary of the property. The slope to the south of the pad is traversed by the access driveway and a concrete v-ditch. An erosional feature has developed in a disturbed area on the slope below the graded pad, which is approximately 260 feet in length. Fuel modification to protect residential properties at the Calabasas Highlands extends into the northern portion of the site. Representative photos of the project site are provided on **Plate 1**.

The project site is situated within the lower elevation inland foothills of the Santa Monica Mountains, at elevations ranging from approximately 1,510 to 1,610 feet above mean sea level. The site is generally dry and exposed, although north-facing slopes support more mesic vegetation when compared to the remainder of the site. The average high/low summer temperatures in the lower elevation inland foothills of the Santa Monica Mountains are 80/50°F, average high/low winter temperatures are 70/40°F, and precipitation is approximately 18 inches per year. The soils at the site are of the Topanga-Mipolomol-Sapwi Association and the Sumiwawa-Hipuk-Rock Outcrop Complex, which are comprised of gravely loam, channery loam, loam, stony clay loam, and gravely loamy sand derived from colluvium and/or residium that has been weathered from sandstone, shale, and slate. There is a sandstone rock outcrop

Photo 1A – View facing northwest from the graded pad showing intact scrub oak habitat that dominates the north-facing slope below the pad.

Photo 1B – View facing northwest of chamise-black sage scrub on the southeast-facing slope below the graded pad.

Photo 1C – View facing east of chamise and laurel sumac scrub surrounding a section of the concrete v-ditch to be repaired as part of the project.

Photo 1D – Viewing facing south from the southwestern edge of the graded pad showing California brittle bush shrubland, a CDFW sensitive plant community. The California brittle bush appears grey, or decadent, in the photo due to the dry conditions at the time of the survey.

Photo 1E – View facing north showing non-native grassland habitat (foreground) and disturbed scrub oak habitat (background) within the fuel modification zone surrounding the residential community to the north of the site.

Photo 1F – View facing west of the barren graded pad where the proposed residence would be constructed.

Representative Photographs of Habitat and Site Conditions

just below the ridge near the southeastern edge of the graded pad. There are no stream channels at the site, and no riparian vegetation. Vegetation is predominately chaparral with patches of coastal sage scrub and non-native grassland. According to the USGS 7.5' Calabasas quadrangle map, there is an unnamed drainage to the south of the site that flows in an easterly direction, which is tributary to the Arroyo Calabasas and the Los Angeles River. Land uses adjacent to the site include residential development to the north, Santa Monica Mountains Conservancy open space immediately to the west, a paved access road surrounded by open space to the south, and open space and scattered residential neighborhoods to the east.

4.0 BIOLOGICAL RESOURCES

4.1 VEGETATION AND SENSITIVE PLANT COMMUNITIES

The vegetation at the project site consists predominately of chaparral interspersed with patches of coastal sage scrub and non-native grassland. Intact and disturbed scrub oak scrub (*Quercus berberidifolia*) borders non-native grassland on the north facing slopes in the northern half of the property. The composition and condition of the disturbed scrub oak and the non-native grasslands at the site reflect a history of thinning and mowing for fuel modification purposes. Chamise (*Adenostoma fasciculatum*), black sage (*Salvia mellifera*), and non-native grasslands dominate the dry and exposed south-facing slopes in the southern half of the project site, and California buckwheat (*Eriogonum fasciculatum*), California brittle bush (*Encelia californica*), deerweed (*Acmispon glaber*), and the sparsely vegetated graded residential pad dominate its central portion. There are also a small number of scattered coast live oak (*Quercus agrifolia*) trees. A discussion of the flora and habitats at the project site is provided below, which is organized by plant community type. Plant communities have been classified using the State Vegetation Classification system.

4.1.1 Plant Communities

One non-native and nine native plant communities occur within the survey area, as shown on **Table 1** and on **Figure 2**, Vegetation Map. Plant communities were correlated with those plant communities included in the *Vegetation Classification of the Santa Monica Mountains Natural Recreation Area and Environs in Ventura and Los Angeles Counties, California* (CDFW/CNPS, January 2006), and the *List of Vegetation Alliances and Associations (Natural Communities List*) (CDFW, September 2010). These documents provide lists of officially recognized plant communities occurring in the Santa Monica Mountains and environs and in the State of California, respectively. In these documents, each plant community is assigned a conservation status rank (also known as "rarity rank"), which is used to determine the sensitivity of the plant community. Plant communities with global or state status ranks of G1 through G3, or S1 through S3, respectively, are considered to be sensitive, and are referred to as "natural communities of special concern." Plant communities are classified based on plant species composition and abundance, as well as the underlying abiotic conditions of the stand, such as slope, aspect, or soil type. The acreage and conservation status rank of plant communities occurring at the project site are provided in Table 1.

The following plant community at the site is considered to be rare or sensitive by the CDFW:

- California Brittle Bush Shrubland Association (*Encelia californica*)

The following plant community at the site is protected by the City of Calabasas:

- Scrub Oak Shrubland Association (*Quercus berberidifolia*)

Source: GoogleEarth Pro, Aug. 27, 2012.

Legend

Property Boundaries

Biological Survey Extent

Chaparral*

- QB — Scrub Oak Shrubland Association [1] (*Quercus berberidifolia*)
- CS — Chamise Shrubland Association (*Adenostoma fasciculatum*)
- AS — Chamise - Black Sage Shrubland Association (*Adenostoma fasciculatum - Salvia mellifera*)
- AF — Chamise Shrubland Alliance (*Adenostoma fasciculatum*)
- MI — Laurel Sumac Shrubland Association (*Malosma laurina*)

Coastal Scrub

- AG — Deerweed Shrubland Association (*Acmispon glaber*)
- EC — California Brittle Bush Shrubland Association [2] (*Encelia californica*)
- EF — California Buckwheat Shrubland Alliance (*Eriogonum fasciculatum*)
- SA — Purple Sage - California Sagebrush Shrubland Association (*Salvia leucophylla - Artemisia californica*)

Non-Native Herbaceous

- NG — Non-Native Grasses and Forbs Mapping Unit

Individual Trees

- Qa — Coast Live Oak (*Quercus agrifolia*)
- Sm — Peruvian pepper (*Schinus molle*)

Other

- SV — Barren or Sparsely Vegetated [ruderal]
- C — Concrete Driveway
- S — Concrete Swale

* Scrub Oak communities marked with an asterisk are currently thinned for fuel modification purposes.

[1] City of Calabasas Scrub Oak Habitat

[2] CDFW Natural Community of Special Concern (sensitive plant community)

Vegetation Map

0 — 70 Feet

FIGURE 2

Table 1
Plant Communities

Habitat Class	Plant Community[1, 2]	Conservation Status Rank	Acreage (Survey Area)
Chaparral	Scrub Oak Shrubland Association (*Quercus berberidifolia*) [37.407.02]*	G4S4	1.07
	Chamise Shrubland Association (*Adenostoma fasciculatum*) [37.101.16]	G5S5	0.35
	Chamise – Black Sage Shrubland Association (*Adenostoma fasciulatum – Salvia mellifera*) [37.102.02]	G5S5	0.79
	Chamise Shrubland Alliance (*Adenostoma fasciculatum*) [37.101.16]	G5S5	0.04
	Laurel Sumac Shrubland Association (*Malosma laurina*) [45.455.01]	G4S4	0.12
Coastal Scrub	Deerweed Shrubland Association (*Acmispon glaber*) [52.240.01][3]	G5S5	0.13
	California Brittle Bush Shrubland Association (*Encelia californica*) [32.050.02]**	G4S3	0.11
	California Buckwheat Shrubland Alliance (*Eriogonum fasciculatum*) [32.040.00]	G5S5	0.23
	Purple Sage – California Sagebrush Shrubland Association (*Salvia leucophylla – Artemisia californica*) [32.090.01]	G4S4	0.14
Non-Native Herbaceous	Non-Native Grasses and Forbs Mapping Unit	n/a	1.06
Individual Trees	Coast Live Oak (*Quercus agrifolia*)	n/a	0.07
	Peruvian Pepper (*Schinus molle*)	n/a	0.01
Other Landcover	Concrete Driveway and Concrete Swales	n/a	0.15
	Barren or Sparsely Vegetated (Ruderal)	n/a	0.26
		TOTAL ACREAGE	**4.53**

* City of Calabasas Scrub Oak Habitat
** CDFW Natural Community of Special Concern (Sensitive Plant Community)

Scrub Oak Shrubland Association (*Quercus berberidifolia*) [G4S4]

There is intact and disturbed scrub oak habitat at the site, which covers approximately 1.07 acres of the survey area. The most significant stands occur on the north-facing slopes the northern half of the site (See **Plate 1, Photo 1A**), although additional smaller patches of scrub oak also occur on the south-facing

[1] Plant community names are from *Vegetation Classification of the Santa Monica Mountains National Recreation Area and Environs in Ventura and Los Angeles Counties, California* (CDFW/CNPS, January 2006) and the *List of Vegetation Alliances and Associations* (*Natural Communities List*) (CDFW, September 2010).
[2] Numbers in brackets are unique codes for each plant community, as provided in *List of Vegetation Alliances and Associations* (*Natural Communities List*) (CDFW, September 2010).
[3] Deerweed (*Acmispon glaber*) was formerly named *Lotus scoparius.*

slopes to the east and south of the existing building pad. Scrub oak scrub is a relatively mesic chaparral community, which is typically found in the Santa Monica Mountains region growing on soils that are shallow to deep and well to extensively drained on moderate to steep, north-facing slopes. This community is not considered sensitive by the CDFW, but it is protected pursuant to the City's Oak Tree Ordinance (Section 17.32 of the City of Calabasas Municipal Code). The intact scrub oak at the site is strongly dominated by scrub oak and contains a continuous canopy of shrubs with a sparse herbaceous layer. Additional shrubs interspersed at low cover with the scrub oak include toyon (*Heteromeles arbutifolia*), sugar bush (*Rhus ovata*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), and chamise (*Adenostoma fasciculatum*) in some areas. The intact scrub oak community lacks evidence of significant disturbance such as an open character or moderate to high cover of non-native species. The disturbed scrub oak stands have been subject to fuel thinning to protect the residential properties at the Calabasas Highlands. The disturbed stands occur on north-facing slopes in the northern half of the project site and abut intact scrub oak and non-native grassland habitats (See Figure 2). As a result of the fuel thinning, these stands are more open and contain substantially more herb cover when compared to the intact scrub oak community onsite. Additional species found interspersed in openings and along the margins of the disturbed stands include native deerweed (*Acmispon glaber*), purple sage (*Salvia leucophylla*), golden yarrow (*Eriophyllum confertiflorum*), chaparral honeysuckle (*Lonicera subspicata*), soap plant (*Chlorogalum pomeridianum*), foothill needlegrass (*Stipa lepida*), and non-native grasses.

Chamise Shrubland Association (*Adenostoma fasciculatum*) [G5S5]

The chamise shrubland association at the site includes chaparral stands characterized by dominant chamise with low to very low cover of a small number of additional native shrub species, most notably black sage (*Salvia mellifera*). This vegetation type is present in the central portion of the survey area along the upper portion of the north-facing slope to the northwest of the building pad and at the lower southern edge of the survey area. Other than in slope-aspect, the chamise stands at these two locations differ only by the few shrub species that are interspersed throughout or along the margins of the community at <1% cover, e.g., the stand on the north-facing slope supports two species of manzanita (*Arcotostaphylos glauca, Arctostphylus glandulosa*) while chaparral yucca (*Hesperoyucca whipplei*) is more prevalent at the southern location. This community is not considered sensitive by the CDFW.

Chamise – Black Sage Shrubland Association (*Adenostoma fasciculatum – Salvia mellifera*) [G5S5]

Chamise - black sage shrublands occur most commonly along lower to upper south facing slopes on soils that are shallow with a loamy sand or sandy loam texture. This community is characterized by a continuous to intermittent canopy comprised of a shrub layer co-dominated by chamise and black sage with a sparse herbaceous layer. The chamise-black sage shrubland association occurs within the survey area on the moderately steep southeast-facing slope below the graded building pad (**Photo 1B**). It is co-dominated by chamise and black sage, and also contains laurel sumac (*Malosma laurina*), chaparral yucca, scrub oak, sugar bush, and other shrub species at low to very low cover. The herbaceous layer is sparse. This community is not considered sensitive by the CDFW.

Chamise Shrubland Alliance (*Adenostoma fasciculatum*) [G5S5]

Areas mapped as the chamise shrubland alliance are co-dominated by chamise and California brittle bush, and occur on south-facing slopes and relatively flat areas surrounding a section of the concrete v-ditch that would be repaired as a part of the project (**Photo 1C**). This is an unusual association of species, which may have been historically disturbed and may be transitional to a more dominant chamise stand. Other shrub species present at low cover include purple sage and California sagebrush (*Artemisia californica*). This plant community is not considered sensitive by the CDFW.

Laurel Sumac Shrubland Alliance (*Malosma laurina*) [G4S4]

The laurel sumac shrubland is characterized by dominant laurel sumac and also contains various other shrub species including California sagebrush, California brittle bush, and California buckwheat (*Eriogonum fasciculatum*). Laurel sumac scrub typically occurs on steep slopes on fine textured, shallow soils. This plant community surrounds the lower southern section of the concrete v-ditch that would be repaired at as a part of the project (Photo 1C). This community is not considered sensitive by the CDFW.

Deerweed Shrubland Association (*Acmispon glaber*) [G5S5]

The deerweed shrubland within the survey area is a disturbed plant community characterized by the dominance of deerweed (*Acmispon glaber*) with very low cover of California buckwheat in the shrub layer and a variety of non-native herbs in the herbaceous layer, especially tocalote (*Centaurea melitensis*), red brome (*Bromus madritensis* ssp. *rubens*), fat oat (*Avena fatua*), and rattail fescue (*Festuca myuros*). This plant community, which typically is found in recently disturbed areas, occurs on a flat area abutting the northern edge of the existing building pad (Figure 2). This community is not considered sensitive by the CDFW.

California Brittle Bush Shrubland Association (*Encelia californica*) [G4S3]

California brittle bush shrubland occurs within the survey area on dry, south-facing slopes to the southeast of the graded building pad and also in an area surrounding a section of the concrete v-ditch that would be repaired as a part of the project (**Photo 1D**). California brittle bush is the strong dominant throughout although black sage, California buckwheat, and laurel sumac are also present at low cover (< 5%). Non-native herbs such as black mustard (*Brassica nigra*) are present in a relatively sparse herbaceous layer, particularly at the ecotone with the adjacent non-native grass/herb community, which is discussed below. There are two California black walnuts (*Juglans californica*) [CRPR 4], a CNPS watch list species, on upper slopes within the brittle bush scrub to the southeast of the pad. This plant community is apparently rare in the Santa Monica Mountains region. In California, urbanization and increased fire frequency especially in the south coast region has removed or degraded many native stands. The CDFW considers California brittle bush shrubland to be a natural community of special concern, i.e., a sensitive plant community.

California Buckwheat Shrubland Alliance (*Eriogonum fasciculatum*) [G5S5]

The California buckwheat shrubland within the survey area is characterized by California buckwheat along with California brittle bush, deerweed, black sage, and laurel sumac in the shrub layer. It is located on flat to moderate slopes on the western, eastern, and southern sides of the graded pad, and often in rockier areas of the site. California buckwheat is usually one of the first shrub species that becomes established following disturbance. Stands are typically found on dry, upland slopes on coarse, well-drained soils. This community is not considered sensitive by the CDFW.

Purple Sage – California Sagebrush Shrubland Association (*Salvia leucophylla – Artemisia californica*) [G4S4]

The purple sage – California sagebrush plant community within the survey area is comprised of a shrub layer dominated by purple sage and California sagebrush and the occasional occurence of several other shrub species, such as black sage and California brittle bush. It occurs on south-facing slopes as relatively narrow bands along the margins of chamise and scrub oak scrub. The herbaceous layer contains a mix of several non-native species. This community is not considered sensitive by the CDFW.

Non-Native Grasses and Forbs Mapping Unit

This mapping unit is used for convenience, and may contain multiple non-native herbaceous vegetation types, consisting of various non-native annual grasses and forbs (**Photo 1E**). Selected common non-native herbs present in these areas include tecolote, annual brome grasses (*Bromus* spp.), fat wild oat (*Avena fatua*), black mustard, and scarlet pimpernil (*Anagallis arvensis*). Although strongly dominated by non-natives, a few native shrub species including deerweed, California sand-aster (*Corethrogyne filaginifolia*), California sagebrush, and sawtooth goldenbush (*Hazardia squamosa* var. *grindelioides*) are also found in these areas, as well as a few native herbs, such as slender tarplant (*Deinandra fasciculata*). Due to their non-native condition, areas mapped as non-native grasses and forbs are clearly not sensitive.

Individual Trees

A few individual native coast live oak (*Quercus agrifolia*) and non-native Peruvian pepper (*Schinus molle*) trees were mapped as "individual trees." These trees are considered inclusions within surrounding scrub and non-native herbaceous communities. Coast live oak trees meeting certain size requirements are protected pursuant to the City's Oak Tree Ordinance.

Barren or Sparsely Vegetated (Ruderal)

Areas mapped as barren or sparsely vegetated (ruderal) are barren or consist primarily of sparse cover of non-native ruderal species (**Photo 1F**). These areas have been graded or cleared of vegetation, and may be mowed or otherwise disturbed on a regular basis. Selected species observed include hoary mustard, redstem filaree (*Erodium cicutarium*), telegraph weed (*Heterotheca grandiflora*), bur-clover (*Medicago polymorpha*), and small-flowered cheeseweed (*Malva parviflora*). These areas generally lack native species. Due to their non-native condition, these areas are clearly not sensitive.

4.1.2 Plant Communities/Habitats Listed in CNDDB

A review of the California Department of Fish and Wildlife's Natural Diversity Database (CNDDB) Rarefind 4 application reveals 13 Sensitive Plant Communities/Habitats have been reported by other observers in the Calabasas Quadrangle area, or within adjacent quadrangles. These Sensitive Plant Communities/Habitats include:

- California Walnut Woodland;
- Cismontane Alkali Marsh;
- Southern California Coastal Lagoon;
- Southern California Steelhead Stream;
- Southern Coast Live Oak Riparian Forest;
- Southern Coastal Salt Marsh;
- Southern Cottonwood Willow Riparian Forest;
- Southern Mixed Riparian Forest;
- Southern Riparian Scrub;
- Southern Sycamore Alder Riparian Woodland;
- Southern Willow Scrub;
- Valley Needlegrass Grassland; and
- Valley Oak Woodland.

These CNDDB-listed communities and habitats are absent from the site.

4.2 PLANT SPECIES

4.2.1 Plant Species Observed

A total of 50 vascular plant taxa were identified during the June 26, 2013 survey of the site, including 40 dicots and 10 monocots. Thirty-seven (37) of the plants observed were native and 13 were non-native, representing moderate diversity of native species and a moderate percentage of non-natives. A complete list of the vascular plant species observed at the project site is provided in **Appendix 1**.

4.2.2 Special-Status Plant Species[4]

Special-status plant species either have unique biological significance, limited distribution, restricted habitat requirements, particular susceptibility to human disturbance, or a combination of these factors. For the purposes of this report, special-status plant species are those plants listed, proposed for listing, or candidates for listing as Threatened or Endangered by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (FESA); those listed or proposed for listing as Rare, Threatened, or Endangered by the CDFW under the California Endangered Species Act (CESA); and plants on the CNPS Inventory of Rare and Endangered Vascular Plants with a California Rare Plant Rank (CRPR) of 1A (plants presumed extirpated in California and either rare or extinct elsewhere), 1B (plants considered to be rare, threatened, or endangered species in California and elsewhere), 2A (plants presumed extirpated in California, but more common elsewhere), and 2B (plants considered rare, threatened, or endangered in California, but more common elsewhere).

Prior to the field survey, the CDFW Natural Diversity Database (CDFW 2013) and the *CNPS Online Inventory of Rare and Endangered Plants, 8th ed.* (CNPS 2013) were reviewed for reported occurrences of special-status "elements" on the Calabasas quadrangle and eight adjacent quadrangles to assess which

[4] The following status codes are applicable to special-status plants:
Federally Protected Species
FE (Federal Endangered): A species that is in danger of extinction throughout all or a significant portion of its range.
FT (Federal Threatened): A species that is likely to become Endangered in the foreseeable future.
FC (Federal Candidate): A species for which USFWS has sufficient information on its biological status and threats to propose it as Endangered or Threatened under the Endangered Species Act (ESA), but for which development of a proposed listing regulation is precluded by other higher priority listing activities.
State Protected Species
CE (California Endangered): A native species or subspecies which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.
CT (California Threatened): A native species or subspecies that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as "Rare" on or before January 1, 1985, is a "Threatened species."
CR (California Rare): A species, subspecies, or variety of plant is rare under the Native Plant Protection Act when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become Endangered if its present environment worsens. Animals are no longer listed as Rare; all animals listed as Rare before 1985 have been listed as Threatened.
California Native Plant Society (CNPS) Rare Plant Rank
CRPR 1A: Plants presumed extinct in California and either rare or extinct elsewhere.
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
CRPR 2A: Plants presumed extirpated in California, but more common elsewhere.
CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere.
CRPR 3: A review list for plants for which there is inadequate information to assign them to one of the other lists or to reject them.
CRPR 4: A watch list for plants that are of limited distribution in California.
CNPS Threat Rank
The CNPS Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment, as follow:
- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).
- 0.2-Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).
- 0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

special-status species could potentially occur at the site. Additional special-status species not reported by the CNDDB that are anticipated to occur in the region were also considered. The analysis of the potential for occurrence of special-status plants is presented in **Appendix 2**, including growth form, blooming period, protection status, primary habitat associations, and an assessment of the potential for occurrence as high, moderate, low, or none. No special-status plant species that are known to occur in the region are considered to have any reasonable potential to occur at the site.

4.2.3 California Rare Plant Rank 4 Species

Plants with a CRPR of 4 are not rare, but rather are included on a "watch list" of species with limited distribution. However, while plants in this category cannot be called "rare" from a statewide perspective, and very few, if any, are eligible for state listing, many of them are significant locally. For this reason, CNPS strongly recommends that CRPR 4 plants be evaluated for consideration during preparation of environmental documents, which may be particularly appropriate for: the type locality of a CRPR 4 plant; populations at the periphery of a species' range; areas where the taxon is especially uncommon; areas where the taxon has sustained heavy losses; or, populations exhibiting unusual morphology or occurring on unusual substrates.

Four species with a CRPR of 4, namely Brewer's calandrinia (*Calandrinia breweri*) [CRPR 4.2], Hubby's phacelia (*Phacelia hubbyi*) [CRPR 4.2], Plummer's mariposa lily (*Calochortus plummerae*) [CRPR 4.2], and Catalina mariposa lily (*Calochortus catalinae*) [CRPR 4.2] have low potential to occur at the site, although given the intensity, timing, and negative results of the June field survey these species are probably absent. All four of these species have been recorded in coastal scrub and/or chaparral habitats similar to those found at the project site in the Santa Monica Mountain range. The Brewer's calandrinia is a small annual herb that grows on sandy to loam substrates in disturbed chaparral and coastal scrub habitats; Hubby's phacelia is an annual herb that grows on gravelly, rocky substrates in chaparral, coastal scrub, and valley and foothill grassland habitats; Catalina mariposa lily is an perennial bulbiferous herb that grows on open, heavy substrates in coastal scrub, chaparral, cismontante woodland, and valley and foothill grassland habitats; and, Plummer's mariposa lily is a perennial bulbiferous herb that is typically found on rocky sites in coastal scrub, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland habitats.

4.3 PROTECTED TREES

Oak trees (species in the genus *Quercus*) and scrub oak habitat (stands of *Quercus berberidifolia*) within the City of Calabasas are protected by the City's Oak Tree Ordinance. There are coast live oaks (*Quercus agrifolia*) of ordinance size and scrub oak habitat at the project site. Although the presence of protected trees was confirmed during surveys conducted to prepare this assessment, documentation of the species, location, and condition of protected coast live oak trees that would require protection pursuant to the City's ordinance was outside the scope of this study. Refer to the Oak Tree Report by L. Newman Design Group, Inc., dated August 15, 2013, for a study of the trees on the property with respect to their protection under the City's oak tree protection ordinance. Although many of the oak trees at the site are shown on the Figure 2, the map may not be comprehensive. However, all scrub oak habitat at the site is identified and mapped on Figure 2, and is discussed under the Plant Communities heading earlier in this document.

4.4 JURISDICTIONAL WATERS / HABITAT

No stream channels, wetlands, or riparian vegetation were found during the survey. There are no federally regulated waters of the U.S. of state regulated streambed or riparian habitats within the survey area.

4.5 WILDLIFE SPECIES

4.5.1 Wildlife Observed

Wildlife species observed during surveys of the site by Envicom in 2013 were species common or relatively common to the region. A list of these species is included as **Appendix 3**. This list represents only a sample of the non-special-status wildlife species that can be expected to utilize habitats at the site for cover, foraging, and reproduction. Furthermore, in general, this list includes species that are more easily detected during daytime surveys. Several species (e.g., reptiles, birds, small mammals) undoubtedly reproduce at the site, and a wide range of larger or mobile species can be expected to utilize the site's resources routinely, such as foraging raptors, and medium to large-sized mammals, such as for example striped skunk, coyote, and mule deer. Bird species observed consisted primarily of year-round and summer residents, and potential migrants. Several bird species likely nest at the site in any given year.

4.5.2 Special-Status Wildlife[5]

For the purposes of this assessment, special-status wildlife species are those species that are listed, proposed for listing, or that meet the criteria for listing as endangered, threatened, or rare under the FESA or CESA; and those that are listed on the CDFW's Special Animals list with a designation of SSC (California Species of Special Concern) or CFP (California Fully Protected).

No species listed as Endangered, Threatened, California Fully-Protected, or as a California Species of Special Concern have been observed at the site. Also, the property and surrounding area does not contain

[5] The following status codes are applicable to special-status animals:
Federally Protected Species
FE (Federal Endangered): A species that is in danger of extinction throughout all or a significant portion of its range.
FT (Federal Threatened): A species that is likely to become Endangered in the foreseeable future.
FC (Federal Candidate): A species for which USFWS has sufficient information on its biological status and threats to propose it as Endangered or Threatened under the Endangered Species Act (ESA), but for which development of a proposed listing regulation is precluded by other higher priority listing activities.
FSC (Federal Species of Concern): A species under consideration for listing, for which there is insufficient information to support listing at this time. These species may or may not be listed in the future, and many of these species were formerly recognized as "Category-2 Candidate" species.
State Protected Species
CE (California Endangered): A native species or subspecies which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.
CT (California Threatened): A native species or subspecies that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as "Rare" on or before January 1, 1985, is a "Threatened species."
SSC (California Species of Special Concern): Animals that are not listed under the California Endangered Species Act, but which nonetheless 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist.
CFP (California Fully Protected): This designation originated from the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians, reptiles, and birds. Most fully protected species have also been listed as Threatened or Endangered species under the more recent endangered species laws and regulations. California Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

federally designated critical habitat for a listed wildlife species. An analysis of the potential for occurrence of special-status wildlife at the site is presented in **Appendix 4**, which includes the species' protected status, primary habitat associations, and an assessment of their potential for occurrence (high, moderate, low, or none). The potential for occurrence was undertaken through research of the CDFW Natural Diversity Database (CDFW 2013) using the Rarefind application for special-status "elements" on the Calabasas quadrangle and eight adjacent quadrangles. The potential for occurrence analysis provides a speculative assessment of the potential for the occurrence at the site of special-status animals on the basis of their known distribution and habitat requirements. Only the species with at least some potential to occur at the site are included on this list.

According to the CDFW's CNDDB Rarefind 4 application, no special-status invertebrates are known to occur on-site. Also, there is no potential for special-status fishes or amphibians to occur due to lack of aquatic or suitable mesic habitats. The potential use of the site by special-status vertebrate wildlife species is limited to a small number of species of reptiles, birds, and mammals listed as California Fully Protected or Species of Special Concern by the State of California. No species listed as Threatened or Endangered under the Federal Endangered Species Act or the California Endangered Species Act has any reasonable potential to occur at the site. One special-status reptile, one special-status bird, and four special-status mammals, including the coast horned lizard (*Phrynosoma blainvillii*) [SSC], San Diego desert woodrat (*Neotoma lepida intermedia*) [SSC], golden eagle (*Aquila chrysaetos*) [CFP], pallid bat (*Antrozous pallidus*) [SSC], western mastiff bat (*Eumops perotis californicus*) [SSC], and western red bat (*Lasiurus blossevillii*) [SSC] have potential to occur at the site, with varying probabilities ranging from high to low. The coast horned lizard and the San Diego desert woodrat may potentially inhabit the site, while the golden eagle and the special-status bats may occur rarely or occasionally when foraging, but would not roost or nest at the site.

4.6 HABITAT LINKAGES AND WILDLIFE MOVEMENT

Wildlife must to be able to access habitat for water, foraging, breeding, and cover. Examples of barriers or impediments to movement, i.e., access, include housing and other urban development, roads, fencing, unsuitable habitat, or open areas with little vegetative cover. The term wildlife movement corridor is used to describe physical connections that allow wildlife to move between areas of suitable habitat in both undisturbed and fragmented landscapes, such as landscapes fragmented by urban development. Wildlife movement corridors are necessary for dispersal and migration, to ensure the mixing of genes between populations, and so wildlife can respond and adapt to environmental stress, and thus are necessary to maintain healthy ecological and evolutionary processes. Wildlife crossings are generally small, narrow areas allowing wildlife to pass through an obstacle or barrier, such as a roadway to reach another patch of habitat. These can be critical at both the local and regional level. Wildlife crossings include culverts, drainage pipes, underpasses, tunnels, and, more recently, crossings created specifically for wildlife movement over highways.

Based on a review of the following documents the project site is not within an area that has been identified as important to wildlife movement, such as a regional-scale habitat linkage or a wildlife movement corridor:

- *City of Calabasas 2030 General Plan*
- *Santa Monica Mountains National Recreation Area Land Protection Plan* (NPS, March 1998)
- *South Coast Missing Linkages Project: A Linkage Design for the Santa Monica Mountains-Sierra Madre Connection* (Penrod, K. et. al., 2006)

- *California Essential Connectivity Project: A Strategy for Conserving a Connected California* (Spencer et al., February 2010)

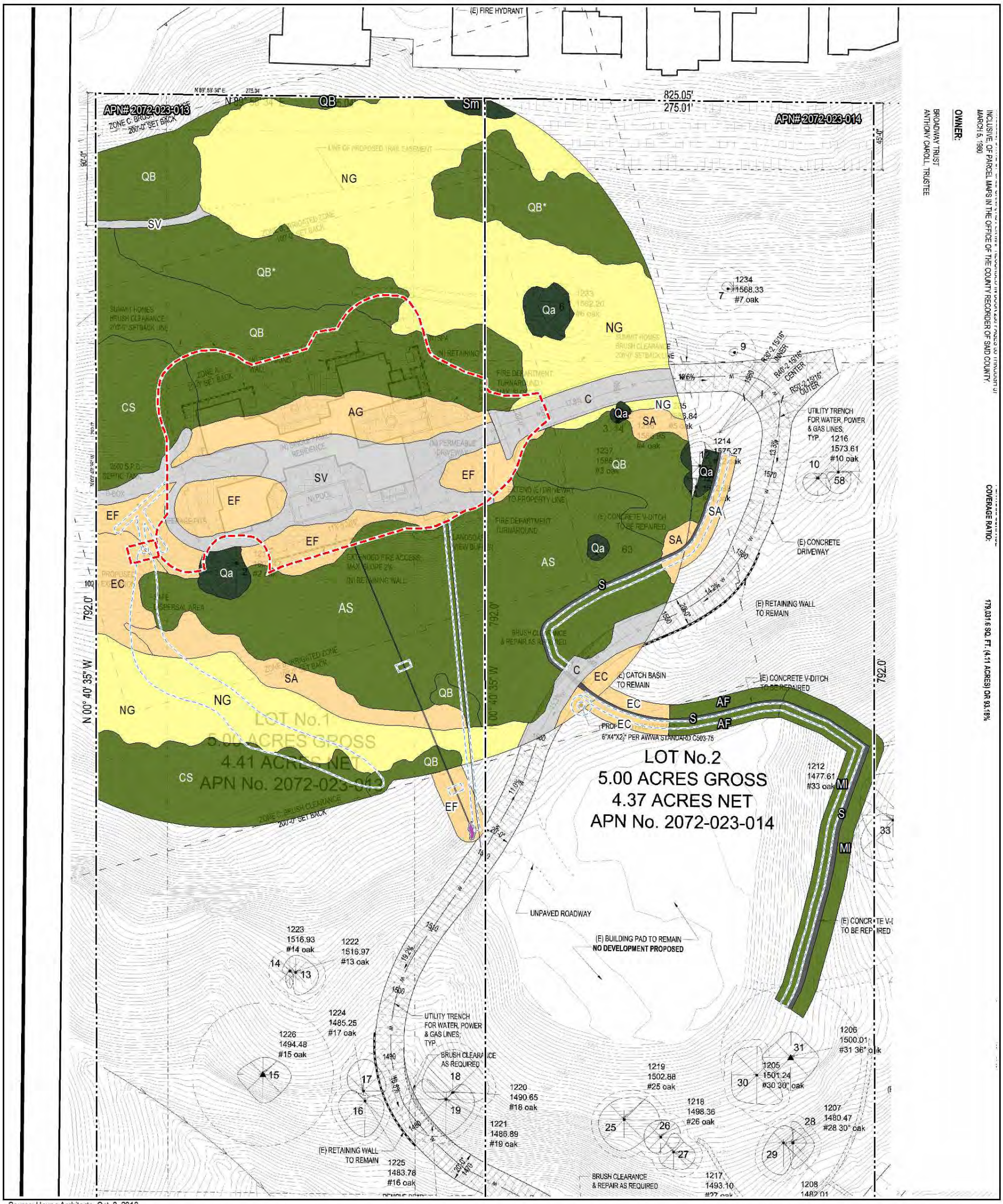
The potential importance of the project site to wildlife movement was also evaluated both in the field and by reviewing recent aerial photographs of the site and the surrounding area. Although a diversity of wildlife species could potentially move through the project site, as it contains vegetative cover and suitable habitat for many species, the site is not of particular importance to wildlife for movement. For example, the site is not situated within a bottleneck of habitat between larger areas of core suitable habitat, it does not contain an important wildlife crossing, and it is not necessary for wildlife to pass through the site to access essential resources for water, foraging, breeding, or cover. The project site is situated within an area that is still largely rural and surrounded by extensive areas of undisturbed native habitats of the Santa Monica Mountains. Development of the project would not impede wildlife movement through the area, given the amount of intact habitat that would remain in the vicinity of the site.

5.0 PROJECT IMPACTS AND MITIGATION

The proposed project would consist of a single-family residence, new landscaping, and associated facilities including a septic system, water, power, and gas lines, a fire hydrant, and a dip drain that would convey runoff from the residential hardscape to the access driveway. An erosion scar that has developed to the south of the existing graded pad would be filled as part of the project. The project would also involve repairs to the paved access driveway and a concrete v-ditch, which is located in a naturally vegetated area to the southeast of the proposed residence. Native vegetation would be cut back where it encroaches into the driveway. Utilities would be installed beneath the existing driveway, although a section of water line and a dip drain would be installed within naturally vegetated areas. The water line that would serve the residence would be connected to a water main at an off-site location on the northern side of Old Topanga Road and approximately 600 feet to the east of the paved access road. Fuel modification involving clearance and thinning of vegetation would potentially extend to 200 feet from the residence, based on standard Los Angeles County Fire Department (LACFD) requirements. The residence would be constructed on APN 2072-23-013, and fuel modification would affect portions of APN 2072-23-013 & 014. The v-ditch that would be repaired is located on APN 2072-23-014.

This impact analysis relies on a Master Plan prepared by Hayne Architects, dated October 8, 2013 (**Appendix 5)** and a Conceptual Grading and Drainage Plan prepared by EJK & Associates, dated October 7, 2013 (**Appendix 6)**. The impact analysis is based upon standard CEQA thresholds of significance for biological resources, as provided in CEQA Guidelines Appendix G. Fuel modification impacts are based upon LACFD standard 20-foot, 100-foot, and 200-foot setback zones. However, the fuel modification that would be necessary to protect the residence is ultimately at the discretion of LACFD.

The project limits of disturbance are shown overlaid on the vegetation map on **Figure 3,** Impacts Map, and the acreage of vegetation that would be impacted by the project is provided on **Table 2**. The limits of disturbance are inclusive of all proposed ground and vegetation disturbance associated with development of the project. Vegetation would be permanently removed by grading, landscaping, fuel modification, and installation of the rip-rap for the dip drain. Also, vegetation would be temporarily removed or disturbed by construction of the septic system, repair of the erosion scar, repair of the concrete v-ditch, and installation of the dip drain.



Source: Hayne Architects, Oct. 8, 2013.

Legend

- Property Boundaries
- Limits of Grading and Landscaping of Proposed Residence
- Proposed RipRap
- Limits of Temporary Construction Disturbance
- Limits of Potential Fuel Modification (200-ft Buffer of Proposed Structure)

Chaparral*

- QB — Scrub Oak Shrubland Association[1] (*Quercus berberidifolia*)
- CS — Chamise Shrubland Association (*Adenostoma fasciculatum*)
- AS — Chamise - Black Sage Shrubland Association (*Adenostoma fasciculatum - Salvia mellifera*)
- AF — Chamise Shrubland Alliance (*Adenostoma fasciculatum*)
- MI — Laurel Sumac Shrubland Association (*Malosma laurina*)

Coastal Scrub

- AG — Deerweed Shrubland Association (*Acmispon glaber*)
- EC — California Brittle Bush Shrubland Association[2] (*Encelia californica*)
- EF — California Buckwheat Shrubland Alliance (*Eriogonum fasciculatum*)
- SA — Purple Sage - California Sagebrush Shrubland Association (*Salvia leucophylla - Artemisia californica*)

Non-Native Herbaceous

- NG — Non-Native Grasses and Forbs Mapping Unit

Individual Trees

- Qa — Coast Live Oak (*Quercus agrifolia*)
- Sm — Peruvian pepper (*Schinus molle*)

Other

- SV — Barren or Sparsely Vegetated [ruderal]
- C — Concrete Driveway
- S — Concrete Swale

* Scrub Oak communities marked with an asterisk are currently thinned for fuel modification purposes.

[1] City of Calabasas Scrub Oak Habitat

[2] CDFW Natural Community of Special Concern (sensitive plant community)

Impact Map

0 70 Feet

FIGURE 3

INCLUSIVE, OF PARCEL MAPS IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY,
MARCH 5, 1980

OWNER:

BROADWAY TRUST
ANTHONY CAROLL, TRUSTEE

COVERAGE RATIO:

179,931.6 SQ. FT. (4.11 ACRES) OR 93.18%

Table 2
Impacted Acreage of Plant Communities

Habitat Class	Plant Community	Conservation Status Rank	Acreage (Survey Area)	Total Impacted Acreage*
Chaparral	Scrub Oak Shrubland Association (*Quercus berberidifolia*) [37.407.02]**	G4S4	1.07	1.06
	Chamise Shrubland Association (*Adenostoma fasciculatum*) [37.101.16]	G5S5	0.35	0.35
	Chamise – Black Sage Shrubland Association (*Adenostoma fasciulatum – Salvia mellifera*) [37.102.02]	G5S5	0.79	0.79
	Chamise Shrubland Alliance (*Adenostoma fasciculatum*) [37.101.16]	G5S5	0.04	0.009
	Laurel Sumac Shrubland Association (*Malosma laurina*) [45.455.01]	G4S4	0.12	0.03
Coastal Scrub	Deerweed Shrubland Association (*Acmispon glaber*) [52.240.01]	G5S5	0.13	0.13
	California Brittle Bush Shrubland Association (*Encelia californica*) [32.050.02]***	G4S3	0.11	0.09
	California Buckwheat Shrubland Alliance (*Eriogonum fasciculatum*) [32.040.00]	G5S5	0.23	0.21
	Purple Sage – California Sagebrush Shrubland Association (*Salvia leucophylla – Artemisia californica*) [32.090.01]	G4S4	0.14	0.13
Non-Native Herbaceous	Non-Native Grasses and Forbs Mapping Unit	n/a	1.06	1.06
Individual Trees	Coast Live Oak (*Quercus agrifolia*)	n/a	0.07	0.06
	Peruvian Pepper (*Schinus molle*)	n/a	0.01	0.01
Other Landcover	Concrete Driveway and Concrete Swales	n/a	0.15	n/a
	Barren or Sparsely Vegetated (Ruderal)	n/a	0.26	0.26
		TOTAL ACREAGE	**4.53**	**4.20**

* Total impacted acreage is inclusive of all ground and vegetation disturbance, including grading, landscaping, fuel modification, and temporary construction disturbance.
** City of Calabasas Scrub Oak Habitat
*** CDFW Natural Community of Special Concern (Sensitive Plant Community)

Not shown on Figure 3 are those areas where naturally occurring vegetation would be cut where it encroaches into the access road, or the location where the water line would be connected to the water main on the north side of Old Topanga Road. These areas do not contain sensitive habitats or special-status species, but they may contain protected oak trees and nesting birds could be present during the nesting season. Refer to the Oak Tree Report by L. Newman Design Group, Inc., dated August 15, 2013, for a study of oak trees with respect to their protection under the City's oak tree protection ordinance.

The following significant or potentially significant impacts to biological resources would result from development of the project:

5.1 IMPACTS TO SCRUB OAK HABITAT

Scrub oak habitat is protected by the City of Calabasas Oak Tree Ordinance (Section 17.32 of the Calabasas Municipal Code). A total of 1.06 acres of scrub oak habitat (*Quercus berberifolia*) would be impacted by the proposed project (See Figure 3). Removal, alteration, or disturbance to scrub oak habitat would be a significant impact. These impacts would be as follows:

- Grading of the proposed residential envelope would permanently remove 0.21 acres of scrub oak habitat;
- Grading to repair the erosion scar would remove 0.003 acres of scrub oak habitat;
- Excavation of a one-foot wide trench to install the water line to the proposed residence would alter 0.002 acres of scrub oak habitat; and,
- Fuel modification, based on a 200-foot distance from proposed structures, would permanently remove and/or substantially alter a total of 0.85 acres of scrub oak habitat.

Installation of the water line is anticipated to result in only minor alterations to scrub oak habitat, including pruning and/or potential removal of a small number of scrub oaks, as necessary, to excavate a trench and to allow access of equipment and construction personnel, which would not result in significant long-term adverse impacts to the habitat. Of the 0.85 acres of scrub oak habitat that would be impacted by fuel modification, 0.34 acres are currently subject to fuel thinning to protect residences at the Calabasas Highlands. Depending on LACFD review, additional fuel modification may not be required in areas that are currently subject to fuel thinning.

By City Ordinance, removal or alteration by development activities of scrub oak habitat requires an Oak Tree Permit to be issued by the City. Also, pruning of scrub oak habitat to meet City fuel modification requirements requires a Minor Oak Tree Permit. The following recommended mitigation measure has been included to ensure that potential impacts related to removal, alteration, and disturbance of scrub oak habitat would be minimized and mitigated.

Mitigation for Impacts to Scrub Oak Habitat

The Applicant shall comply with the conditions required by Oak Tree Permits to be obtained from the City prior to removal, alteration, or disturbance of scrub oak habitat. All construction work activities that would remove, alter, or otherwise disturb scrub oak habitat shall minimize impacts by implementing the following requirements:

- All work conducted within and adjacent to scrub oak habitat shall be performed in the presence of a Certified Arborist, and shall be verified by the City's oak tree consultant.
- The Applicant shall demarcate the limits of disturbance within or adjacent to scrub oak habitat with sturdy exclusionary fencing to prevent encroachment of project activities into scrub oak habitat. The fencing shall be marked with highly visible flagging and signed as a sensitive area. The City's oak tree consultant shall verify the fencing has been correctly installed prior to grading. The temporary fencing shall be routinely inspected and maintained in functional condition for the duration of project construction.

- Following construction, a City-qualified arborist shall conduct annual monitoring for a minimum of five years as warranted by site conditions, to ensure continued health of the scrub oak habitat that has been altered or temporarily disturbed.

Scrub oak habitat shall be provided at a 1:1 ratio at an onsite or offsite location approved by the City as mitigation for scrub oak habitat that is removed or altered by the project. Wherever impacts to scrub oak habitat are not permanent, scrub oak habitat that has been removed or altered by construction activities shall be fully restored by planting replacement scrub oak and associated species within the disturbed areas. Alternatively, the project could contribute the equivalent Product Replacement Cost (PRC) to the City Oak Tree Mitigation Fund.

5.2 IMPACTS TO CALIFORNIA BRITTLE BUSH SHRUBLAND

A total of 0.09 acres of California brittle bush shrubland (*Encelia californica*) would be impacted by the proposed project. California brittle bush shrubland is a CDFW Natural Community of Special Concern. Removal or disturbance to California brittle bush would be a significant impact. These impacts would be as follows:

- Grading to repair the erosion scar would remove 0.01 acres of California brittle bush shrubland;
- Fuel modification, based on a 200-foot distance from proposed structures, would permanently remove and/or substantially alter 0.07 acres of California brittle bush shrubland;
- Repairs to the concrete v-ditch would disturb 0.008 acres of California brittle bush shrubland;
- Installation of the fire hydrant would disturb 0.002 acres of California brittle bush shrubland; and,
- Grading and landscaping the 100% expansion area with turf grass would permanently remove 0.004 acres of California brittle bush shrubland.

Mitigation for Impacts to California Brittle Bush Shrubland

The 0.09 acres of California brittle bush shrubland that would be impacted by the project shall be compensated for at a 2:1 ratio. To the extent possible, this shall be accomplished by the on-site restoration of disturbed habitats (e.g., non-native grassland) to California brittle bush shrubland. On-site restoration should be implemented only where suitable conditions exist to support a viable California brittle bush plant community. Wherever impacts to California brittle bush shrubland are not permanent, California brittle bush shrubland that has been removed or disturbed by construction activities shall be fully restored by planting California brittle bush and associated species within the disturbed areas. If on-site restoration is not possible, compensation for the removal of California brittle bush shrubland may be accomplished by off-site restoration of in-kind habitat or by a contribution to an in-lieu fee program approved by the Community Development Director and the CDFW. In-lieu fees shall be used for the restoration of in-kind habitat.

A restoration plan shall be developed by a qualified biologist, restoration ecologist or resource specialist, and approved by the Community Development Director and CDFW prior to issuance of the grading permit for the project. In broad terms, the plan shall at a minimum include:

- Description of the project/impact and mitigation sites
- Specific objectives
- Success criteria
- Plant palette

- Implementation plan
- Maintenance activities
- Monitoring plan
- Contingency measures

Success criteria shall at a minimum be evaluated based on appropriate survival rates and percent cover of planted native species, as well as control of invasive plant species within the restoration area.

The restoration project shall be initiated prior to development of the project, and shall be implemented over a five-year period. The restoration project shall incorporate an iterative process of annual monitoring and evaluation of progress, and allow for adjustments to the restoration plan, as necessary, to achieve desired outcomes and meet success criteria. Annual reports discussing the implementation, monitoring, and management of the restoration project shall be submitted to the Community Development Director and the CDFW. Five years after project start, a final report shall be submitted to the Community Development Director and CDFW, which shall at a minimum discuss the implementation, monitoring and management of the restoration project over the five-year period, and indicate whether the restoration project has, in part, or in whole, been successful based on established success criteria. The project shall be extended if success criteria have not been met at the end of the five-year period to the satisfaction of the Community Development Director and the CDFW.

5.3 IMPACTS TO SPECIAL-STATUS WILDLIFE

Most of the special-status wildlife species that may potentially occur at the site are capable of escaping harm during project development, including grading and construction, or fuel modification, while others are potentially vulnerable to direct impacts, including injury and mortality. In this case, the special-status species that could be directly impacted include potentially occurring land dwelling animals, including the coast horned lizard (*Phrynosoma blainvillii*) [SSC] and San Diego desert woodrat (*Neotoma lepida*) [SSC]. Habitat loss associated with the project is not expected to significantly impact a population of a potentially occurring special-status wildlife species, given the relatively low acreage of habitat that would be affected and the amount of remaining suitable habitat in the surrounding area. Direct loss or injury to a special-status wildlife species would be a significant impact.

Mitigation for Impacts to Special-Status Wildlife

Prior to commencement of ground or vegetation disturbing activities at the project site, a qualified biologist shall conduct two surveys for special-status wildlife species. The first survey shall be conducted no more than seven (7) days prior to commencement of project activities and the second survey shall be conducted no more than three (3) days prior to the commencement of project activities. The survey shall incorporate methods to detect the special-status wildlife species that could potentially occur at the site. To the extent feasible, special-status species shall be avoided. If avoidance is not feasible, the species shall be captured and transferred to an appropriate habitat and location where it would not be harmed by project activities. The biologist shall hold the requisite permits for the capture and handling of the species. If a special-status wildlife species is found during the surveys, the biologist shall monitor all ground and vegetation disturbing activities at the project site throughout site prepation activities. Prior to commencement of the proposed activity, the methods and results of the surveys and, if a special-status species is found, the measures to be employed to avoid impacts to the species shall be presented in a letter report to the Community

Development Director and CDFW. Should a federally listed species be found, activities shall be postponed until the Applicant consults with the USFWS.

5.4 IMPACTS TO NESTING BIRDS

Ground and vegetation disturbing activities if conducted during the nesting bird season (February 1 to August 31) would have the potential to result in removal or disturbance to trees and shrubs that could contain active bird nests. In addition, these activities would also affect herbaceous vegetation that could support and conceal ground-nesting species. Project activities that result in the loss of bird nests, eggs, and young, would be in violation of one or more of California Fish and Game Code sections 3503 (any bird nest), 3503.5 (birds-of-prey), or 3511 (Fully Protected birds). In addition, removal or destruction of one or more active nests of any other birds listed by the federal Migratory Bird Treaty Act of 1918 (MBTA), whether nest damage was due to vegetation removal or to other construction activities, would be considered a violation of the MBTA and California Fish and Game Code Section 3511. The loss of protected bird nests, eggs, or young due to project activities would be a significant impact.

Mitigation for Impacts to Nesting Birds

Project activities, including but not limited to site preparation, construction, or fuel modification activities, with potential to disturb suitable bird nesting habitat shall be prohibited within the breeding/nesting season for native bird species (February 1 through August 31). If the breeding/nesting season cannot be avoided, than no earlier than 7 days prior to project activities with potential to disturb suitable bird nesting habitat that would occur during the nesting/breeding season (February 1 through August 31), a City-approved biologist shall perform two field surveys to determine if active nests of any bird species protected by the state or federal Endangered Species Acts, Migratory Bird Treaty Act, and/or the California Fish and Game Code Sections 3503, 3503.5, or 3511 are present at the limits of disturbance or within 500 feet of the limits of disturbance. The second nesting bird survey shall be conducted within three days of the start of the project activities. In the event that an active nest(s) is (are) found within the survey area, project activities with potential to disturb suitable bird nesting habitat within the 500-foot radius shall stop until consultation with the City, CDFW, and USFWS (when applicable, i.e. if the nesting birds are listed under the federal Endangered Species Act), is conducted and an appropriate setback can be established. The buffer shall be demarcated and project activities within the buffer shall be postponed or halted, at the discretion of a biological monitor, until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. Prior to start of project activities, the biologist shall submit a letter report discussing the nesting bird survey methods and results, as well as any measures to be implemented to avoid harm or disturbance to nesting birds to the Community Development Director, CDFW, and USFWS, if applicable.

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Appendix 1
Vascular Plant Species Observed
June 26, 2013

* indicates a non-native or introduced species

GROUP **Family** ***Scientific Name***	**Common Name**
FLOWERING PLANTS-DICOTS	
Adoxaceae	
Sambucus nigra ssp. *caerulea*	blue elderberry
Anacardiaceae	
Malosma laurina	laurel sumac
Rhus ovata	sugarbush
**Schinus molle*	Peruvian peppertree
Apocynaceae	
Asclepias fascicularis	narrowleaf milkweed
Asteraceae	
Artemisia californica	California sagebrush
Baccharis pilularis	coyote bush
**Centauria melitensis*	tocalote
Corethrogyne filaginifolia	California aster
Deinandra fasciculata	slender tarweed
Encelia californica	brittle bush
Eriophyllum confertiflorum	golden yarrow
Hazardia squarrosa var. *grindelioides*	sawtooth goldenbush
Heterotheca grandiflora	telegraph weed
Malacothrix saxatilis	cliff aster
Pseudognaphalium bioletti	two-tone everlasting
Pseudognaphalium californicum	California everlasting
Brassicaceae	
**Brassica nigra*	black mustard
**Hirschfeldia incana*	hoary mustard
Caprifoliaceae	
Lonicera subspicata	chaparral honeysuckle
Cucurbitaceae	
Marah macrocarpa	wild cucumber
Ericaceae	
Arctostaphylus glandulosa	eastwood manzanita
Arctostaphylus glauca	big berry manzanita
Fabaceae	
Acmispon glaber	deerweed
**Medicago polymorpha*	bur-clover
Fagaceae	
Quercus agrifolia	coast live oak
Quercus berberidifolia	scrub oak
Geraniaceae	
**Erodium cicutarium*	redstem filaree
Juglandaceae	
Juglans californica	California black walnut
Lamiaceae	
**Marrubium vulgare*	horehound
Salvia apiana	white sage
Salvia leucophylla	purple sage

GROUP **Family** ***Scientific Name***	**Common Name**
Salvia mellifera	black sage
Myrsinaceae	
**Anagallis arvensis*	scarlet pimpernel
Phrymaceae	
Mimulus aurantiacus	orange bush monkeyflower
Plantaginaceae	
Keckiella cordifolia	heart-leaved penstemon
Polygonaceae	
Eriogonum fasciculatum	California buckwheat
Rhamnaceae	
Ceanothus spinosus	greenbark ceanothus
Rhamnus ilicifolia	holly-leaf redberry
Rosaceae	
Heteromeles arbutifolia	toyon
FLOWERING PLANTS-MONOCOTS	
Agavaceae	
Chlorogalum pomeridianum	soap plant
Hesperoyucca whipplei ssp. *intermedia*	Whipple's yucca
Iridaceae	
Sisyrinchium bellum	blue-eyed grass
Poaceae	
**Avena fatua*	fat oat
**Bromus diandrus*	ripgut grass
**Bromus hordeaceus*	soft-chess
**Bromus madritensis* ssp. *rubens*	red brome
**Festuca myuros*	rattail fescue
Stipa coronata	giant stipa
Stipa lepida	foothill needlegrass

Appendix 2
Potential for Occurrence of Special-Status Vascular Plant Species

Common Name (*Scientific Name)*	Growth Form	Blooming Period	Primary Habitat Associations	Status (Federal/State/ CRPR)	Potential to Occur (high, moderate, low, none)
Agoura Hills dudleya (*Dudleya cymosa* ssp. *agourensis*)	perennial herb	May - June	Rocky, volcanic breccia in chaparral and cismontane woodland at elevations between 200 to 500 meters.	FT/1B.2	No potential to occur. Suitable habitats are absent. Also, project site is outside known range of the species.
Beach spectaclepod (*Dithyrea maritima*)	perennial rhizomatous herb	March - May	Coastal dune and sandy coastal scrub habitats at elevations between 3 and 50 meters.	CT/1B.1	No potential to occur. Suitable habitats are absent.
Blochman's dudleya (*Dudleya blochmaniae* ssp. *blochmaniae*)	perennial herb	April - June	Open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil; coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland at elevations between 5 and 450 meters.	1B.1	No potential to occur. Suitable habitats are absent.
Braunton's milkvetch (*Astragalus brauntonii)*	perennial herb	January – August	Recent burns or disturbed areas, usually sandstone with carbonate layers in closed-cone coniferous forest, chaparral, coastal scrub, and valley and foothill grassland at elevations between 4 and 640 meters. A soil specialist in saline, somewhat alkaline soils high in calcium, manganese, with some potassium.	FE/1B.1	No potential to occur. Soils at the site do not contain calcium carbonate (Web Soil Survey, July 2013). Field surveys adequate to confirm absence of aboveground plants at the site. Species is not known from vicinity of the project site.

Common Name (*Scientific Name)*	Growth Form	Blooming Period	Primary Habitat Associations	Status (Federal/State/ CRPR)	Potential to Occur (high, moderate, low, none)
Brewer's calandrinia (*Calandrinia breweri*)	annual herb	March - June	Sandy to loam substrates in disturbed chaparral and coastal scub habitats at elevations between 10 – 1220 meters.	4.2	Low potential to occur. However, species is probably absent based on negative results of June field survey.
California orcutt grass (*Orcuttia californica*)	annual herb	April – August	Vernal pools at elevations between 15 an 660 meters.	FE/CE/1B.1	No potential to occur. Suitable habitats are absent.
Catalina mariposa lily (*Calochortus catalinae*)	perennial bulbiferous herb	February - June	Open, heavy substrates in valley and foothill grasslands, coastal scrub, chaparral, and cismontane woodlands at elevations between 15 – 700 meters.	4.2	Low potential to occur. However, species is probably absent based on negative results of June field survey.
Chaparral nolina (*Nolina cismontana*)	perennial evergreen shrub	May – July	Sandstone or gabbro substrates in chaparral and coastal scrub at elevations between 140 and 1275 meters.	1B.2	No potential to occur. Confirmed absent by field surveys.
Coastal dunes milk-vetch (*Astragalus tener* var. *titi*)	annual herb	March – May	Coastal bluff scrub, coastal dunes, and coastal prairie habitats at elevations between 1 and 20 meters, often in vernally mesic areas.	FE/CE/1B.1	No potential to occur. Suitable habitats are absent.
Conejo buckwheat (*Eriogonum crocatum*)	perennial herb	April - July	Conejo volcanic outcrops in rocky chaparral, coastal scrub, and valley and foothill grassland habitats at elevations between 60 and 150 meters.	CR/1B.2	No potential to occur. Suitable habitats are absent. Also, project site is outside known range of the species.

Common Name (*Scientific Name)*	Growth Form	Blooming Period	Primary Habitat Associations	Status (Federal/State/ CRPR)	Potential to Occur (high, moderate, low, none)
Conejo dudleya (*Dudleya parva*)	perennial herb	May - June	Rocky or gravelly areas on clay or volcanic substrates in coastal scrub and valley and foothill grassland habitats at elevations between 60 and 450 meters.	FT/1B.2	No potential to occur. Suitable habitats are absent. Also, project site is outside known range of the species.
Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)	annual herb	February - June	Found in coastal salt marshes and swamps, playas, and vernal pools at elevations between 1 and 1,220 meters.	1B.1	No potential to occur. Suitable habitats are absent.
Coulter's saltbush (*Atriplex coulteri*)	perennial herb	March – October	Alkaline or clay soils in coastal bluff scrub, coastal dunes, coastal scrub, and valley and foothill grassland habitats at elevations between 3 and 460 meters.	1B.2	No potential to occur. Suitable habitats are absent.
Davidson's saltscale (*Atriplex serenana* var. *davisonii*)	annual herb	April - October	Alkaline soils in coastal bluff scrub, and coastal scrub habitats at elevations between 1 and 200 meters.	1B.2	No potential to occur. Suitable habitats are absent.
Decumbent goldenbush (*Isocoma meziesii* var. *decumbens*)	perennial shrub	April - November	Sandy, often disturbed, soils in coastal scrub, chaparral, landward side of dunes, hillsides, and arroyos at elevations between 10 – 135 meters.	1B.2	No potential to occur. Suitable habitats are absent.
Dune larkspur (*Delphinium parryi* ssp. *blochmaniae*)	perennial herb	April – June	Maritime chaparral and coastal dunes at elevations between 0 and 200 meters.	1B.2	No potential to occur. Suitable habitats are absent.

Common Name (*Scientific Name)*	Growth Form	Blooming Period	Primary Habitat Associations	Status (Federal/State/ CRPR)	Potential to Occur (high, moderate, low, none)
Hubby's phacelia (*Phacelia hubbyi*)	annual herb	April - July	Gravelly, rocky substrates in chaparral, coastal scrub, and valley and foothill grassland habitats at elevations between 0 – 1000 meters.	4.2	Low potential to occur. However, species is probably absent based on negative results of June field survey.
Late-flowered mariposa-lily (*Calochortus fimbriatus*)	perennial bulbiferous herb	June - August	Serpentine soils in chaparral, cismontane woodland, and riparian woodland habitats at elevations between 0 and 900 meters.	1B.3	No potential to occur. Based on Consortium of California herbaria records, the project site is outside the known range of the species.
Lyon's pentachaeta (*Pentachaeta lyonii*)	annual herb	March – August	Rocky, clay substrates in coastal scrub, valley and foothill grassland, and openings in chaparral at elevations between 30 and 630 meters.	FE/CE/1B.1	No potential to occur. Suitable habitat is absent. Also, species is not known from this part of the Santa Monica Mountains.
Malibu baccharis (*Baccharis malibuensis*)	perennial deciduous shrub	August	Chaparral, cismontane woodland, coastal scrub, and riparian woodland at elevations between 150 and 305 meters.	1B.1	No potential to occur. Confirmed absent by field surveys.
Many-stemmed dudleya (*Dudleya multicaulis*)	perennial herb	April – July	Chaparral, coastal scrub, and valley and foothill grasslands at elevations between 15 and 790 meters, in heavy, often clayey soils or grassy slopes.	1B.2	No potential to occur. Suitable habitats are absent.

Common Name (*Scientific Name)*	Growth Form	Blooming Period	Primary Habitat Associations	Status (Federal/State/ CRPR)	Potential to Occur (high, moderate, low, none)
Marcescent dudleya (*Dudleya cymosa* ssp. *marcescens*)	perennial herb	April – July	On sheer rock surfaces and rocky volcanic cliffs in chaparral at elevations between 150 and 520 meters.	FT/CR/1B.2	No potential to occur. Suitable habitats are absent.
Mesa horkelia (*Horkelia cuneata* var. *puberala*)	perennial herb	February - July	Sandy or gravely substrate in coastal scrub, maritime chaparral, and cismontane woodland habitats at elevations between 70 – 810 meters	1B.1	No potential to occur. Confirmed absent by field surveys.
Palmer's grapplinghook (*Harpagonella palmeri*)	annual herb	March - May	Clay soils in chaparral, coastal scrub, and valley and foothill grasslands at elevations between 20 and 995 meters.	4.2	No potential to occur. Suitable habitats are absent.
Parish's brittlescale (*Atriplex parishii*)	annual herb	June - October	Alkali meadows, vernal pools, chenopod scrub and playas usually on drying alkali flats with fine soils at elevations between 25 and 1900 meters.	1B.1	No potential to occur. Suitable habitats are absent.
Parry's spineflower (*Chorizanthe parryi* var. *parryi*)	annual herb	April – June	Sandy or rocky openings in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland at elevations between 275 and 1220 meters.	1B.1	No potential to occur. Only one record for the Santa Monica Mountains.

Common Name (*Scientific Name)*	Growth Form	Blooming Period	Primary Habitat Associations	Status (Federal/State/ CRPR)	Potential to Occur (high, moderate, low, none)
Plummer's mariposa lily (*Calochortus plummerae*)	perennial bulbiferous herb	May – July	Occurs on rocky sites, usually of granitic or rocky material in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland at elevations between 100 and 1700 meters.	4.2	Low potential for occurrence. However, species is probably absent based on negative results of June field survey.
Round-leaved filaree (*California macrophylla*)	annual herb	March – May	Cismontane woodland and valley and foothill grassland on clay soils at elevations between 15 and 1200 meters.	1B.1	No potential to occur. Suitable habitats are absent.
Salt spring checkerbloom (*Sidalcea neomexicana*)	perennial herb	March - June	Alkali springs and marshes in chaparral, coastal scrub, lower montane coniferous forest, playas, and Mojavean desert scrub at elevations between 15 and 1530 meters.	2B.2	No potential to occur. Suitable habitats are absent.
Salt-marsh bird's beak (*Chloropyron maritimum* spp. *maritimum*)	annual herb (hemi-parasitic)	May – October	Coastal dunes and coastal salt marshes and swamps at elevations between 0 and 30 meters.	FE/CE/1B.2	No potential to occur. Suitable habitats are absent.
San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*)	annual herb	April - July	Sandy soils in coastal scrub and valley and foothill grassland at elevations between 150 and 1220 meters.	FC/CE/1B.1	No potential to occur. Suitable habitats are absent.

Common Name (*Scientific Name)*	Growth Form	Blooming Period	Primary Habitat Associations	Status (Federal/State/ CRPR)	Potential to Occur (high, moderate, low, none)
Santa Monica dudleya (*Dudleya cymosa* ssp. *ovatifolia*)	perennial herb	March – June	Volcanic or sedimentary, rocky substrates in chaparral and coastal scrub at elevations between 150 and 1675 meters.	FT/1B.2	No potential to occur. Confirmed absent by field surveys.
Santa Susana tarplant (*Deinandra minthornii)*	perennial deciduous shrub	July - November	Rocky sandstone habitats in chaparral and coastal scrub at elevations between 280 and 760 meters.	CR/1B.2	No potential to occur. Confirmed absent by field surveys.
Slender mariposa-lily (*Calochortus clavatus* var. *gracilis*)	perennial bulbiferous herb	March - June	Shaded foothill canyons in chaparral, coastal scrub, and valley and foothill grassland at elevations between 320 and 1000 meters.	1B.2	No potential to occur. Suitable habitats are absent.
Slender-horned spineflower (*Dodecahema leptoceras*)	annual herb	April – June	Flood deposited terraces and washes in chaparral, cismontane woodland, and coastal scrub (alluvial fan sage scrub) at elevations between 200 and 760 meters.	FE/CE/1B.1	No potential to occur. Suitable habitats are absent.
Sonoran maiden fern (*Thelypteris puberula* var. *sonorensis*)	perennial rhizomatous herb	January – September	Meadows and seeps along streams and seepage areas at elevations between 50 and 610 meters.	2.B2	No potential to occur. Suitable habitats are absent.

Common Name (*Scientific Name)*	Growth Form	Blooming Period	Primary Habitat Associations	Status (Federal/State/ CRPR)	Potential to Occur (high, moderate, low, none)
Southern tarplant (*Centromadia parryi* ssp. *australis*)	annual herb	May - November	Margins of marshes and swamps, vernally mesic valley and foothill grassland, and sometimes on vernal pools at elevations between 0 and 425 meters.	1B.1	No potential to occur. Suitable habitats are absent.
Ventura Marsh milk-vetch (*Astragalus pycnostachyus* var. *lanosissimus*)	perennial herb	June - October	Coastal dunes, coastal scrub, and edges of brackish or coastal salt marshes and swamps at elevations between 1 and 35 meters.	FE/CE/1B.1	No potential to occur. Suitable habitats are absent.
Western spleenwort (*Asplenium vespertinum*)	perennial rhizomatous herb	February - June	Base of overhanging boulders and rocky substrates in chaparral, cismontane woodland, and coastal scrub habitats at elevations between 180 – 1000 meters.	4.2	No potential to occur. Suitable habitats are absent. Confirmed absent by field surveys.
White rabbit tobacco (*Pseudognaphaliu m leucocephalum*)	perennial herb		Sandy or gravelly substrates in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats at elevations between 0 – 2100 meters.	2B.2	No potential to occur. Confirmed absent by field surveys.
White-veined monardella (*Monardella hypoleuca* ssp. *hypoleuca*)	perennial herb	May - October	Chaparral and shady oak woodland habitats at elevations between 0 and 1500 meters	1B.3	No potential to occur. Confirmed absent by field surveys.

Common Name (*Scientific Name)*	Growth Form	Blooming Period	Primary Habitat Associations	Status (Federal/State/ CRPR)	Potential to Occur (high, moderate, low, none)

Federally Protected Species

FE (Federal Endangered): A species that is in danger of extinction throughout all or a significant portion of its range.

FT (Federal Threatened): A species that is likely to become Endangered in the foreseeable future.

FC (Federal Candidate): A species for which USFWS has sufficient information on its biological status and threats to propose it as Endangered or Threatened under the Endangered Species Act (ESA), but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

State Protected Species

CE (California Endangered): A native species or subspecies which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

CT (California Threatened): A native species or subspecies that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as "Rare" on or before January 1, 1985, is a "Threatened species."

CR (California Rare): A species, subspecies, or variety of plant is Rare under the Native Plant Protection Act when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become Endangered if its present environment worsens. Animals are no longer listed as Rare; all animals listed as Rare before 1985 have been listed as Threatened.

California Native Plant Society (CNPS) Rare Plant Rank

CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere.

CRPR 1B: Plants Rare, Threatened, or Endangered in California and elsewhere.

CRPR 2A: Plants presumed extirpated in California, but more common elsewhere.

CRPR 2B: Plants Rare, Threatened, or Endangered in California, but more common elsewhere.

CRPR 3: A review list for plants for which there is inadequate information to assign them to one of the other lists or to reject them.

CRPR 4: A watch list for plants that are of limited distribution in California.

CNPS Threat Rank

The CNPS Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment, as follows:

- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 0.2-Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- 0.3-Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Appendix 3
Vertebrate Wildlife Species Observed
June 26, 2013

* by direct observation, sign, or vocalization

Common Name	*Scientific Name*
REPTILES	
western fence lizard	*Sceloporus occidentalis*
BIRDS	
acorn woodpecker	*Melanerpes formicivorus*
Anna's hummingbird	*Calypte anna*
ash-throated flycatcher	*Myiarchus cinerascens*
barn swallow	*Hirundo rustica*
California towhee	*Pipilo crissalis*
cliff swallow	*Petrochelidon pyrrhonota*
common raven	*Corvus corax*
mourning dove	*Zenaida macroura*
northern flicker	*Colaptes auratus*
northern mockingbird	*Mimus polyglottos*
oak titmouse	*Baeolophus inornatus*
turkey vulture	*Cathartes aura*
western scrub jay	*Apehelocoma californica*
white-throated swift	*Aeronautes saxatalis*
wrentit	*Chamaea fasciata*
MAMMALS	
coyote	*Canis latrans*
desert cottontail	*Sylvilagus audubonii*
domestic dog	*Canis lupis familiaris*
large-eared woodrat	*Neotoma macrotis*
mule deer	*Odocoileus hemionus*

Appendix 4
Potential for Occurrence of Special-Status Wildlife Species

Common Name (*Scientific Name*)	Status Federal/State/Other	Primary Habitat Associations	Status on Site or Potential to Occur
Fish			
There is no potential for occurrence of special-status fishes due to lack of suitable habitat.			
Amphibians			
There is no potential for occurrence of special-status amphibians due to lack of suitable habitat.			
Reptiles			
Coast horned lizard (*Phrynosoma blainvillii*)	--/SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Microhabitat requirements include open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	High potential to occur.
San Diego mountain kingsnake (*Lampropeltis zonata* ssp. *pulchra*)	--/SSC	Restricted to the San Gabriel and San Jacinto Mtns of southern California. Inhabits a variety of habitats, including valley-foothill hardwood, coniferous, chaparral, riparian, and wet meadows.	No potential to occur. Suitable habitats are absent.
Silvery legless lizard (*Anniella pulchra pulchra*)	--/SSC	Frequents the sparse vegetation cover within a wide variety of habitats including beaches, dunes, chaparral, pine-oak woodland, and streamsides. Microhabitats requirements include loose soils for burial and leaf litter for foraging.	No potential to occur. Suitable habitats are absent.
Two-striped garter snake (*Thamnophis hammondii*)	--/SSC	Highly aquatic, found in or near permanent fresh water. Along streams with rocky beds and riparian growth.	No potential to occur. Suitable habitats are absent.
Western pond turtle (*Emys marmorata*)	--/SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation.	No potential to occur. Suitable habitats are absent.
Birds			
Bank swallow (*Riparia riparia*)	--/CT	Very uncommon spring transient and rare fall transient, and casual winter transient along the coast, formerly a fairly common summer resident, now virtually extirpated as a breeder in the region (Garrett and Dunn 1981).	No potential to occur. Suitable habitats are absent.

Common Name (*Scientific Name*)	Status Federal/State/Other	Primary Habitat Associations	Status on Site or Potential to Occur
Burrowing owl (*Athene cunicularia*) (burrow sites and some wintering sites)	--/SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel. Now extirpated from most of the coastal slope of the Los Angeles region (Garrett et al 2006). Now occurs mainly as a transient and winter visitor to coastal southern California.	No potential to occur. Suitable habitats are absent.
Coastal California gnatcatcher (*Polioptila californica californica*)	FT/SSC	Obligate, permanent resident of coastal sage scrub below 2,500 feet in southern California. Low, coastal sage scrub in arid washes and on mesas and slopes.	No potential to occur. Species not known from the Santa Monica Mountains.
Golden eagle (*Aquila chrysaetos*) (nesting and wintering)	--/CFP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Moderate potential to forage at the site; not nesting.
Least Bell's Vireo (*Vireo Bellii pusillus*)	FE/CE	Summer resident in lowland riparian woodlands, breeding in willow thickets and other dense, low riparian growth in lowlands and the lower portions of the canyons, generally along permanent or semi-permanent streams.	No potential to occur. Suitable habitats are absent.
Tri-colored blackbird (*Agelaius tricolor*)	--/SSC	Freshwater marshes of cattails, tule, bulrushes and sedges; in migration and winter, also in open cultivated lands and pasture	No potential to occur. Suitable habitats are absent
Mammals			
California leaf-nosed bat (*Macrotus californicus*)	--/SSC	Desert riparian, desert wash, desert scrub, desert succulent scrub, alkali scrub and palm oasis habitats. Needs rocky, rugged terrain with mines or caves for roosting.	No potential to occur. Suitable habitats are absent.

Common Name (*Scientific Name*)	Status Federal/State/Other	Primary Habitat Associations	Status on Site or Potential to Occur
Pallid bat (*Antrozous pallidus*)	--/SSC	Deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Low potential to occur while foraging, but not reproducing, hibernating, or roosting at the site.
Spotted bat (*Euderma maculatum*)	--/SSC	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.	No potential to occur. Suitable habitats are absent
Western mastiff bat (*Eumops perotis californicus*)	--/SSC	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Moderate potential to occur while foraging, but not reproducing, hibernating, or roosting at the site.
Western red bat (*Lasiurus blossevillii*)	--/SSC	Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	Moderate potential to occur while foraging, but not reproducing, hibernating, or roosting at the site.
American badger (*Taxidea taxus*)	--/SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	No potential to occur. Suitable habitats are absent.
San Diego desert woodrat (*Neotoma lepida intermedia*)	--/SSC	Coastal scrub of southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. Particularly abundant in rock outcrops and rocky cliffs and slopes.	Moderate potential to occur. Preferred rocky habitats are absent, but there are suitable patches of coastal scrub and small rock outcrops at the site.

Common Name (*Scientific Name*)	Status Federal/State/Other	Primary Habitat Associations	Status on Site or Potential to Occur

Federally Protected Species

FE (Federal Endangered): A species that is in danger of extinction throughout all or a significant portion of its range.

FT (Federal Threatened): A species that is likely to become Endangered in the foreseeable future.

FC (Federal Candidate): A species for which USFWS has sufficient information on its biological status and threats to propose it as Endangered or Threatened under the Endangered Species Act (ESA), but for which development of a proposed listing regulation is precluded by other higher priority listing activities.

FSC (Federal Species of Concern): A species under consideration for listing, for which there is insufficient information to support listing at this time. These species may or may not be listed in the future, and many of these species were formerly recognized as "Category-2 Candidate" species.

State Protected Species

CE (California Endangered): A native species or subspecies which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

CT (California Threatened): A native species or subspecies that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as "Rare" on or before January 1, 1985, is a "Threatened species."

SSC (California Species of Special Concern): Animals that are not listed under the California Endangered Species Act, but which nonetheless 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist.

CFP (California Fully Protected): This designation originated from the State's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals, amphibians, reptiles, and birds. Most fully protected species have also been listed as Threatened or Endangered species under the more recent endangered species laws and regulations. California Fully Protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Appendix 5
Master Plan, Hayne Architects
October 8, 2013

PROJECT DATA:

PROPERTY ADDRESS:	3121 OLD TOPANGA CANYON ROAD CALABASAS, CA
ASSESSOR'S PARCEL NUMBER:	2072-023-013
LEGAL DESCRIPTION:	PARCEL 1 OF THE PARCEL MAP No. 11026 IN THE CITY OF CALABASAS
LAND USE ZONE:	HILLSIDE-MOUNTAINOUS ZONE SCENIC CORRIDOR OVERLAY ZONE
PROPERTY USE/OCCUPANCY:	R3-U1
TYPE OF CONSTRUCTION:	TYPE V-A
FIRE HAZARD SEVERITY ZONE:	VHFHSZ FIRE SPRINKLERS REQ'D
AREA:	5 ACRES GROSS 4.41 ACRES NET
AVERAGE SLOPE : $\frac{0.00229 \times I \times L}{A}$ =	34.5%

LEGAL DESCRIPTION:

PARCELS 1 OF AMENDED PARCEL MAP No. 11026, IN THE CITY OF CALABASAS, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 230 PAGES 55 THROUGH 57 INCLUSIVE, OF PARCEL MAPS IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY. MARCH 5, 1980

OWNER:

BROADWAY TRUST
ANTHONY CAROLL, TRUSTEE

BUILDING FLOOR AREA:

MAIN LEVEL FLOOR AREA:	6,192 SQ.FT.
LOWER LEVEL FLOOR AREA:	1,441 SQ.FT.
TOTAL:	**7,633 SQ.FT.**
BASEMENT FLOOR AREA:	1,320 SQ.FT.
GARAGE AREA:	661 SQ.FT.
EAVE OVERHANG	1,045 SQ.FT.
TOTAL DEVELOPMENT AREA:	**10,659 SQ.FT.**
FLOOR AREA RATIO:	**7,633 SQ.FT.** **4.41 ACRES = 3.97%**

NON-PERVIOUS AREA

BUILDING FOOTPRINT:	6,844 SQ.FT.
PROPOSED HARDSCAPE AREA:	6,254 SQ.FT.
TOTAL NON-PERVIOUS AREA:	**13,098 SQ.FT. OR 6.82%**
LOT COVERAGE RATIO:	**6,844 SQ.FT.** **4.41 ACRES = 3.56%**

PERVIOUS SURFACE COVERAGE

PROPOSED LANDSCAPE AREA:	13,492 SQ.FT.
SWIMMING POOL:	720 SQ.FT.
(E) NATURAL LANDSCAPE AREA:	3.78 ACRES
PERVIOUS SURFACE COVERAGE RATIO:	**179,031.6 SQ. FT. (4.11 ACRES) OR 93.18%**

NOTES:

1. IRRIGATION WILL NOT IMPACT ZONE OF OAKS OR ENCROACH INTO THE PROTECTED ZONE (5'-0" OUTSIDE DRIPLINES) IN ACCORDNACE WITH L.A. COUNTY FIRE DEPARTMENT AND CITY OF CALABASAS REGULATIONS, PERTAINING TO TO FUEL MODIFICATION AND IRRIGATION.

2. IRRIGATION TO COMPLY WITH THE STANDARDS PROVIDED IN SECTION 17.26.050 (C) AND (D) OF THE CODE.

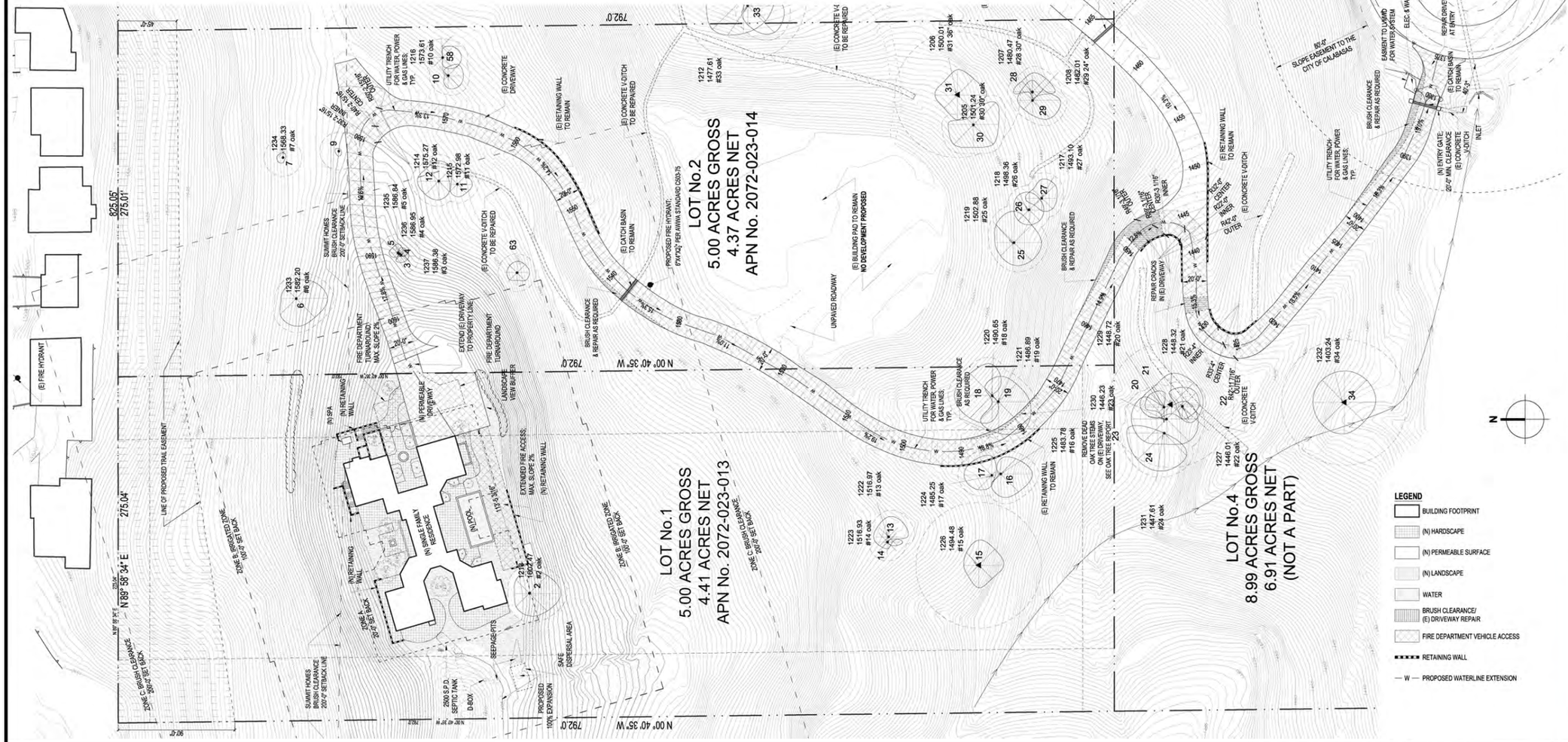
3. ALL OUTDOOR LIGHTS TO BE LESS THAN 60WATTS AND WILL COMPLY WITH REQUIREMENTS OF SECTION 17.27 OF THE CODE. (THE "DARK SKIES" ORDINANCE)

4. SWIMMING POOL BARRIERS TO BE PROVIDED PER 2010 CALIFORNIA BUILDING CODE.

5. ALL FENCING ON THE PROPERTY WILL COMPLY WITH THE REQUIREMENTS OF SECTION 17.20.100 (H). (WLDLIFE FRIENDLY FENCING).

DRIVEWAY SLOPE CALCULATIONS:

FINISH ELEVATION AT PROPOSED RESIDENCE :	1605.75'
ENTRY ELEVATION AT OLD TOPANGA CANYON ROAD :	1375.00'
TOTAL ELEVATION CHANGE:	230.75'
LENGTH OF (E) DRIVEWAY:	1,500.00'
AVERAGE DRIVEWAY SLOPE:	**230.75'** **1,500.00 = 15.38% < 17%**



MASTER PLAN — SCALE 1"=40'-0" — 1

HAYNE ARCHITECTS
POST OFFICE BOX 39
MALIBU, CA 90265
PH: 310.456.0050
FAX: 310.456.0925

BROADWAY TRUST RESIDENCE
3121 OLD TOPANGA CANYON ROAD CALABASAS, CA 91302

MASTER PLAN

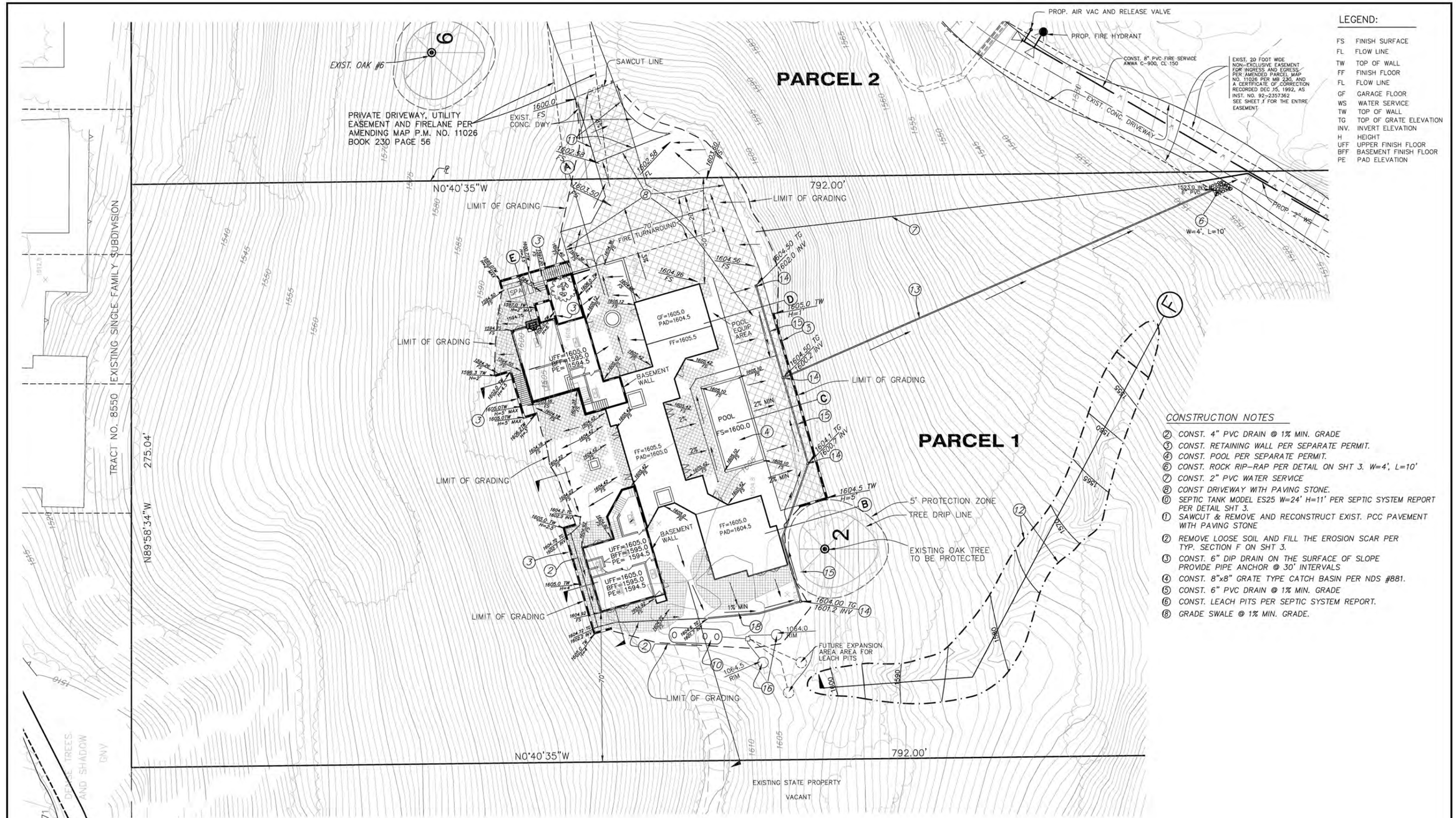
4	PLANNING RESUBMITTAL	10/8/2013
3	PLANNING RESUBMITTAL	8/1/2013
2	PLANNING SUBMITTAL	6/10/2013

DATE: 10/8/2013
SCALE: AS NOTED
DRAWN BY: HLJ
FILE:

LICENSED ARCHITECT ROBERT D. HAYNE NO. C21070 STATE OF CALIFORNIA

A-1.0

Appendix 6
Conceptual Grading and Drainage Plan, EJK & Associates, October 7, 2013



LEGEND:

FS	FINISH SURFACE
FL	FLOW LINE
TW	TOP OF WALL
FF	FINISH FLOOR
FL	FLOW LINE
GF	GARAGE FLOOR
WS	WATER SERVICE
TW	TOP OF WALL
TG	TOP OF GRATE ELEVATION
INV.	INVERT ELEVATION
H	HEIGHT
UFF	UPPER FINISH FLOOR
BFF	BASEMENT FINISH FLOOR
PE	PAD ELEVATION

CONSTRUCTION NOTES

(2) CONST. 4" PVC DRAIN @ 1% MIN. GRADE
(3) CONST. RETAINING WALL PER SEPARATE PERMIT.
(4) CONST. POOL PER SEPARATE PERMIT.
(6) CONST. ROCK RIP-RAP PER DETAIL ON SHT 3. W=4', L=10'
(7) CONST. 2" PVC WATER SERVICE
(8) CONST DRIVEWAY WITH PAVING STONE.
(10) SEPTIC TANK MODEL ES25 W=24' H=11' PER SEPTIC SYSTEM REPORT PER DETAIL SHT 3.
(1) SAWCUT & REMOVE AND RECONSTRUCT EXIST. PCC PAVEMENT WITH PAVING STONE
(2) REMOVE LOOSE SOIL AND FILL THE EROSION SCAR PER TYP. SECTION F ON SHT 3.
(3) CONST. 6" DIP DRAIN ON THE SURFACE OF SLOPE PROVIDE PIPE ANCHOR @ 30' INTERVALS
(4) CONST. 8"x8" GRATE TYPE CATCH BASIN PER NDS #881.
(5) CONST. 6" PVC DRAIN @ 1% MIN. GRADE
(6) CONST. LEACH PITS PER SEPTIC SYSTEM REPORT.
(8) GRADE SWALE @ 1% MIN. GRADE.

20 0 10 20 40
GRAPHIC SCALE
SCALE : 1"=20'

REGISTERED PROFESSIONAL ENGINEER EE JIG KIM No. 42388 Exp. 3/31/14 CIVIL STATE OF CALIFORNIA

FOR CONCEPTUAL APPROVAL ONLY

CITY of CALABASAS
PUBLIC WORKS DEPARTMENT
100 Civic Center Way
CALABASAS, CA 91302
818.224.1600
FAX 818.225.7338
WWW.CITYOFCALABASAS.COM

PREPARED BY:
EJK & Associates
CIVIL ENGINEERING & LAND PLANNING
6020 Platt Ave. #338, West Hills, CA. 91307
Phone: 818/337-9056
10-7-13
REGISTERED CIVIL ENGINEER NO. 42388 E. J. KIM, P.E., EXP. 3/31/14 DATE

PREPARED FOR:
BROADWAY TRUST
22467 PACIFIC COAST HWY
MALIBU, VA 90265
310-456-0050

CONCEPTUAL GRADING AND DRAINAGE PLAN

3121 OLD TOPANGA CYN. ROAD
PCL 1, PM 11026
PARCEL No. 2072-023-013

DESIGNED BY:
CHECKED BY:
DRAWN BY:
SCALE: 1"=20'
SHEET NO. 2 of 3

UNDERGROUND SERVICE ALERT (USA) OF SOUTHERN CALIFORNIA

APPENDIX B
GEOTECHNICAL SITE EVALUATION

WILLDAN Geotechnical | extending your reach

September 25, 2013
Willdan Geotechnical Project No. 100498-1032

CITY OF CALABASAS – DEPARTMENT OF COMMUNITTY DEVELOPMENT
ENGINEERING GEOLOGY AND GEOTECHNICAL ENGINEERING REVIEW

Submitted to: Ms. Tatiana Holden, City of Calabasas

Project Location: 3121 Old Topanga Canyon Road, Calabasas, California

Geotechnical Report: "Updated Soils and Engineering Geologic Report for Proposed Single-Family Residence, 1321 Old Topanga Canyon Road, Parcel 1, Parcel Map 11026, Calabasas, California", prepared by GeoSystems, Inc., GS13-0502-1, dated September 1, 2013.

"Updated Soils and Engineering Geologic Report for Proposed Single-Family Residence, Parcel 1, Parcel Map 11026, 3121 Old Topanga Canyon Road, Calabasas, California", prepared by GeoSystems, Inc., GS13-0502, dated June 17, 2013.

"Geologic and Geotechnical Engineering Review, Parcel 1-3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California" Prepared by RJR, Dated June 25, 2007.

Review Status: The Geotechnical Report is **approved** from Geotechnical viewpoint subject to following conditions:

Conditions of Approval:

1. The applicant should provide supporting documentations that the conditions of City Approval dated June 25, 2007 (Referenced Review #4) are satisfactorily resolved.
2. The Geotechnical Consultant should verify compliance of grading and foundation plans including proposed improvements above the existing slope, and Grading Notes with their recommendations by signing and stamping the plans.
3. Final approved geotechnical reports should be referenced on plans.

This review was performed in accordance with generally accepted professional geotechnical engineering principles and practice in Southern California at this time. We make no other warranty, either express or implied. Conclusions presented herein are based on review of work by others. No field exploration or laboratory testing was performed. Please contact us if you have questions.

Respectfully submitted,

WILLDAN GEOTECHNICAL

Ross Khiabani, PE, GE
Director of Geotechnical Services
C 37156, GE 2202

Distribution: Addressee
Ms. Roxanne Hughes, Willdan Engineering

WILLDAN Engineering

Transmittal

TO:	Tatiana Holden
FROM:	Roxanne Hughes
DATE	October 14, 2013
SUBJECT	PC#2 for 3121 Old Topanga Cyn Rd Concept Grading and Drainage Plan and Concept Hydrology Report
PROJECT/PHASE	100498/1032

SENT BY: ☐ U.S. Mail ☐ OnTrac ☐ Federal Express
☒ Hand Carried ☐ Other _____

The Concept Grading and Drainage Plan and the Concept Hydrology Report for the subject project are acceptable for feasibility level approval, pending documentation that LVMWD and LACO Fire Department will approve the proposed water service and fire flows as shown. Please forward the attached Fire Flow Calculations report comments and the aerial view of the property to pose the question whether they have considered using Orchid Trail paper street as a connection point through the State property to the west of the proposed project site?

- Roxanne

Engineering | Geotechnical | Environmental | Financial | Homeland Security
805.653.6597 | 800.491.1720 | fax: 805.643.0791 | 374 Poli Street, Suite 101, Ventura, CA 93001-2605 | www.willdan.com

GEOSYSTEMS, INC.

ENVIRONMENTAL
ENGINEERING-GEOLOGY
GEOTECHNICAL ENGINEERING

September 10, 2013
GS13-0502-1

Broadway Trust c/o
Hayne Architects
22467 Pacific Coast Highway
Malibu, CA 90265

Attn: Ms. Holli Jackowski

SUBJECT: Updated Soils and Engineering Geologic Report for Proposed Single-Family Residence, 1321 Old Topanga Canyon Road, Parcel 1, Parcel Map 11026, Calabasas, California.

REFERENCES:

1) Updated Soils and Engineering Geologic Report for Proposed Single-Family Residence, 1321 Old Topanga Canyon Road, Parcel 1, Parcel Map 11026, Calabasas, California; GeoSystems, Inc., GS13-0502, dated June 17, 2013.

2) City of Calabasas - Department of Community Development, Engineering Geologic and Geotechnical Engineering Review, 3121 Old Topanga Canyon Road, Calabasas, California; Willdan Geotechnical, Project No. 100498-1032, dated August 14, 2013.

This supplemental report provides our response to the referenced engineering geologic and geotechnical engineering review letter dated August 14, 2013. Issues raised in the review letter are addressed in the order in which they are presented, and a copy of the letter is included for your reference.

Item 1

A copy of the City of Calabasas, Geologic and Geotechnical Engineering Review letter dated June 25, 2007 is included herein.

Item 2

The recommended retaining wall design active pressures are for walls backfilled with properly compacted on-site or imported non-expansive soils. Per the Grading Guidelines

presented in our referenced report, all imported earth materials should be approved by the soils engineer.

As recommended in the Retaining Wall section of our report dated June 17, 2013, all walls should be effectively waterproofed, provided with an adequate subdrainage system, and backfilled in accordance with the attached retaining wall backfill and subdrain details, Plates RD-1 and RD-2.

The following parameters should be considered when selecting borrow sites when imported fill materials are necessary. A representative sample of the import material should be delivered to our office for approval by the Soil Engineer prior to transporting to the job site.

- should be of sandy composition with a plasticity index not to exceed 12;
- should be of low expansion potential;
- should not contain rocks larger than 6-inches maximum size;
- not more than 15 percent passing #200 sieve;
- should be clean of organic material and construction debris.

All retaining wall design recommendations presented in our referenced report remain applicable.

Item 3

A passive pressure analysis factoring in sloping ground, and overburden pressure is attached see Plate PP-1. A passive pressure of 300 pcf can be used for design of the proposed foundations.

Items 4 & 5

These items are acknowledged and require no additional comment by this office.

Remarks

All recommendations presented in the referenced reports which are not superseded herein remain applicable and in effect.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to assure that the information and recommendations contained herein are called to the attention of the designers and builders for the project.

Please feel free to call should you have any questions.

GEOSYSTEMS, INC.

Richard Gladson, Senior Geologist
CEG 1758, Exp. 9-30-15

PROFESSIONAL GEOLOGIST
RICHARD A. GLADSON
No. 1758
CERTIFIED ENGINEERING GEOLOGIST
STATE OF CALIFORNIA

Steve S. Tsai, Vice President
GE 2268, Exp. 3-31-14

REGISTERED PROFESSIONAL ENGINEER
STEVE SHI-SHEN TSAI
No. 2268
GEOTECHNICAL
STATE OF CALIFORNIA

Attachments: Plate PP-1 and City Review Letters

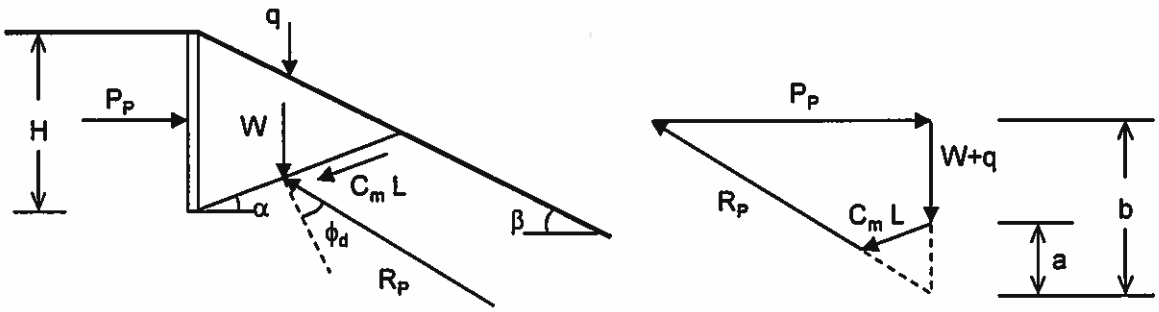
CC: 5 Client

RG:ST:VJC/jsc

G:\GS13\GS13-0502\REPORTS\Old Topanga Cyn Rd -1.Broadway.wpd

APPENDIX

Vector Method



Depth of foundation, H =	10.0	feet
Angle of bedrock slope, β =	25.0	degrees
Unit weight of bedrock, γ =	130.0	pcf
Cohesion of bedrock, C =	700.0	psf
Friction angle of bedrock, ϕ =	26.0	degrees
Factor of Safety, F.S. =	**1.50**	
Design cohesion, C_d =	*466.7*	psf
Design fricition angle, ϕ_d =	*18.0*	degrees

Unbalance Force Calculations

Angle of failure plane, α =	*36.0*	degrees	
Surcharge, q =	0.7	kips/ft	(from overburden above 10 feet to daylight)
Length of failure plane, L =	*10.4*	feet	
Weight of the failure wedge, W =	*5.4*	kips/ft	
a =	*5.7*	kips/ft	
b =	*11.8*	kips/ft	
Passive earth force, P_P =	*16.2*	kips/ft	
EFP =	*324.5*	pcf	

USE PASSIVE PRESSURE (EFP) =	**300**	**pcf**

GEOSYSTEMS, Inc.
ENVIRONMENTAL, ENGINEERING-GEOLOGY AND GEOTECHNICAL ENGINEERING
1545 VICTORY BLVD., 2ND FLR., GLENDALE, CA 91201-9240
PHONE 818-500-9533 FAX 818-500-0134

PASSIVE PRESSURE ANALYSIS

3121 Old Topanga Canyon Road

Calabasas, California

DATE: June, 2013	GS 13-0311	PLATE PP-1

WILLDAN Geotechnical | extending your reach

August 14, 2013
Willdan Geotechnical Project No. 100498-1032

CITY OF CALABASAS – DEPARTMENT OF COMMUNITTY DEVELOPMENT
ENGINEERING GEOLOGY AND GEOTECHNICAL ENGINEERING REVIEW

Submitted to:	Ms. Tatiana Holden, City of Calabasas
Project Location:	3121 Old Topanga Canyon Road, Calabasas, California
Geotechnical Report:	Updated Soils and Engineering Geologic Report for Proposed Single-Family Residence, Parcel 1, Parcel Map 11026, 3121 Old Topanga Canyon Road, Calabasas, California; prepared by GeoSystems, Inc., GS13-0502, dated June 17, 2013.
Review Status:	The Geotechnical Report is **NOT** approved from Geotechnical viewpoint. The approval of geotechnical report is subject to receipt of satisfactory response to following comments:

Review Comments:

1. Please provide a copy of City of Calabasas, Geologic and Geotechnical Engineering Review for Parcels 1-3, Parcel Map 11026, dated June 25, 2007.
2. Clarify that the recommended retaining wall active pressures are for on-site or imported non-expansive soils. The Table should be updated for clarification.
3. The recommended passive pressure of 400 pcf may be applicable for level grades. Provide applicable values for sloping ground conditions.
4. The Geotechnical Consultant should verify compliance of grading and foundation plans including proposed improvements above the existing slope, and Grading Notes with their recommendations by signing and stamping the plans.
5. Final approved geotechnical reports should be referenced on plans.

This review was performed in accordance with generally accepted professional geotechnical engineering principles and practice in Southern California at this time. We make no other warranty, either express or implied. Conclusions presented herein are based on review of work by others. No field exploration or laboratory testing was performed. Please contact us if you have questions.

Respectfully submitted,
WILLDAN GEOTECHNICAL

Ross Khalbani, PE, GE
Director of Geotechnical Services
C 37156, GE 2202

Distribution: Addressee
Ms. Roxanne Hughes, Willdan Engineering

RJR ENGINEERING

Civil Engineering
Land Planning
Hydrology/Flood Control
Geotechnical Engineering
Geology/Seismic Hazards
Public Works Services
Storm Water Management

June 25, 2007
RJR 1315-141G

CITY OF CALABASAS
26135 Mureau Road
Calabasas, California 91301-3172

Attention: Ms. Anita Davidoo

Subject: **GEOLOGIC AND GEOTECHNICAL ENGINEERING REVIEW**
PARCELS 1 - 3, PARCEL MAP 11026
OLD TOPANGA CANYON ROAD
CALABASAS, CALIFORNIA.

Developer: **AMBARCHYAN**

Review Stage: **SFR - GEOTECH REVIEW #4**

References:

1. "*Response to Geologic and Geotechnical Engineering Review Sheet Dated January 16, 2007, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*" prepared for Mr. Suren Ambarchyan by GeoSystems, Inc.; dated June 6, 2007;

2. "*Addendum Letter, response to Onsite Sewer System Design Review, Three Proposed Single Family Residences, Old Topanga Canyon Road, Parcel 1, 2, and 3, Parcel Map 11026, Calabasas, California*" prepared for Mr. Suren Ambarchyan by Alpine Geotechnical; dated May 22, 2007;

3. "*Updated Soils and Engineering Geologic Investigation for Proposed Residences, Garages and Swimming Pools, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*" prepared for Mr. Suren Ambarchyan by GeoSystems, Inc.; dated March 23, 2005

4. "*Seepage Pit Percolation Investigation, Three Proposed Single Family Residences, Old Topanga Canyon Road, Parcel 1, 2, and 3, Parcel Map 11026,*

RJR ENGINEERING

Civil Engineering
Land Planning
Hydrology/Flood Control
Geotechnical Engineering
Geology/Seismic Hazards
Public Works Services
Storm Water Management

June 25, 2007
RJR 1315-141G

CITY OF CALABASAS
26135 Mureau Road
Calabasas, California 91301-3172

Attention: Ms. Anita Davidoo

Subject: **GEOLOGIC AND GEOTECHNICAL ENGINEERING REVIEW**
PARCELS 1 - 3, PARCEL MAP 11026
OLD TOPANGA CANYON ROAD
CALABASAS, CALIFORNIA.

Developer: **AMBARCHYAN**

Review Stage: **SFR - GEOTECH REVIEW #4**

References:

1. "*Response to Geologic and Geotechnical Engineering Review Sheet Dated January 16, 2007, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*" prepared for Mr. Suren Ambarchyan by GeoSystems, Inc.; dated June 6, 2007;

2. "*Addendum Letter, response to Onsite Sewer System Design Review, Three Proposed Single Family Residences, Old Topanga Canyon Road, Parcel 1, 2, and 3, Parcel Map 11026, Calabasas, California*" prepared for Mr. Suren Ambarchyan by Alpine Geotechnical; dated May 22, 2007;

3. "*Updated Soils and Engineering Geologic Investigation for Proposed Residences, Garages and Swimming Pools, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*" prepared for Mr. Suren Ambarchyan by GeoSystems, Inc.; dated March 23, 2005

4. "*Seepage Pit Percolation Investigation, Three Proposed Single Family Residences, Old Topanga Canyon Road, Parcel 1, 2, and 3, Parcel Map 11026,*

Calabasas, California" prepared for Mr. Suren Ambarchyan byAlpine Geotechnical; dated September 19, 2005

5. Grading Plan for Parcel *1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*"; prepared for Mr. Suren Ambarchyan by CC&R, Inc.; dated June 20, 2005.

6. RJR Review Letter #2, dated October 17, 2005

7. "*Existing Erosion Scars, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*"; prepared for Mr. Suren Ambarchyan by Geosystems, Inc.; dated June 20, 2005.

8. RJR Engineering Review #1; dated May 22, 2005

9. "*Updated Soils and Engineering Geologic Investigation for Proposed Residences, Garages and Swimming Pools, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*" prepared for Mr. Suren Ambarchyan by GeoSystems, Inc.; dated March 23, 2005

Consultant Contacts:	Geotechnical Engineer:	Steve Tsai, GE 2268
		Chi-Hsin Lin, RCE 67109
	Engineering Geologist:	Mark Cruger, CEG 2345
	Civil Engineer:	CC&R / E.J. Kim, RCE 42388
	Septic Design Geologist:	Alpine / Mike Leary, CEG 1519

Dear Ms. Davidoo:

RJR Engineering Group (RJR) has prepared this letter to provide our review comments pertaining to the review of the above referenced on-site sewer design for the site referred to as Parcels 1, 2, and 3, Parcel Map 11026, located on Old Topanga Road, Calabasas, California. The On-Site Sewer Design Consultant should review the geologic reports and the recent grading plans.

Based on the review of the above referenced project, RJR recommends the on-site sewer design be approved by the City from a Geotechnical standpoint conditioned on the following:

1. City On-Site Sewer Reviewer has verified and approved the design and fixture units.

2. The applicant provide a Precise Grading and Drainage plan that illustrates the proposed development from a civil engineering standpoint. The grading plan should also demonstrate the exact location and dimensions of the proposed on-site sewage plans. The

Geologic Consultant shall provide a followup letter that he has reviewed the Grading Plan and the system is in accordance with his reports and recommendations and also in accordance with the UPC, latest addition.

3. The project Geologist should down hole and log the septic holes at each site and provide the City a summary report.

If you have any questions, please give us a call.

RJR ENGINEERING GROUP

Robert W. Anderson, NSPE, RCE, JD
R.C.E. 58383
Principal Civil Engineer

Distribution: **City of Calabasas (1 Copy)**
GeoSystems (1 Copy)
CC&R (1 Copy)
Alpine Geotechnical (1 Copy)

GEOSYSTEMS, INC.

ENVIRONMENTAL
ENGINEERING-GEOLOGY
GEOTECHNICAL ENGINEERING

UPDATED SOILS AND ENGINEERING GEOLOGIC REPORT FOR PROPOSED SINGLE-FAMILY RESIDENCE PARCEL 1, PARCEL MAP 11026 1321 OLD TOPANGA CANYON ROAD CALABASAS, CALIFORNIA

GS13-0502 **JUNE 17, 2013**

FOR

BROADWAY TRUST C/O
HAYNE ARCHITECTS
22467 PACIFIC COAST HIGHWAY
MALIBU, CA 90265

ATTN: MS. HOLLI JACKOWSKI

1545 VICTORY BLVD. 2ND FLOOR, GLENDALE CALIFORNIA 91201-9240 PH. 818 - 500 - 9533 FAX 818 - 500 - 0134

GEOSYSTEMS, INC.

ENVIRONMENTAL
ENGINEERING-GEOLOGY
GEOTECHNICAL ENGINEERING

June 17, 2013
GS13-0502

Broadway Trust c/o
Hayne Architects
22467 Pacific Coast Highway
Malibu, CA 90265

Attn: Ms. Holli Jackowski

SUBJECT: Updated Soils and Engineering Geologic Report for Proposed Single-Family Residence, 1321 Old Topanga Canyon Road, Parcel 1, Parcel Map 11026, Calabasas, California.

REFERENCES:

1) Updated Soils and Engineering Geologic Investigation for Proposed Residences, Garages and Swimming Pools, Parcels 1, 2 and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California; Prepared by GeoSystems, Inc., GS04-916, Report dated March 23, 2005 and Addendum dated June 20, 2005, May 9, 2006 and June 6, 2007.

2) Seepage Pit Percolation Investigation, Three Proposed Single-Family Residences, Old Topanga Canyon Road, Parcels 1, 2 & 3, Parcel Map #11026, Los Angeles County, Calabasas, California; Prepared by Alpine Geotechnical, AG 1037-G, Report dated September 19, 2005.

3) City of Calabasas, Geologic and Geotechnical Engineering Review for Parcels 1-3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California; Prepared by RJR Engineering Group, RJR 1315-141G, dated June 25, 2007.

At your request, this supplemental report presents our update of the above referenced reports prepared by this office for the subject site.

Our previous reports addressed three residences located on three separate parcels on Parcel Map 11026. Presently, it is proposed to construct a residence and a swimming pool on the existing building pad on Parcel 1. No development is proposed at this time on the remaining

parcels.

Proposed Development

The proposed development on Parcel 1 is in essentially the same location as that addressed on our previous reports except that a semi-subterranean basement level is proposed along the north side of the residence and the pool is to be located on the southern portion of the pad. Top of slope retaining walls are proposed along portions of the northern and southern perimeters of the building pad.

In order to meet minimum foundation setback requirements with respect to descending slopes, a deepened friction pile foundation system is anticipated for the proposed retaining walls located along the top of slope. Provided that the proposed retaining wall foundations meet minimum foundation setback requirements, structures located on the up slope side of the retaining walls will not be subject to foundation setback requirements with respect to descending slopes located on the down slope side of the adjacent retaining wall.

Seepage pits for the proposed sewage disposal system are to be located in essentially the same location as that address in referenced reports.

The proposed repair of the existing erosion scar located on the descending slope to the south of the building pad on Parcel 1 remains essentially the same as that addressed in the referenced reports.

Site Conditions

As part of this update, we performed a site visit during June, 2013 to observe the current site conditions. Current site conditions are essentially the same as those described in the referenced reports. No evidence of recent geotechnical hazards were observed at the site, such

as landsliding or excessive erosion. Based on our filed observation and review of the current development plan, it is our opinion all recommendations presented in the referenced reports remain applicable to the proposed development of Parcel 1 except where superceded herein. Our geotechnical map and cross-sections have been revised to show the current proposed development (Plates 1, CS-1 and CS-2).

Update

This update is based on our recent site observations, and the referenced soils and engineering-geologic reports for the subject site. We have reviewed the above-referenced reports and we concur with and accept its findings, conclusions, laboratory test results, and recommendations with respect to the presently proposed development of Parcel 1. All recommendations presented in referenced previous reports, not superceded herein remain applicable. GeoSystems, Inc., will continue to assume the geotechnical responsibility for the presently proposed development, and will provide geotechnical and engineering geologic services for the currently proposed development.

RECOMMENDATIONS

Based on the findings of our investigation, the site is considered to be suitable from a soils and engineering geologic standpoint for construction of the proposed residence, swimming pool, and associated retaining walls provided the recommendations included herein are followed and integrated into the final foundation and building plans.

All recommendations of presented in referenced previous report, not superceded herein remain applicable.

Site Preparation

Prior to construction/grading, the building areas should be clear of any loose fill, vegetation and or man-made debris.

Provided that foundation setback requirements have been satisfied, the proposed structures on Parcel 1 may be supported on a combination of conventional and deepened foundations bearing into the underlying, firm bedrock. Depth to firm bedrock on Parcel 1 is anticipated to be about 1- to 2-feet deep below existing grade.

The previously recommended removal and re-compaction of the upper 3 feet of bedrock in the building pad area of Parcel 1 is no longer considered to be necessary for the configuration of the proposed residence, pool and retaining walls. Final pad grade should direct all surface drainage via non-erosive drainage devices to an approved location. All new fill in the building areas should be benched into firm bedrock and compacted to 90 percent of the maximum dry density, as determined by ASTM Method D1557-02e1. Any new fill or cut slopes at the site should be 2:1 (H:V) or flatter.

Foundation and Building Setback

Setbacks from the top or toe of slopes should comply with the minimum requirements of the controlling governmental agency.

The base of all footings adjacent to a descending slope steeper than 3:1 in ratio should be located a distance of one-third the vertical height of the slope (H/3) as measured horizontally to the soil/bedrock contact. This distance should not be less than 5-feet, nor need exceed 40-feet.

In order to meet minimum foundation setback requirements with respect to descending

slopes, a deepened friction pile foundation system is anticipated for the proposed retaining walls located along the top of slope. Provided that the proposed retaining wall foundations meet minimum foundation setback requirements, structures located on the up slope side of the retaining walls will not be subject to foundation setback requirements with respect to descending slopes located on the down slope side of the adjacent retaining wall.

All structures adjacent to ascending slopes should be set back from the toe of the slope a horizontal distance equal to one-half the vertical height of the slope (H/2). This distance should not be less than 3-feet, nor need exceed 15-feet.

Foundations

Spread Footings

Provided that depth to firm bedrock is less than 5-feet deep and foundation setback requirements have been satisfied, conventional continuous footings are adequate for foundation support for the proposed structures. Continuous footings may be designed using a bearing pressure of 2000 psf for bedrock. They should be a minimum of 24-inches in width and 24-inches into the firm bedrock.

Independent footings may be designed using a bearing pressure of 2500 psf for bedrock. The dimensions on independent footings should be a minimum of 2-feet square and founded at least 2-feet into firm bedrock.

Footings should be located below a line measured at a 45 degree angle from the bottom of any utility trench, unless reviewed and approved by the Soils Engineer.

Friction Piles

In order to achieve the required foundation setback, friction piles may be used to support the proposed structures and should be supported a minimum of 10-feet into firm bedrock or depth required to achieve foundation setback, which ever is deeper. Piles should be a minimum of 24-inches in diameter. Piles may be assumed fixed at 2-feet into the bedrock. The piles may be designed for a skin friction of 700 psf for bedrock. All piles should be connected with grade beams and designed within a tolerable amount of deflection, determined by the structural engineer.

General

The bearing pressure given is for the total of dead and frequently applied live loads and may be increased by one-third for short duration loading which includes the effects of wind or seismic forces.

Lateral Design

Resistance to lateral loading may be provided by friction acting at the base of foundations and by passive earth pressure within the bedrock. An allowable coefficient of friction of 0.40 may be used with the dead load forces.

Passive earth pressure may be computed as an equivalent fluid having a density of 400 pcf for bedrock with a maximum earth pressure of 6000 pcf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third. For foundations located on or near descending slopes, the passive pressure should be neglected for

the portion of the foundation within 10-feet, measured horizontally, from the descending slope face. For friction piles, the recommended passive earth pressure may be doubled provided that the pile spacing exceeds 2.5 pile diameters on center.

Seismic Design

It is our opinion that future structures should be designed in accordance with the current seismic building code as determined by the structural engineer. The subject site is located within **Site Class C** per the 2010 California Building Code. Based on the United States Geologic Survey mapping (USGS, 2002), the following values of short and long period accelerations are recommended for the Maximum Considered Earthquake (MCE). The Design Basis Earthquake (DBE) spectral acceleration parameters presented on the following table for **Site Class C**, generated by the computer program Earthquake Ground Motion Parameter Calculator by the USGS, may be utilized for seismic design. The printed output from the calculation is provided as Plate CBC-1.

Site Location (latitude, longitude): (34.1283, -118.6434)				
Spectral Period, T (seconds)	Site Class B MCE spectral acceleration (g)	Site Class C MCE spectral acceleration (g)		**Site Class C DBE spectral acceleration (g)**
0.2	$S_s = 1.500$	Fa = 1.0	$S_{MS} = 1.500$	$S_{DS} = 1.000$
1.0	$S_1 = 0.600$	$F_V = 1.3$	$S_{M1} = 0.781$	$S_{D1} = 0.520$

Ground shaking resulting from a moderate to major earthquake (Magnitude 6.0 or greater) can be expected during the lifespan of the proposed structure. Property owners and the

general public should be aware that any structure or slope in the southern California region could be subject to significant damage as a result of a moderate or major earthquake. The potential exists throughout southern California for strong ground motion similar to that which struck the Los Angeles region during the January 17, 1994, Northridge Earthquake. Several such destructive earthquakes have struck southern California during the span of recorded history.

Present building codes and construction practices, and the recommendations presented in this report are intended to minimize structural damage to buildings and loss of life as a result of a moderate or a major earthquake. They are not intended to totally prevent damage to structures, graded slopes and natural hillsides due to moderate or major earthquakes. While it may be possible to design structures and graded slopes to withstand strong ground motion, the construction costs associated with such designs are usually prohibitive, and the design restrictions may be severely limiting. Earthquake insurance is often the only economically feasible way of minimizing the costs associated with major earthquake damage. Damage to sidewalks, steps, decks, patios, and similar exterior improvements can be expected, as these are not normally controlled by the building code.

At your request, this firm could conduct a site specific strong motion study to provide ground response data for use by a structural engineer to design structures to withstand a major earthquake. Such a study is not required by present building codes, and is beyond the scope of this investigation.

Major foundation problems are not anticipated as a result of earthquake induced liquefaction, fault ground rupture or displacement, and differential settlement of natural earth-materials, provided the foundation system is constructed as herein recommended, within the limitations presented above.

Retaining Walls

Free-standing retaining walls, less than 12-feet in height at the site may be designed for active pressures shown on the following table. Any surcharge due to adjacent structures should be added by the structural engineer.

Proposed north-facing retaining walls supporting bedrock will require special consideration due to north-dipping bedding. I this case we recommend that all north facing excavations exposing bedrock be trimmed to the bedding plane angle (approximately 45- to 62-degrees). Once the walls are in place they should be backfilled with compacted fill benched in to bedrock below the lowest unsupported bedding plane.

Surface Slope of Retained Material Horizontal to Vertical	**Equivalent Fluid Weight (pcf)**
	Bedrock and New Compacted Fill
LEVEL	30
5 to 1	35
4 to 1	35
3 to 1	38
2 to 1	43

Restrained retaining walls with a level back slope should be designed utilizing a trapezoidal distribution of 28 H psf, where "H" is the height of the wall in feet. The enclosed trapezoidal earth distribution graph shall be utilized (Plate PD-1). Any additional surcharge due to adjacent structures or traffic loads should be added by the structural engineer.

In accordance with the 2010 California Building Code, an additional active load of 9.8 H^2 pounds should be added to the design of freestanding retaining walls, as shown on Plate PD-1.

For restrained walls, an additional loading of 26.0 H^2 pounds should be added. The additional seismic loading should be applied at 0.4H below the top of the wall, as shown on Plate PD-1.

Rear and side yard retaining walls with an ascending slope should be provided with a minimum freeboard of 2-feet. An open "V" drain should be placed behind the walls so that all up slope flows are directed around the proposed structures to the street or other approved disposal area.

In order to minimize the potential for soil slippage or erosion between piles (if utilized), the base of all grade beams/retaining walls adjacent to the descending slope should extend a minimum depth of 12-inches into the competent bedrock. The retaining wall design pressure recommended above should be considered applicable from the top of the wall to the base of this grade beam.

All walls should be effectively waterproofed, provided with an adequate subdrainage system, and backfilled in accordance with the attached retaining wall backfill and subdrain details, Plates RD-1 and RD-2. We recommend you hire a waterproofing expert to determine your waterproofing requirements. Waterproofing details, application methods, or effectiveness in preventing moisture intrusion are beyond the scope of our work authorization and are not the responsibility of GeoSystems, Inc.

The subdrainage system, including outlet locations, should be clearly shown on the building or grading plans. The contractor is responsible to ensure that all subdrain outlets are constructed per plan and remain unobstructed.

While all backfill should be compacted to the required density, care should be taken when working close to new walls to prevent excessive lateral pressure.

Retaining Wall Backfill

All retaining wall backfill should be bench into firm bedrock, below the lowest unsupported bedding plane, and compacted to at least 90 percent relative compaction per the recommendations presented in the Grading Guidelines in the Appendix. Where soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction in accordance with City of Los Angeles building codes. Laboratory testing will be required prior to the onset of grading to verify the required compaction percentage.

Foundation Settlement

Settlement of the foundation system supported entirely in bedrock is expected to occur on initial load application. The maximum settlement is expected to be ½-inch. Differential settlement is not expected to exceed ¼-inch within a span of 30-feet. These values may be exceeded for any structures or hardscape not supported in bedrock.

Temporary Excavations

Temporary excavations for retaining walls are expected to be up to 12-feet in total height. The maximum recommended height of temporary vertical excavations in bedrock is 5-feet. That portion of the excavation above a height of 5-feet, and any portion exposing artificial fill or residual soil, should be trimmed to a 1:1 slope or the excavation may be shored.

Proposed north-facing excavations in bedrock will require special consideration due to north-dipping bedding. In this case we recommend that all north facing excavations exposing bedrock be observed during excavation by our geologist in the field, and trimmed to the bedding plane angle (approximately 45- to 62-degrees).

Although the proposed temporary excavations are considered to be stable with a factor of safety greater than 1.25, we recommend that additional protection against sloughing and raveling be provided when workers enter the space created between the face of the temporary excavation and the back of the retaining wall, such as during the waterproofing and backfilling process, or when workers enter a foundation trench. We recommend that the portion of the vertical excavation above a height of 5-feet be provided with slough protection consisting of plywood sheets held in place with aluminum hydraulic shoring, screw jacks, or timber. The top of the plywood should extend at least 2-feet above the top of the vertical portion of the excavation.

All cut-slopes and temporary excavations should be observed during excavation by a representative of this firm. Should the observation reveal any geologic hazard, appropriate treatment will be recommended.

All excavations shall be made in accordance with the regulations of the State of California, Division of Occupational Safety and Health (Cal/OSHA). These recommended temporary excavation slopes do not preclude local raveling and sloughing. Provided our recommendations are followed, the resulting temporary excavations are anticipated to be safe from a geotechnical standpoint for the proposed construction operations, and should not expose workers to hazards due to cave-ins, provided that geologic conditions exposed by the excavations are as anticipated.

All excavations should be stabilized within 30 days of initial excavation. Water should not be allowed to pond on the top of the excavation nor to flow towards it. No vehicular surcharge should be allowed within 5-feet of the top of cut.

It is recommended that a pre-excavation site meeting be attended by the grading contractor, the soils engineer, and an agency representative to discuss methods and sequence of subterranean excavation.

Confined/Trench Excavations

Confined or trench excavations in which a person is to enter, such as those behind retaining walls and utility trenches, must be made in accordance with the regulations of the State of California, Division of Occupational Safety and Health (Cal/OSHA). These excavations should be shored utilizing aluminum hydraulic shoring, screw jacks, or timber shoring as determined by the structural engineer.

Swimming Pool and Spa

The proposed pool and spa structure should be supported into the underlying bedrock. The pool and spa shells should be designed for free standing conditions and moderately expansive soils. All pool and spa walls should be designed for a minimum equivalent fluid pressure of 65 pcf.

Swimming Pool Subdrainage

The proposed pool should be provided with a subdrainage system designed by the pool engineer to collect any pool leakage. At a minimum, the subdrain should consist of a bottom blanket of impermeable geo-fabric (10 mil visqueen or equivalent) embedded in a 4-inch-thick layer of clean sand below a 6-inch-thick blanket of clean, compacted 3/4-inch gravel or Caltrans Class II permeable material. A 4-inch-diameter perforated PVC pipe (Schedule 40, SDR 35, or equivalent), wrapped in filter fabric, should be embedded in the central portion of the gravel so as to collect any water within the gravel. The subdrain pipe should be provided with a cut-off

wall and outletted via solid pipe to an approved dispersal area or to a sump pump. A typical pool subdrain detail is attached herein as Plate PS-1.

Slope Repair

The existing erosion scar on the descending slope to the south of the building pad on Parcel 1 should be repaired by placing compacted fill within and adjacent to the failure areas. All loose soils and/or vegetation should be removed from the failure area prior to placement of compacted fill. Any fill placed on slopes 5:1 (H:V) or steeper should be supported by an engineered, toe of slope retaining wall or on a minimum 15-foot wide keyway which extends at least 3-feet into firm bedrock. Any new fill or cut slopes at the sites should be 2:1 (H:V) or flatter. All new compacted fill placed should be benched into firm bedrock and compacted to at least 90 percent relative compaction per the recommendations presented in the Grading Guidelines in the Appendix. Where soil having less than 15 percent finer than 0.005 millimeters is used for fill, it shall be compacted to a minimum of 95 percent relative compaction in accordance with City of Los Angeles building codes. Laboratory testing will be required prior to the onset of grading to verify the required compaction percentage.

Subdrainage

Any fill slopes, over 10-feet in height, (if applicable) should be provided with a subdrainage system unless reviewed and approved by the soils engineer. Subdrains should be placed along the heel of all keyways and along benches at the base of the fill at 10-foot vertical intervals. Subdrains should consist of 4-inch diameter perforated PVC pipe in 1 cubic foot per linear foot of 3/4-inch gravel or CalTrans Class II permeable material. If 3/4-inch gravel is used the gravel should be wrapped with filter fabric. If CalTrans Class II permeable material is used

the pipe should be wrapped with filter fabric. Each subdrain should be provided with solid pipe outlets at 50-foot intervals.

Floor Slabs

Existing compacted fill and/or soil at the site is not considered to be suitable for interior floor slab support. In areas where firm bedrock is not exposed at the slab subgrade level, we recommend that all interior floor slabs be designed as a structural unit or raised wood floor which transfers all loads to the foundation system. As an alternative, all unsuitable material may be removed and recompacted to 95 percent of the maximum dry density at 2 percent above optimum moisture content, as determined by ASTM Method D1557. All new fill should be benched into firm bedrock (if applicable).

At a minimum, floor slabs should be reinforced with #4 bars spaced a minimum distance of 16-inches on center, each way. All slabs should be provided with an acceptable plastic vapor barrier (minimum 10 mil thickness). To prevent punctures and aid in the concrete cure, the barrier should be placed in a 4-inch thick layer of sand.

Pre-Saturation

Maintaining the subgrade at a "moist" condition prior to placing concrete will minimize the shrink/swell potential of the soil. The subgrade to receive concrete slabs-on-grade should be pre-saturated to at least 120 percent of the optimum moisture content for at least 24 hours prior to placing concrete. The pre-saturation depth should be at least 6-inches deep below subgrade. Pre-saturation of the subgrade should be conducted well before concrete is scheduled for placement. The effectiveness of the pre-saturation should be tested by our firm prior to pouring concrete.

Patio Slabs and Hardscape

It may be desirable to support new patio slabs and hardscape (steps, walkways, patios etc.) on the existing surficial soils. These structures are not normally subject to building code requirements for structural support. In order to reduce the potential for distress due to potential settlement, it may be desirable to provide additional subgrade preparation and additional steel and concrete thickness for the proposed patio slabs and hard-scape at the site. At a minimum, we recommend that patio slabs and hardscape be reinforced with a minimum of #4 rebar placed at 16-inches on center each way. The upper 3-feet of existing fill and/or soil to be used for slab support should be removed and recompacted to 90 percent of the maximum dry density, as determined by ASTM Method D1557-02e1. It should be noted that patio slabs/hardscape constructed to the preceding specification may be subject to distress over time. Periodic maintenance or replacement may be necessary.

Pavement

We recommended that portions of the existing concrete driveway be repaired or replaced as necessary. In this case, we recommend that the upper 3-feet of the surficial soils (depending on field conditions) be removed and recompacted. All new fill should be benched into firm existing compacted fill or bedrock.

Prior to placing pavement, the subgrade should be scarified to a depth of 12-inches, moistened or dried out to optimum moisture content, and recompacted to at least 95 percent of the maximum dry density, as determined by ASTM Method D1557-02e1.

A pavement section consisting of 3-inches of asphalt concrete over 4-inches of base material should be used. The base material may be crushed aggregate.

Drainage Protection

Infiltration of surface drainage into onsite earth materials is not recommended for this hillside property. All pad and roof drainage should be collected and transferred to an approved location in non-erosive drainage devices. Drainage should not be allowed to descend any slope in a concentrated manner, pond on the pad or against any foundation or retaining wall.

Retaining walls adjacent to structures with an ascending slope should be provided with a minimum freeboard of 2-feet. An open concrete "V" drain should be placed behind the walls so that all up slope flows are directed around the proposed structures to the street or other approved disposal area.

It is the responsibility of the contractor and ultimately the developer and/or property owner to insure that all drainage devices are installed and maintained in accordance with the approved plans, our recommendations, and the requirements of all applicable municipal agencies. This includes installation and maintenance of all subdrain outlets and surface drainage devices.

We recommend that a comprehensive drainage improvement plan be implemented for the subject parcel. This would include transferring all up slope pad drainage to an approved area in non-erosive drainage devices. Proper site drainage will help mitigate but may not eliminate potential surface water hazards. All drainage systems must be maintained to prevent water from eroding the ascending or descending slopes.

Slope Maintenance

To minimize sloughing on slope faces, it is recommended that a slope maintenance program shall be implemented as soon as possible. Slope maintenance includes proper drainage control, planting, irrigation, and rodent control. Planting of approved deep-rooted shrubs and a

dense lightweight ground cover is recommended for the upper portions of the descending slope. A landscape architect or landscape contractor experienced in this area should be consulted for appropriate slope planting recommendations.

A vital part of slope maintenance is proper watering. This includes not only providing enough water to support plant life, but also monitoring the irrigation system so that over-watering does not occur.

Private Sewage Disposal System

Seepage pits may be used to serve the sewage effluent disposal needs of the proposed residence. the proposed seepage pits are to be located to the southwest of the proposed residence in locations shown on the Geotechnical Map, Plate 1. These seepage pit locations are acceptable from an engineering-geologic standpoint. Exploratory Boring B-8 was located in the area of the proposed seepage pits. No groundwater was encountered in our Boring B-8 to a maximum depth of 60-feet. Based on the findings of our investigation, it is our conclusion that geologic conditions at the site are favorable for use of seepage pits to serve the proposed residence, provided that our recommendations are followed.

Effluent from seepage pits is expected to percolate downward along favorably oriented bedding planes. Sustained, long-term use of the private sewage disposal system is not expected to adversely affect the site or adjacent site stability, or result in the mounding or daylighting of sewage effluent provided that our recommendations are followed.

Percolation testing was performed on Boring B-8 to determine the rate of vertical permeability. The size and number of pits necessary to serve the proposed residences is dictated by the rate of percolation at the site and the number of bedrooms or number and type of fixtures in the proposed residences.

Seepage pits located in the area of Boring B-8 should be sealed at a preliminary capping depth of 5-feet below existing grade. The bottom of the pits should be no deeper than 50-feet below existing grade.

All caps should provide a minimum of 15-feet horizontal clearance from the surface of the descending bedrock slope and/or should be at or below the lowest adjacent floor level for any flooring within 15-feet of the seepage pit. All seepage pit excavations should be observed by our geologists in the field to provide a specific capping depth recommendation.

Section 111

It is the finding of this firm that the proposed structures will be safe and that the proposed development will not be adversely affected by any hazard from landslide, settlement or slippage and the completed work will not adversely affect adjacent property, in compliance City of Calabasas building code provided our recommendations are followed.

Approval

A set of construction plans should be submitted to this office for review and approval prior to initiation of construction.

It is recommended that all foundation excavations be approved by this firm prior to placing concrete or steel. Any fill which is placed should be tested for compaction if used for engineering purposes. All cut-slopes and temporary excavations should be observed by a representative of this firm. Should the observation reveal any unforeseen hazard, appropriate treatment will be recommended.

It is advised that the client contact **GEOSYSTEMS, INC.**, at least **1 week** in advance of commencing grading to allow for contractual agreements for geotechnical services during the construction phases of your project.

Please advise this office at least **48 hours** prior to any required verification.

Representatives of **GEOSYSTEMS, INC.,** will observe work in progress, perform tests on soil, and observe excavations and trenches. It should be understood that the contractor or others shall supervise and direct the work and they shall be solely responsible for all construction means, methods, techniques, sequences and procedures, and shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during the performance of the work.

Periodic observation by **GEOSYSTEMS, INC.,** is not intended to include verification of dimensions or review of the adequacy of the contractor's safety measures in, on, or near the construction site.

Remarks

The conclusions and recommendations contained herein are based on the previous findings and observations made at the sites and our recent subsurface exploration. While no great variations in compacted fill or bedrock conditions are anticipated, if conditions are encountered during construction which appear to differ from those disclosed, **GEOSYSTEMS, INC.,** should be notified, so as to consider the need for modifications.

This report has been compiled for the exclusive use of the **BROADWAY TRUST** and its authorized representatives. It shall not be transferred to, or used by, a third party, to another project or applied to any other project on this site, other than as described herein, without consent and/or thorough review by this facility.

Should the project be delayed beyond the period of **one year** after the date of this report, the site should be observed and the report reviewed to consider possible changed conditions.

This report is issued with the understanding that it is the responsibility of the owner, or his representative, to assure that the information and recommendations contained herein are called to the attention of the designers and builders for the project.

The limits of our liability for data contained in this report and our warranty is presented on the following page.

GEOSYSTEMS, INC.

Richard Gladson, Senior Geologist
CEG 1758, Exp. 9-30-13

Steve S. Tsai, Vice President
GE 2268, Exp. 3-31-14

Attachments: 8 Plates, see Appendix

CC: 4 to Client

RAG:SST:VJC/jsc

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LIMITATIONS

This report is based on the development plans provided to our office. In the event that any significant changes in the design or location of the structure(s), as outlined in this report, are planned, the conclusions and recommendations contained in this report may not be considered valid unless the changes are reviewed and the conclusions of this report are modified or approved by the soil engineer and geologist.

The subsurface conditions, excavations characteristics, and geologic structure described herein and shown on the enclosed cross-section(s) have been projected from individual test pits and/or borings placed on the subject property, and in no way be construed to reflect any variations which may occur between these excavations.

It should be noted that fluctuations in the level of the groundwater may occur due to variations in rainfall, temperature, and other factors not evident at the time measurements were made and reported herein. **GEOSYSTEMS, INC.**, assumes no responsibility for variations which may occur across the site.

If conditions encountered during construction appear to differ from those disclosed, this office shall be notified so as to consider the need for modifications. No responsibility for construction compliance with the design concepts, specifications, or recommendations is assumed unless on-site construction review is performed during the course of construction which pertains to the specific recommendations contained herein.

This report has been prepared in accordance with generally accepted practice. No warranties, either expressed or implied, are made as to the professional advice provided under the terms of the agreement and included in this report.

GRADING GUIDELINES

Site Clearing

Any existing brush, loose fill, and porous soils shall be excavated to competent native materials. Prior to the placement of any fill soils, the exposed surface shall be scarified, cleansed of debris, and recompacted to at least 90 percent of the laboratory standard under the direction of the Soils Engineer in accordance with the following "Placing, Spreading, and Compacting Fill Materials".

Preparation

After the foundation for the fill has been cleared and scarified, it shall be brought to a proper moisture content and compacted to not less than 90 percent of the maximum dry density in accordance with the latest ASTM D1557 standard.

Materials

On-site materials may be used in the fill if cleansed of debris. Imported fill materials shall be approved by the Soils Engineer and may be obtained from any other approved source. The materials used should be free of excessive organic matter and other deleterious substances, and shall not contain rocks or lumps greater than 6 inches in maximum dimension.

Placing, Spreading and Compacting Fill Materials

Fill materials shall be placed in layers which when compacted shall not exceed 6 inches in thickness. Each layer shall be spread evenly and shall be thoroughly mixed during the spreading to ensure uniformity of material and moisture of each layer.

Where the moisture content of the fill material is below the optimum value determined by the Soils Engineer, water shall be uniformly added to obtain the approximate optimum moisture content.

Where the moisture content of the fill materials is higher than the optimum value determined by the Soils Engineer, the fill materials shall be aerated by blading, disking, or mixing with dry materials until the optimum moisture content is obtained.

After each layer has been placed, mixed, and spread evenly, it shall be thoroughly compacted to not less than 90 percent of the maximum dry density in accordance with ASTM D1557. Soils having less than 15 percent finer than 0.005 millimeters shall be compacted to a minimum of 95 percent of the maximum dry density.

Compaction shall be by sheepsfoot roller, track rolling, or other types of acceptable compaction equipment of such design that they will be able to compact the fill material to the specified density. Rolling shall be accomplished while the fill material is at the specified moisture content to ensure that the desired density has been obtained. The final surface of the areas to receive slabs-on-grade should be rolled to a dense, smooth surface.

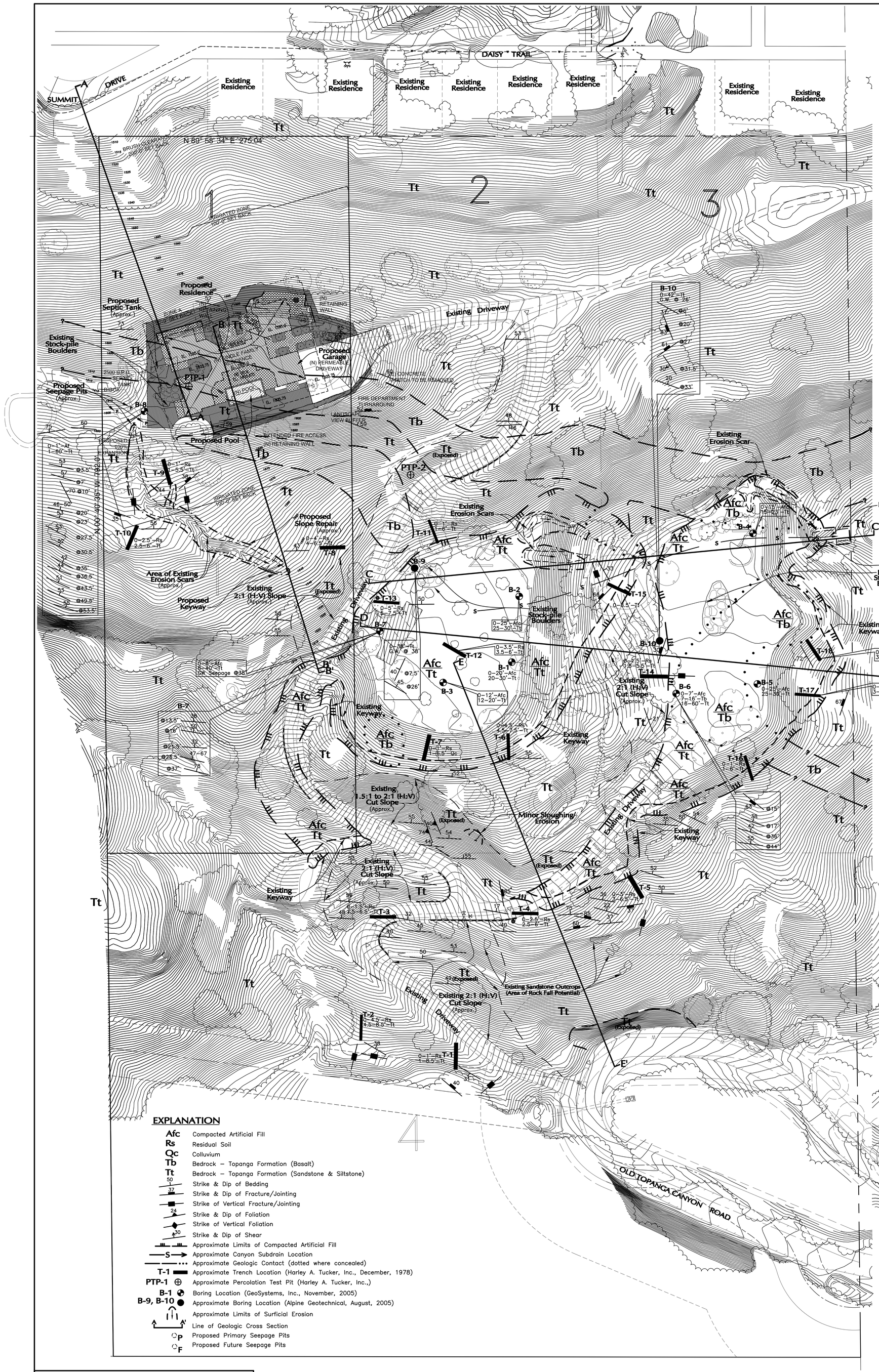
GRADING GUIDELINES *(Continued)*

Field density tests shall be made by the Soils Engineer at intervals not to exceed 2 feet of fill height. Where sheepsfoot rollers are used, the soil may be disturbed to a depth of several inches and density readings shall be taken in the compacted material below the disturbed surface. When these readings indicate the density of any fill or portion thereof is below the required minimum compaction percentage, the particular layer or portion shall be reworked until the required density has been obtained.

The grading specifications should be a part of the project specifications.

The Soils Engineer shall review the grading plan prior to grading.

APPENDIX



PROJECT DATA (LOT No. 1):

PROPERTY ADDRESS:	3121 OLD TOPANGA CANYON ROAD
CALABASAS, CA	
ASSESSOR'S PARCEL NUMBER:	2072-023-013
LEGAL DESCRIPTION:	PARCEL 1 OF PARCEL MAP No.11026
IN THE CITY OF CALABASAS LOT AREA:	5 ACRES GROSS
BUILDING FLOOR AREA:	7,360 S.F.
GROUND FLOOR AREA:	7,360 S.F.
3-CAR GARAGE AREA:	756 S.F.
BUILDING FOOTPRINT:	8,116 S.F.
PROPOSED HARDSCAPE AREA:	6,000 S.F.
PROPOSED LANDSCAPE AREA:	12,284 S.F.
EXISTING NATURAL LANDSCAPE AREA:	4.39 ACRES
PARKING SPACES REQUIRED:	2
PARKING SPACES PROVIDED:	3

PROJECT DATA (LOT No. 2):

PROPERTY ADDRESS:	3121 OLD TOPANGA CANYON RD
CALABASAS, CA	
ASSESSOR'S PARCEL NUMBER:	2072-023-014
LEGAL DESCRIPTION:	PARCEL 2 OF PARCEL MAP
No.11026 IN THE CITY OF CALABASAS	
LOT AREA:	5 ACRES GROSS
BUILDING FLOOR AREA:	
GROUND FLOOR AREA:	3,542 S.F.
SECOND FLOOR AREA:	4,055 S.F.
TOTAL BUILDING FLOOR AREA:	7,597 S.F.
4-CAR GARAGE AREA:	1000 S.F.
PARKING SPACE REQUIRED:	2
PARKING SPACE PROVIDED:	4
BUILDING FOOTPRINT:	4,542 S.F.
PROPOSED HARDSCAPE AREA:	
DRIVEWAY:	4,500 S.F.
SWIMMING POOL LOUNGE AREA:	6,500 S.F.
TOTAL NON-PERVIOUS AREA:	15,542 S.F. = %7.1
PROPOSED LANDSCAPE AREA:	20,758 S.F.
EXISTING NATURAL LANDSCAPE AREA:	181,500 S.F.=4.17 ACRES
TOTAL LANDSCAPE AND PERVIOUS SURFACE AREA:	98,414 S.F.=%92.86

PROJECT DATA (LOT No. 3):

PROPERTY ADDRESS:	3121 OLD TOPANGA CANYON RD
CALABASAS, CA	
ASSESSOR'S PARCEL NUMBER:	2072-023-015
LEGAL DESCRIPTION:	PARCEL 4 OF PARCEL MAP
No.11026 IN THE CITY OF CALABASAS	
LOT AREA:	5 ACRES
GROSS BUILDING FLOOR AREA:	
GROUND FLOOR AREA:	4,100 S.F.
SECOND FLOOR AREA:	3,100 S.F.
TOTAL BUILDING FLOOR AREA:	7,200 S.F.
4-CAR GARAGE AREA:	1,120 S.F.
PARKING SPACE REQUIRED:	2
PARKING SPACE PROVIDED:	4
BUILDING FOOTPRINT:	5,220 S.F.
PROPOSED HARDSCAPE AREA:	
DRIVEWAY:	5,700 S.F.
SWIMMING POOL LOUNGE AREA:	6,500 S.F.
TOTAL NON-PERVIOUS AREA:	17,420 S.F. = %8
PROPOSED LANDSCAPE AREA:	12,130 S.F.
EXISTING NATURAL LANDSCAPE AREA:	188,250 S.F.=4.32 ACRES
TOTAL LANDSCAPE AND PERVIOUS SURFACE AREA:	200,280 S.F. = %92

LEGAL DESCRIPTION

ALL THOSE PORTIONS OF PARCELS 1,2,3,&4 OF AMENDED PARCEL MAP No. 11026, IN THE CITY OF CALABASAS, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 230 PAGES 55 THROUGH 57 INCLUSIVE, OF PARCEL MAPS IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY. MARCH 5, 1980

LEGEND

- PROPOSED BUILDING FOOTPRINT
- 100' SETBACK IRRIGATED ZONE *
- W — PROPOSED WATERLINE EXTENSION
- PROPOSED FENCELINE
- PROPOSED TREES PER LANDSCAPE PLAN
- EXISTING TREES PER TREE CONSULTANT

OWNER:

SUREN AMBARCHYAN
1528 CANADA BOULEVARD, #207
GELNDALE, CA 91208
(818) 291-0800

NOTES:

- NO ROUGH GRADING TO OCCUR ON SITE. FINE GRADING TO BE CONDUCTED WITHIN EXISTING PAD AREAS AND WILL NOT IMPACT OAK TREES.
- DRY UTILITIES (TELEPHONE, ELECTRIC AND CABLE) TO BE PLACED IN DRIVEWAYS UNLESS OTHERWISE NOTED
- EXISTING DRIVEWAY REPAIR AND V-DITCH REPAIR IS NOTED ON PLAN

CONCEPTUAL PLANT PALETTE

TREES
QUERCUS AGRIFOLIA/ COAST LIVE OAK
PLATANUS RACEMOSA/ CALIFORNIA SYCAMORE
HETEROMELES ARBUTIFOLIA/ TOYON

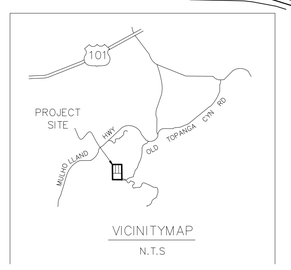
SHRUBS
CEANOTHUS SPECIES/ CALIFORNIA LILAC SPECIES
RHAMNUS CALIFORNICA "EVE CASE"/ COFFEEBERRY
WESTRINGA FRUTICOSA/ COAST ROSEMARY
PHORMIUM TENAX/ NEW ZEALAND FLAX
ELANGNUS PUNGENS/ SILVERBERRY
ARCTOSTAPHYLOS "JOHN DOURLEY"/ MANZANITA
ABELIA GRANDIFLORA "PROSTRATA"/ PROSTRATE GLOSSY ABELIA
ROSA "APPLEBLOSSOM FLOWER CARPET"/ APPLEBLOSSOM ROSE
GREVILEA NOELLII/
RAPHOLEPSIS INDICA "CLARA"/ INDIAN HAWTHORNE
FREMONTODENDRON "CALIFORNIA GLORY"/ FLANNEL BUSH

PERENNIALS
ANIGOZANTHOS FLAVIDUS/ KANGAROO PAWS
ARTEMISIA LUDOVICIANA/ WORMWOOD
CISTUS "SUNSET"/ ROCKROSE
ECHINACEA PURPUREA/ PURPLE CONEFLOWER
ACHILLEA MILLEFOLIUM "PAPRIKA"/ YARROW
PEROVSKIA "BLUE SPIRE"/ RUSSIAN SAGE
HEUCHERA "PURPLE PALACE"/ CORAL BELLS
CAMELLIA SASANQUA/ CAMELLIA
ECHIUM CANDICANS/ PRIDE OF MADIERA
SALVIA CANARIENSIS/ CANARY ISLAND SAGE
SALVIA CLEVELANDII/ CLEVELAND SAGE
SANTOLINA CHAMAECYPARISSUS/ LAVENDER COTTON
PENSTEMON SPECTABILIS/ RED PENSTEMON
MISCANTHUS SINESIS "ADAGIO"/ JAPANESE SILVER GRASS
MUHLENBERGIA RIGENS/ DEER GRASS
DUDLEYEA SPECIES/ DUDLEYEA
LAVADULA "HIDCOTE GIANT"/ LAVENDER
HEMEROCALLIS SPECIES/ DAYLILIES

40 20 0 20 40 80
GRAPHIC SCALE
SCALE : 1"=40'

EXPLANATION

Afc	Compacted Artificial Fill
Rs	Residual Soil
Qc	Colluvium
Tb	Bedrock – Topanga Formation (Basalt)
Tt	Bedrock – Topanga Formation (Sandstone & Siltstone)
50	Strike & Dip of Bedding
37	Strike & Dip of Fracture/Jointing
	Strike of Vertical Fracture/Jointing
24	Strike & Dip of Foliation
	Strike of Vertical Foliation
30	Strike & Dip of Shear
	Approximate Limits of Compacted Artificial Fill
S	Approximate Canyon Subdrain Location
	Approximate Geologic Contact (dotted where concealed)
T-1	Approximate Trench Location (Harley A. Tucker, Inc., December, 1978)
PTP-1	Approximate Percolation Test Pit (Harley A. Tucker, Inc.,)
B-1	Boring Location (GeoSystems, Inc., November, 2005)
B-9, B-10	Approximate Boring Location (Alpine Geotechnical, August, 2005)
	Approximate Limits of Surficial Erosion
A A'	Line of Geologic Cross Section
P	Proposed Primary Seepage Pits
F	Proposed Future Seepage Pits



* IRRIGATION WILL NOT IMPACT ZONE OF OAKS OR ENCROACH INTO THE PROTECTED ZONE (5' OUTSIDE DRIPLINES) IN ACCORDANCE WITH L.A. COUNTY FIRE DEPT. AND CITY OF CALABASAS REGULATIONS, PERTAINING TO FUEL MODIFICATION AND IRRIGATION

Note: Limits of compacted Fill, keyway locations and canyon subdrain outlet are approximate and taken from California Geo/Systems, Inc., As-Built Report dated April 5, 1990.
Note: Trenches T-1 through T-18 and Percolation Test Pits PTP-1 AND PTP-2 excavated prior to April, 1990 Grading Operations.

1545 VICTORY BLVD., 2ND FLR.
GLENDALE, CA 91201-9240
PHONE 818-500-9533
FAX 818-500-0134

GEOSYSTEMS, Inc.
ENVIRONMENTAL, ENGINEERING-GEOLOGY AND GEOTECHNICAL ENGINEERING

GEOTECHNICAL MAP

1321 Old Topanga Canyon Road
Calabasas, California

GS 13-0502	DATE: May, 2013	PLATE 1

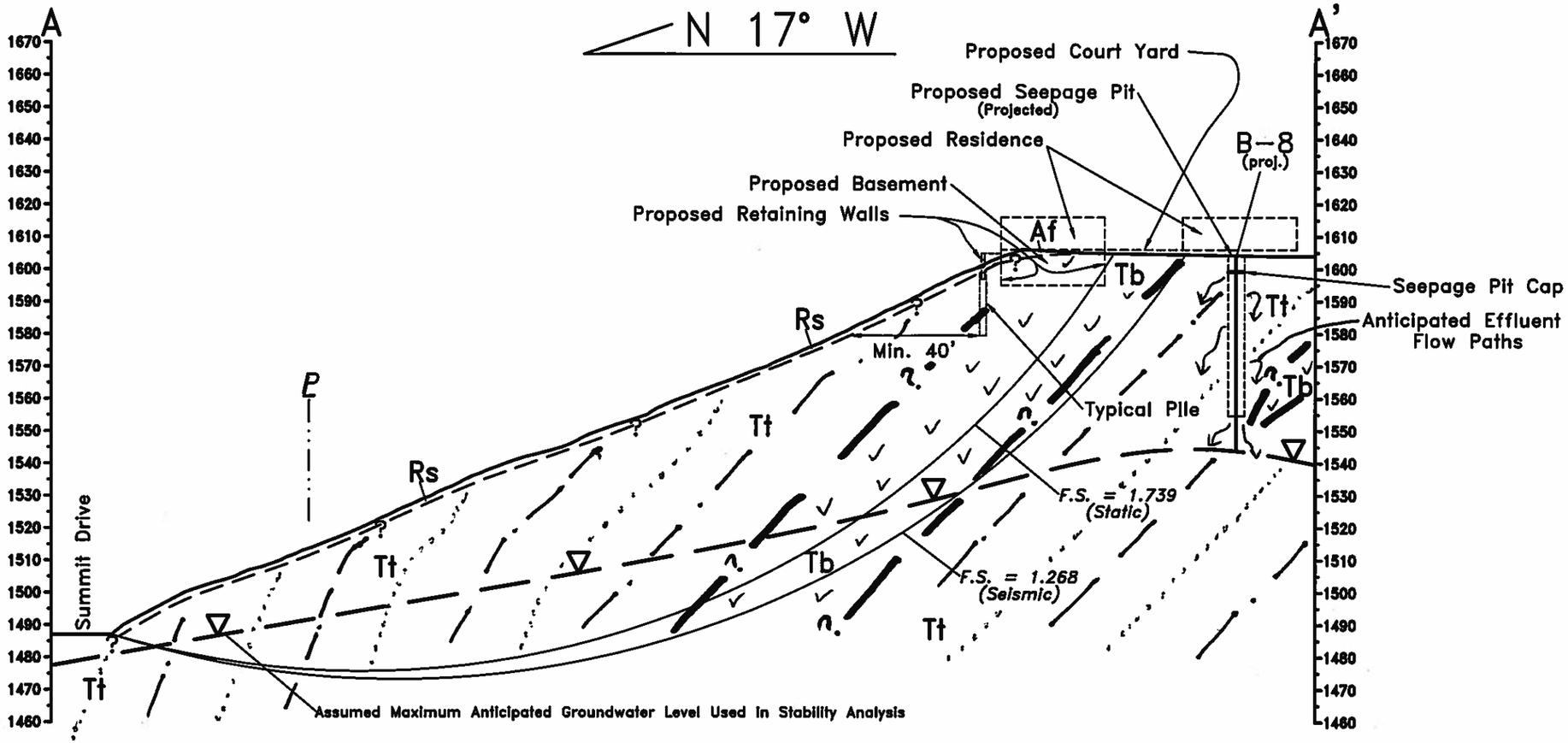
CC&R Inc.
Engineering
Planning
Surveying
143 Triunfo Canyon Road
Suite 100
Westlake Village, CA 91361
Phone: 805/496-1928
818/889-8641

REGISTERED ENGINEER NO. 42388 DATE
E. J. KIM, P.E., EXP. 3/31/08

SITE PLAN

3121 OLD TOPANGA CANYON ROAD
CITY OF CALABASAS, CA

R:\JNC152-2-SUREN\SITE PLAN\SITE PLAN.dwg



SCALE: 1"=40'

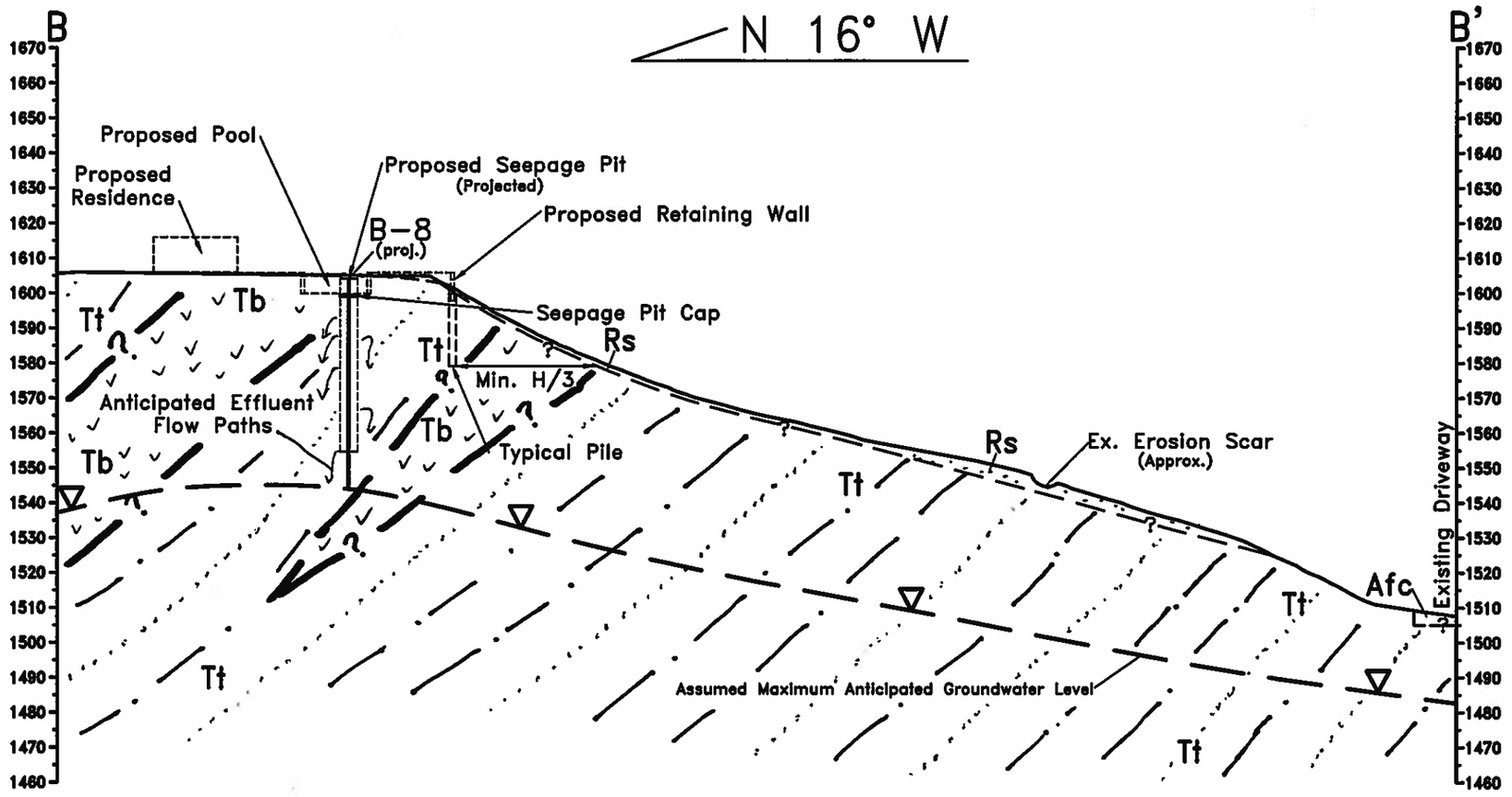
1545 VICTORY BLVD., 2ND FLOOR
GLENDALE CA 91201-2836
PHONE 818-500-9533
FAX 818-500-0134

GEOSYSTEMS INC.,
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS

GEOLOGIC CROSS SECTION A-A'

1321 Old Topanga Canyon Road
Calabasas, California

GS 13-0502	DATE: June, 2013	PLATE CS-1



SCALE: 1"=40'

1545 VICTORY BLVD., 2ND FLOOR
GLENDALE CA 91201-2836
PHONE 818-500-9533
FAX 818-500-0134

GEOSYSTEMS INC.,
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS

GEOLOGIC CROSS SECTION B-B'

1321 Old Topanga Canyon Road
Calabasas, California

GS 13-0502	DATE: June, 2013	PLATE CS-2

CBC SEISMIC DESIGN COEFFICIENTS
Prepared by GeoSystems, Inc.

SITE ADDRESS: 3121 Old Topanga Cyn Rd, GS13-0502
DATE: Fri Jun 14 12:41:51 PDT 2013

2005 ASCE 7 Standard
Latitude = 34.1283
Longitude = -118.64340000000001
Spectral Response Accelerations Ss and S1
Ss and S1 = Mapped Spectral Acceleration Values
Site Class B - Fa = 1.0 ,Fv = 1.0
Data are based on a 0.01 deg grid spacing

Period (sec)	Sa (g)	
0.2	1.500	(Ss, Site Class B)
1.0	0.600	(S1, Site Class B)

Conterminous 48 States
2005 ASCE 7 Standard
Latitude = 34.1283
Longitude = -118.64340000000001
Spectral Response Accelerations SMs and SM1
SMs = Fa x Ss and SM1 = Fv x S1
Site Class C - Fa = 1.0 ,Fv = 1.3

Period (sec)	Sa (g)	
0.2	1.500	(SMs, Site Class C)
1.0	0.781	(SM1, Site Class C)

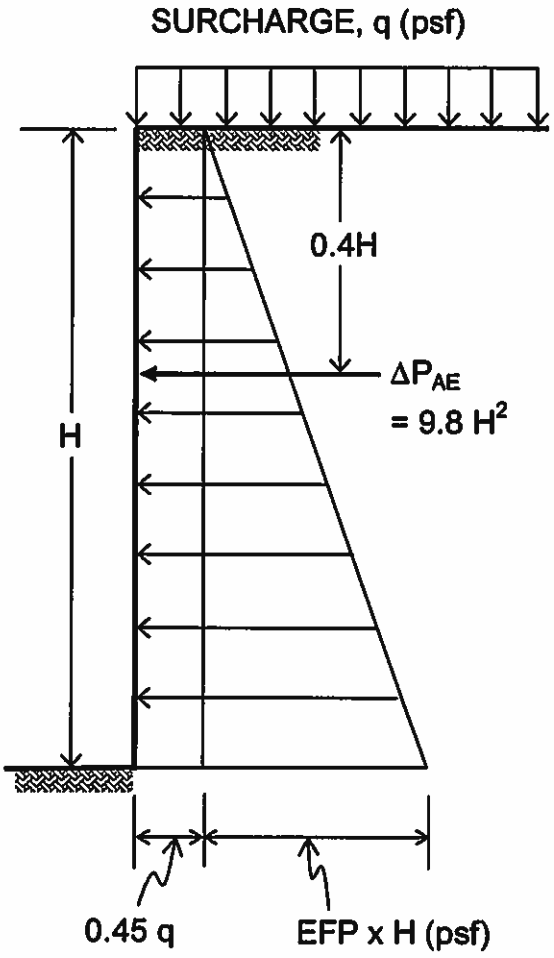
Conterminous 48 States
2005 ASCE 7 Standard
Latitude = 34.1283
Longitude = -118.64340000000001
Design Spectral Response Accelerations SDs and SD1
SDs = 2/3 x SMs and SD1 = 2/3 x SM1
Site Class C - Fa = 1.0 ,Fv = 1.3

Period (sec)	Sa (g)	
0.2	1.000	(SDs, Site Class C)
1.0	0.520	(SD1, Site Class C)

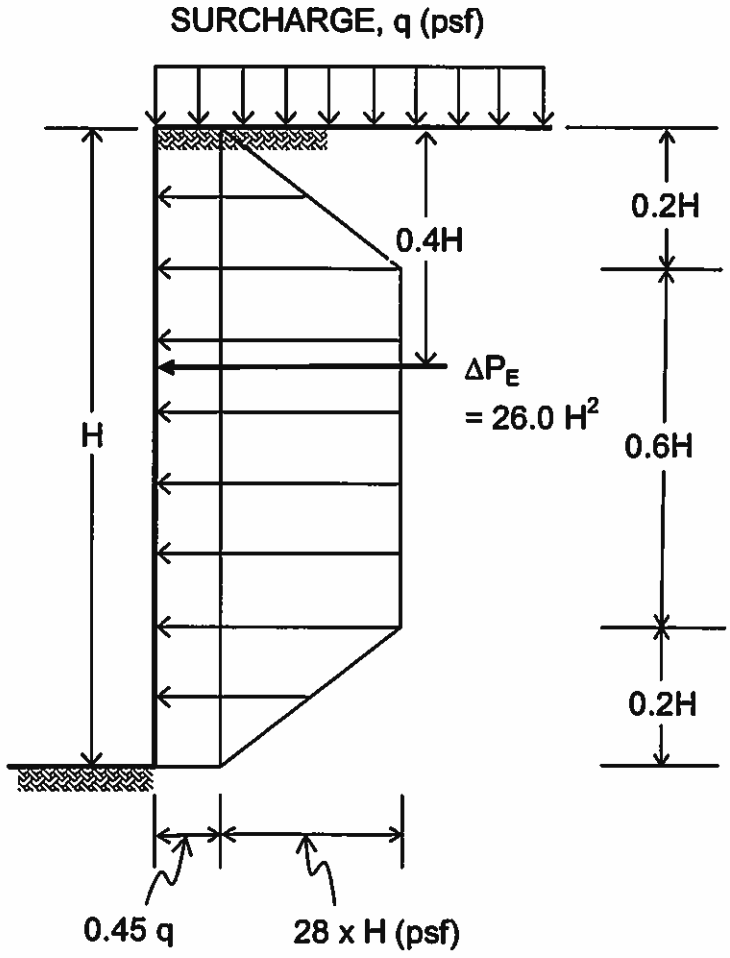
PLATE CBC-1

EARTH PRESSURE DISTRIBUTION OF RETAINING WALL

Free Standing (Yielding) Wall



Restrained (Non-Yielding) Wall



Seismic Earth Pressure Calculations

γ =	130.0	pcf
S_{DS} =	1.000	g
PGA = $S_{DS}/2.5$ =	*0.40*	g
k_h = PGA/2 =	*0.20*	(k_h >= 0.15)
$\Delta P_{AE} = 3/8\ k_h\ \gamma\ H^2$ =	*9.8*	H^2 (lb)
$\Delta P_E = k_h\ \gamma\ H^2$ =	*26.0*	H^2 (lb)

Reference: 1. FEMA 369 commentary Part 2 (2000)
2. NEHRP Workshop (2006)

GEOSYSTEMS, Inc.
ENVIRONMENTAL, ENGINEERING-GEOLOGY AND GEOTECHNICAL ENGINEERING
1545 VICTORY BLVD., 2ND FLR., GLENDALE, CA 91201-9240
PHONE 818-500-9533 FAX 818-500-0134

EARTH PRESSURE DISTRIBUTION
STATIC & SEISMIC LOADS

3121 Old Topanga Cyn Rd

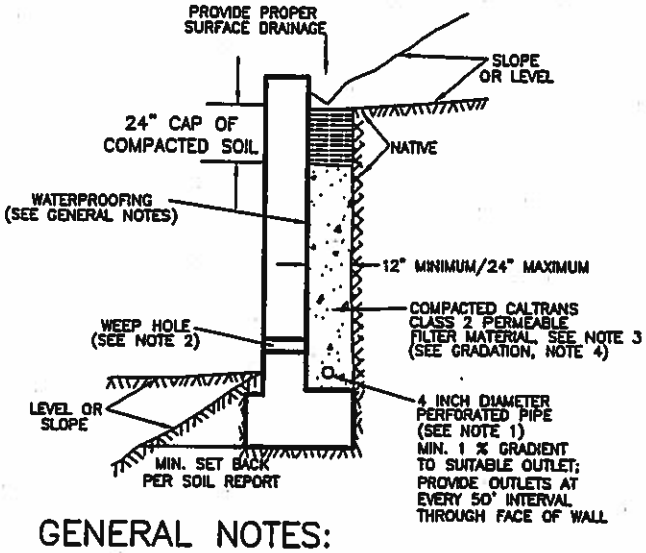
Calabasas, California

DATE: June, 2013	GS 13-0502	PLATE PD-1

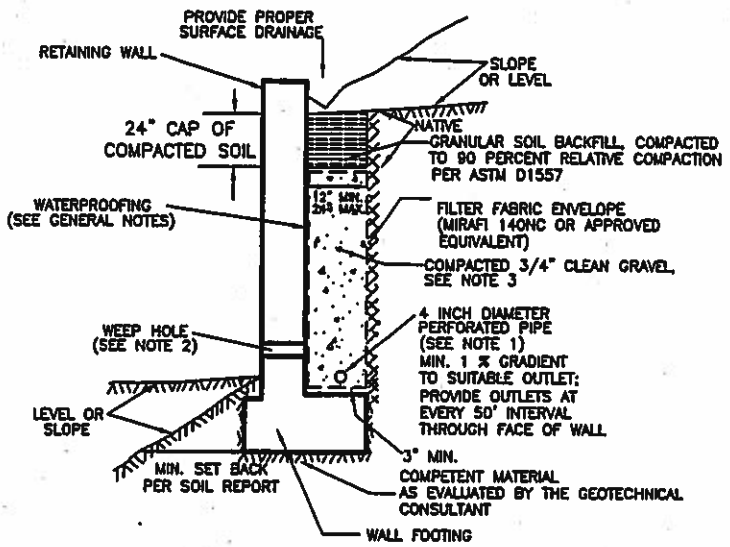
CONFINED BACKFILL AND SUBDRAIN OPTIONS FOR RETAINING WALLS

(Space between back of wall and face of excavation is less than 24–inches)

OPTION 1: PIPE SURROUNDED WITH CLASS 2 PERMEABLE MATERIAL



OPTION 2: GRAVEL WRAPPED IN FILTER FABRIC



GENERAL NOTES:

*Retaining wall plans should be reviewed and approved by the geotechnical engineer.

*These details apply only to retaining walls not surcharged by adjacent structures or adverse geology. See text of report for specific backfill recommendations if these conditions exist.

*Walls over 12 feet in height are subject to a special review by the geotechnical engineer and modifications to the above requirements may be necessary (see text of report).

*Waterproofing should be provided where moisture intrusion through the wall is undesirable.

*Waterproofing of the walls is not under purview of the geotechnical engineer or geologist.

*All drains should have a gradient of 1 percent minimum.

*Outlet portion of the subdrain should have a 4–inch diameter solid pipe discharged into a suitable disposal area designed by the project engineer. The subdrain pipe should be accessible for maintenance (rodding) and must remain clear at all times.

*Other subdrain/backfill options are subject to the review by the geotechnical engineer and modification of design parameters.

*Additional or revised backfilling and compaction procedures may be required by the local governing agency.

NOTES:

1) Pipe type should be ASTM D1527 Acrylonitrile Butadiene Styrene (ABS) SDR35 or ASTM D1785. Polyvinyl chloride plastic (PVC), Schedule 40, Armco A2000 PVC, or approved equivalent. Pipe should be installed with perforations down. Perforations should be 3/8 inch in diameter placed at the ends of a 120–degree arc in two rows at 3–inch on center (staggered).

2) Weepholes should be 3–inch minimum diameter and provided at 10–foot maximum intervals. If exposure is permitted, weepholes should be located 12–inches above finished grade. If exposure is not permitted, such as for a wall adjacent to a sidewalk/curb, a pipe under the sidewalk discharging through the curb face or equivalent should be provided. For a basement–type wall, a proper subdrain outlet system should be provided.

3) All gravel or Class 2 Filter Material should be compacted at every 2–feet of vertical elevation rise using vibratory compaction equipment. All placement and compaction of backfill should be observed and verified by our field representative.

4) Gradation: Caltrans Class 2 Filter Permeable Material Gradation Per Caltrans Specifications

Sieve Size	Percent Passing
1"	100
3/4"	90–100
3/8"	40–100
No. 4	25–40
No. 8	18–33
No. 30	5–15
No. 50	0–7
No. 200	0–3

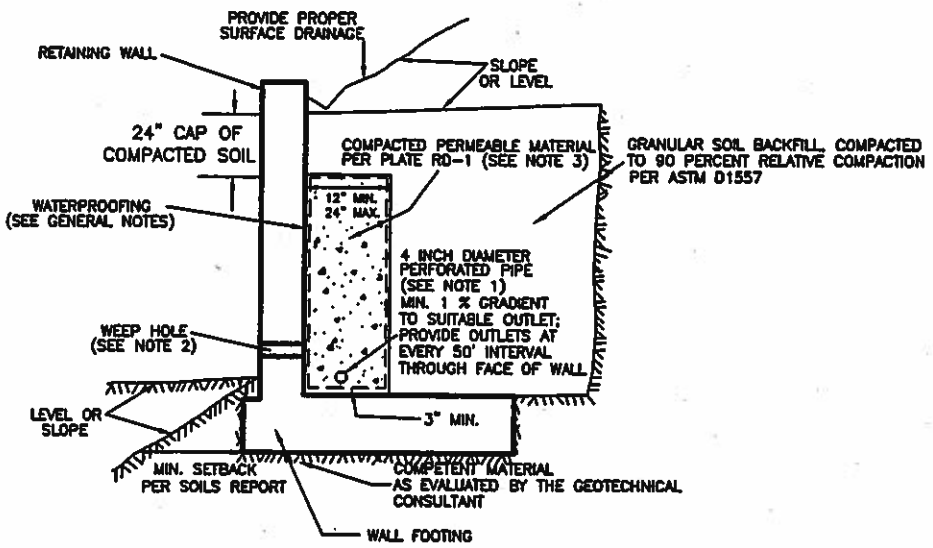
GEOSYSTEMS, INC.
ENVIRONMENTAL, ENGINEERING GEOLOGY AND GEOTECHNICAL ENGINEERING
1545 Victory Blvd., 2nd Floor, Glendale, CA 91201
PHONE 818-500-9533 FAX 818-500-0134

RETAINING WALL BACKFILL AND SUBDRAIN DETAIL FOR WALLS 15 FEET OR LESS IN HEIGHT WITH CONFINED BACKFILL CONDITIONS

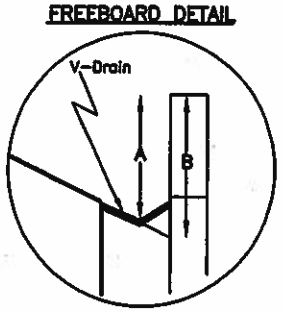
PLATE RD-1

UNCONFINED BACKFILL AND SUBDRAIN OPTIONS FOR RETAINING WALLS

(Space between back of wall and face of excavation is greater than 24–inches)



FREEBOARD DETAIL



* wall design (and height of freeboard) must take into account minimum 2% gradient of v–drain.
* height of freeboard equal to distance "A" (plus thickness of v–drain), not "B".

GENERAL NOTES:

*Retaining wall plans should be reviewed and approved by the geotechnical engineer.

*These details apply only to retaining walls not surcharged by adjacent structures or adverse geology. See text of report for specific backfill recommendations if these conditions exist.

*Walls over 12 feet in height are subject to a special review by the geotechnical engineer and modifications to the above requirements may be necessary (see text of report).

*Waterproofing should be provided where moisture intrusion through the wall is undesirable.

*Waterproofing of the walls is not under purview of the geotechnical engineer or geologist.

*All drains should have a gradient of 1 percent minimum.

*Outlet portion of the subdrain should have a 4–inch diameter solid pipe discharged into a suitable disposal area designed by the project engineer. The subdrain pipe should be accessible for maintenance (rodding) and must remain clear at all times.

*Other subdrain/backfill options are subject to the review by the geotechnical engineer and modification of design parameters.

*Additional or revised backfilling and compaction procedures may be required by the local governing agency.

NOTES:

1) Pipe type should be ASTM D1527 Acrylonitrile Butadiene Styrene (ABS) SDR35 or ASTM D1785. Polyvinyl chloride plastic (PVC), Schedule 40, Armco A2000 PVC, or approved equivalent. Pipe should be installed with perforations down. Perforations should be 3/8–inch in diameter placed at the ends of a 120–degree arc in two rows at 3–inch on center (staggered).

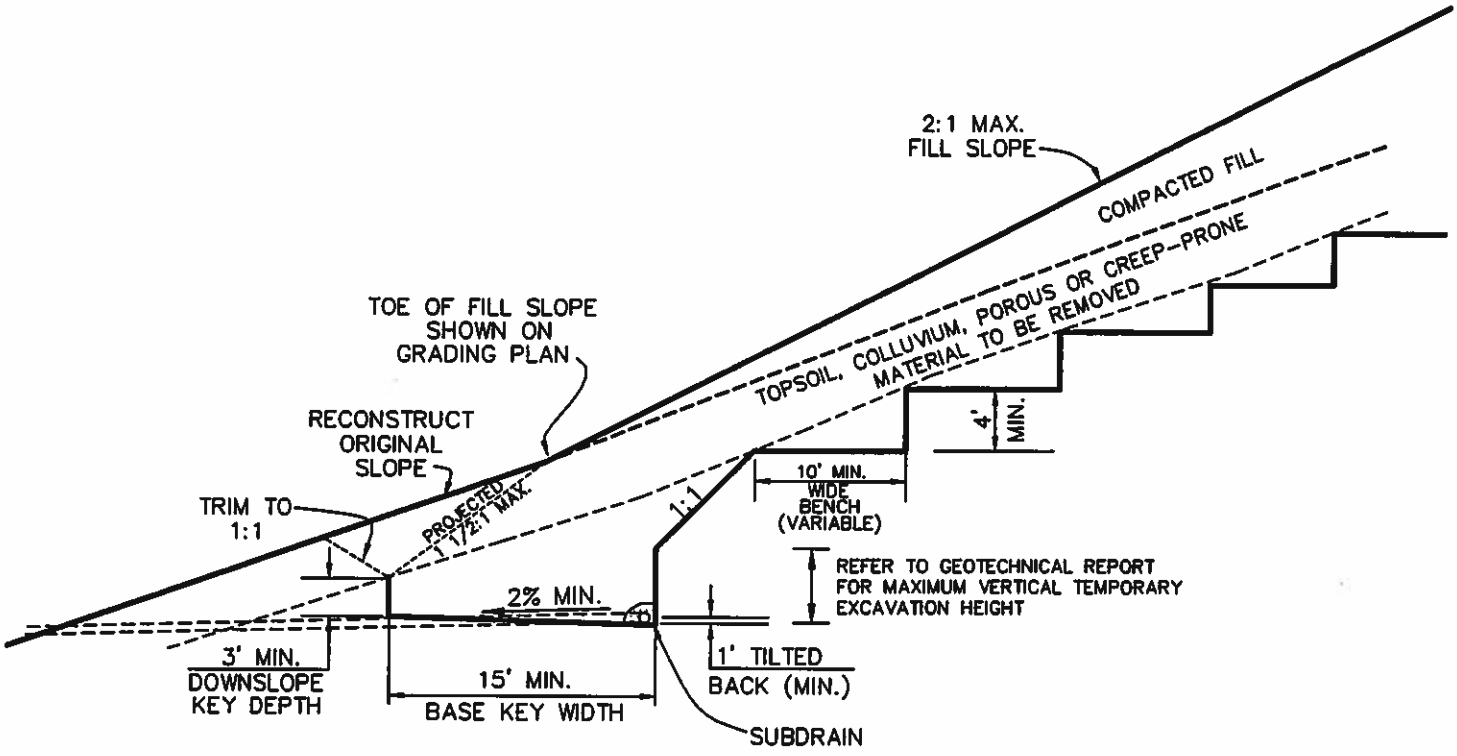
2) Weepholes should be 3–inch minimum diameter and provided at 10–foot maximum intervals. If exposure is permitted, weepholes should be located 12–inches above finished grade. If exposure is not permitted, such as for a wall adjacent to a sidewalk/curb, a pipe under the sidewalk discharging through the curb face or equivalent should be provided. For a basement–type wall, a proper subdrain outlet system should be provided.

3) All gravel or Class 2 Filter Material should be compacted at every 2–feet of vertical elevation rise using vibratory compaction equipment. All placement and compaction of backfill should be observed and verified by our field representative.

GEOSYSTEMS, INC.
ENVIRONMENTAL, ENGINEERING GEOLOGY AND GEOTECHNICAL ENGINEERING
1545 Victory Blvd., 2nd Floor, Glendale, CA 91201
PHONE 818-500-9533 FAX 818-500-0134

FREEBOARD DETAIL AND RETAINING WALL BACKFILL AND SUBDRAIN DETAIL FOR WALLS WITH BACKFILL WIDTH GREATER THAN 2' (UNCONFINED BACKFILL CONDITIONS)

PLATE RD-2



NOTES:

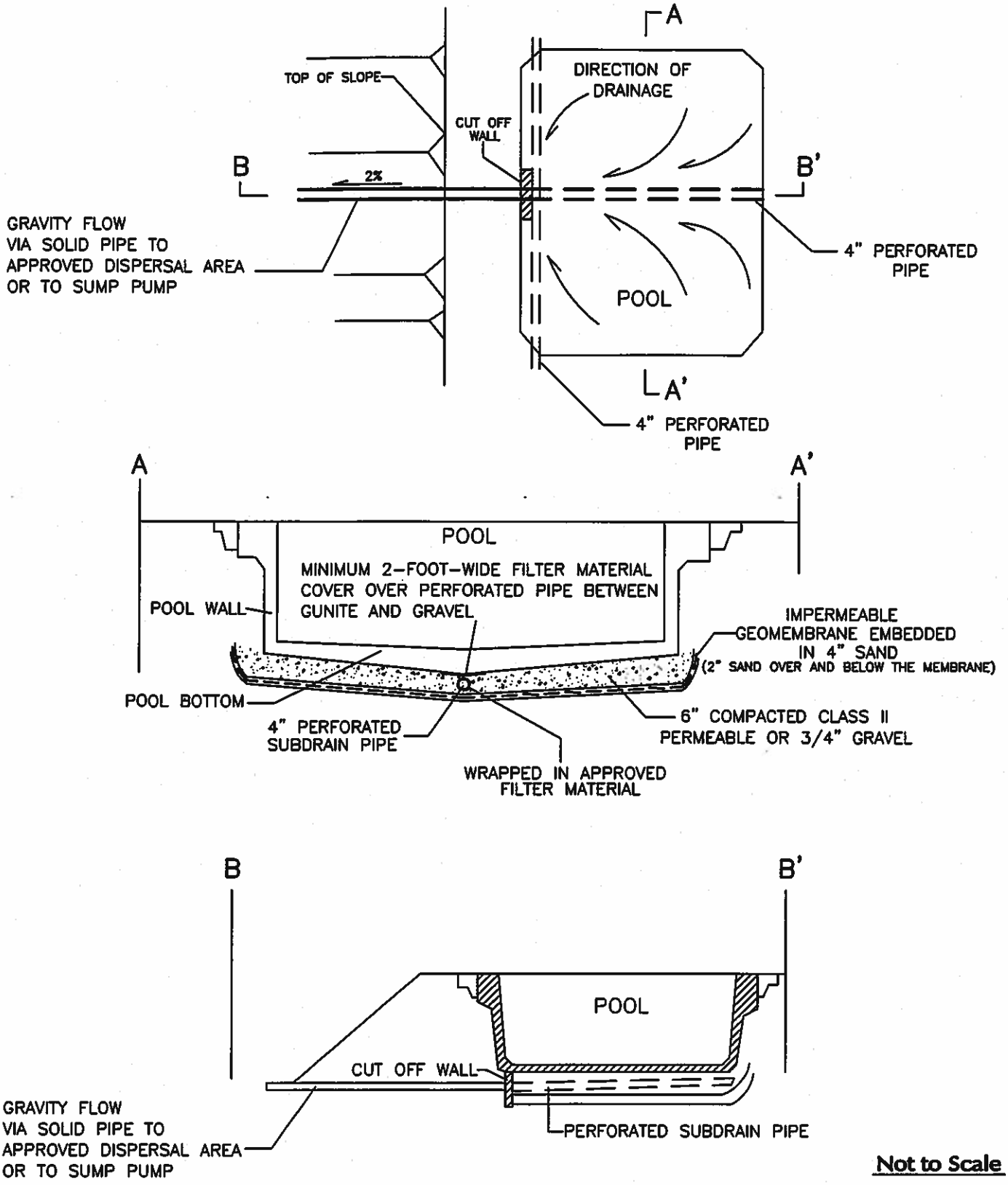
1. CONSTRUCT DRAINAGE TERRACES IN ACCORDANCE WITH GRADING CODE REQUIREMENTS.
2. SUBDRAINS ARE TO OUTLET EVERY 50' (HORIZONTALLY) THROUGH 4-INCH-DIAMETER NON-PERFORATED SCHEDULE 40 (MIN.) PIPE TO SLOPE FACE OR OTHER APPROVED DISPERSAL AREA.
3. SUBDRAINS TO CONSIST OF 4-INCH-DIAMETER PERFORATED SCHEDULE 40 (MIN.) PIPE PLACED WITH PERFORATIONS FACING DOWN; ENCASE SUBDRAINS IN 1-CUBIC-FOOT OF CALTRANS CLASS II PERMEABLE MATERIAL WRAPPED IN APPROVED FILTER FABRIC. MAINTAIN MINIMUM 2% FALL TO OUTLET PIPE.
4. THE UPPER MOST SUBDRAIN SHOULD NOT BE PLACED CLOSER THAN 10' BELOW PROPOSED FINISH PAD GRADE.
5. ALL COMPACTED FILL IS TO BE BENCHED INTO COMPETENT SUPPORTING MATERIAL AS RECOMMENDED IN THE APPROVED GEOTECHNICAL REPORT.

NOT TO SCALE

GEOSYSTEMS
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS
1514 VICTORY BLVD., 2nd FLOOR GLENDALE CA 91201
PHONE 818-500-9533 FAX 818-500-0134

TYPICAL FILL SLOPE ABOVE NATURAL OR CUT SLOPE

PLATE FS-1



Not to Scale

GEOSYSTEMS, INC.
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS
1545 Victory Bl., 2nd Floor, Glendale, CA 91201
PHONE 818-500-9533 FAX 818-500-0134

TYPICAL POOL SUBDRAIN SYSTEM DETAIL

PLATE PS-1

RJR ENGINEERING

Civil Engineering
Land Planning
Hydrology/Flood Control
Geotechnical Engineering
Geology/Seismic Hazards
Public Works Services
Storm Water Management

June 25, 2007
RJR 1315-141G

CITY OF CALABASAS
26135 Mureau Road
Calabasas, California 91301-3172

Attention: Ms. Anita Davidoo

Subject: **GEOLOGIC AND GEOTECHNICAL ENGINEERING REVIEW**
PARCELS 1 - 3, PARCEL MAP 11026
OLD TOPANGA CANYON ROAD
CALABASAS, CALIFORNIA.

Developer: **AMBARCHYAN**

Review Stage: **SFR - GEOTECH REVIEW #4**

LOGGED 6/29/07

References:

1. "*Response to Geologic and Geotechnical Engineering Review Sheet Dated January 16, 2007, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*" prepared for Mr. Suren Ambarchyan by GeoSystems, Inc.; dated June 6, 2007;

2. "*Addendum Letter, response to Onsite Sewer System Design Review, Three Proposed Single Family Residences, Old Topanga Canyon Road, Parcel 1, 2, and 3, Parcel Map 11026, Calabasas, California*" prepared for Mr. Suren Ambarchyan by Alpine Geotechnical; dated May 22, 2007;

3. "*Updated Soils and Engineering Geologic Investigation for Proposed Residences, Garages and Swimming Pools, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*" prepared for Mr. Suren Ambarchyan by GeoSystems, Inc.; dated March 23, 2005

4. "*Seepage Pit Percolation Investigation, Three Proposed Single Family Residences, Old Topanga Canyon Road, Parcel 1, 2, and 3, Parcel Map 11026,*

RJR ENGINEERING

Civil Engineering
Land Planning
Hydrology/Flood Control
Geotechnical Engineering
Geology/Seismic Hazards
Public Works Services
Storm Water Management

June 25, 2007
RJR 1315-141G

CITY OF CALABASAS
26135 Mureau Road
Calabasas, California 91301-3172

Attention: Ms. Anita Davidoo

Subject: **GEOLOGIC AND GEOTECHNICAL ENGINEERING REVIEW**
PARCELS 1 - 3, PARCEL MAP 11026
OLD TOPANGA CANYON ROAD
CALABASAS, CALIFORNIA.

Developer: **AMBARCHYAN**

Review Stage: **SFR - GEOTECH REVIEW #4**

References:

1. "*Response to Geologic and Geotechnical Engineering Review Sheet Dated January 16, 2007, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*" prepared for Mr. Suren Ambarchyan by GeoSystems, Inc.; dated June 6, 2007;

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3. "*Updated Soils and Engineering Geologic Investigation for Proposed Residences, Garages and Swimming Pools, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*" prepared for Mr. Suren Ambarchyan by GeoSystems, Inc.; dated March 23, 2005

4. "*Seepage Pit Percolation Investigation, Three Proposed Single Family Residences, Old Topanga Canyon Road, Parcel 1, 2, and 3, Parcel Map 11026,*

Calabasas, California" prepared for Mr. Suren Ambarchyan byAlpine Geotechnical; dated September 19, 2005

5. Grading Plan for Parcel *1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*"; prepared for Mr. Suren Ambarchyan by CC&R, Inc.; dated June 20, 2005.

6. RJR Review Letter #2, dated October 17, 2005

7. "*Existing Erosion Scars, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*"; prepared for Mr. Suren Ambarchyan by Geosystems, Inc.; dated June 20, 2005.

8. RJR Engineering Review #1; dated May 22, 2005

9. "*Updated Soils and Engineering Geologic Investigation for Proposed Residences, Garages and Swimming Pools, Parcel 1, 2, and 3, Parcel Map 11026, Old Topanga Canyon Road, Calabasas, California*" prepared for Mr. Suren Ambarchyan by GeoSystems, Inc.; dated March 23, 2005

Consultant Contacts:	Geotechnical Engineer:	Steve Tsai, GE 2268 Chi-Hsin Lin, RCE 67109
	Engineering Geologist:	Mark Cruger, CEG 2345
	Civil Engineer:	CC&R / E.J. Kim, RCE 42388
	Septic Design Geologist:	Alpine / Mike Leary, CEG 1519

Dear Ms. Davidoo:

RJR Engineering Group (RJR) has prepared this letter to provide our review comments pertaining to the review of the above referenced on-site sewer design for the site referred to as Parcels 1, 2, and 3, Parcel Map 11026, located on Old Topanga Road, Calabasas, California. The On-Site Sewer Design Consultant should review the geologic reports and the recent grading plans.

Based on the review of the above referenced project, RJR recommends the on-site sewer design be approved by the City from a Geotechnical standpoint conditioned on the following:

1. City On-Site Sewer Reviewer has verified and approved the design and fixture units.

2. The applicant provide a Precise Grading and Drainage plan that illustrates the proposed development from a civil engineering standpoint. The grading plan should also demonstrate the exact location and dimensions of the proposed on-site sewage plans. The

Geologic Consultant shall provide a followup letter that he has reviewed the Grading Plan and the system is in accordance with his reports and recommendations and also in accordance with the UPC, latest addition.

3. The project Geologist should down hole and log the septic holes at each site and provide the City a summary report.

If you have any questions, please give us a call.

RJR ENGINEERING GROUP

Robert W. Anderson, NSPE, RCE, JD
R.C.E. 58383
Principal Civil Engineer

Distribution: **City of Calabasas (1 Copy)**
GeoSystems (1 Copy)
CC&R (1 Copy)
Alpine Geotechnical (1 Copy)

APPENDIX C
HYDROLOGY STUDY

ejk + associates
CIVIL ENGINEERING
LAND PLANNING

CONCEPTUAL
HYDROLOGY AND HYDRAULIC REPORT
PARCEL 1, PM 11026

October 8, 2013

REGISTERED PROFESSIONAL ENGINEER
EE JIG KIM
No. 42388
Exp. 3/31/14
CIVIL
STATE OF CALIFORNIA

By _____
E. J. Kim, PE, RCE 42388 Exp. 3-31-2014

Date 10/8/13

R:\JN2535\hydrology\ Hydrocover.doc

E J Kim, RCE 42388
6520 Platt Ave #538, West Hills, CA 91307 | 818.337.9055 | ejkassociates@gmail.com

INDEX OF CONTENTS

INTRODUCTION

PM 11026 is an existing 4-parcel subdivision in the City of Calabasas, which lies on the north side of Old Topanga Canyon Road, in a steep hillside area. The site improvements for Parcels 1, 2 & 3 have been constructed for some time, including a building pad for each parcel and a 20-foot wide concrete driveway to serve these 3 parcels. Parcel 4 was left unimproved because of the steep terrain.

The Owner of Parcel 1 is planning to build a single family home on Parcel 1. Parcels 2 and 3 will remain undeveloped. This hydrology report is provided for Parcel 1 only.

Building pad for Parcel 1 is a cut pad on the ridge to the north and it drains southerly along the existing concrete driveway, to an existing trench drain, which drains into a semi-circular concrete ditch to a 36" diameter storm drain culvert which crosses Old Topanga Canyon Road.

Building Pads for Parcels 2 and 3 drain easterly to an existing concrete v-ditch to a natural mountain channel.

The City of Calabasas is now requiring a hydrologic analysis based on a 50-yr frequency storm event with burnt and bulked condition for the natural areas and a 25-yr frequency storm event for the developed portion of the site without bulking. To meet these requirements, the Tc Calc program provided by the Los Angel County Hydrology Section was used.

This report provides hydrology calculations to check the adequacy of existing drainage devices for Parcel 1 and to recommend remedy if there is deficiency in the existing drainage system. The purpose of this report is to demonstrate that the proposed single family development for Parcel 1 provides adequate protection from storm water for the subject parcels as well as the neighboring parcels downstream.

Tc Calculator

Subarea No.	Area (acres)	Imp. %	Frequency	Soil Type	Length	Slope	Isohyet	Fire Factor
1A	0.5	0.8	25	66	296	0.011	10.7	

Undeveloped subarea coeff. (%imp=0): bo= -0.507, b1= -0.519, b2= 0.483, b3= -0.135

Undeveloped subarea coeff. (0<%imp<.21): bo= -0.507, b1= -0.519, b2= 0.483, b3= -0.135

Developed subarea coeff. (.21<%imp<.68): bo= -0.507, b1= -0.519, b2= 0.483, b3= -0.135

Developed subarea coeff. (.68<%imp<1): bo= -0.507, b1= -0.519, b2= 0.483, b3= -0.135

Equation, given parameters above:
Developed subarea coeff. (.68<%imp<1):

bo= -0.507
b1= -0.519
b2= 0.483
b3= -0.135
0 0

Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135

Equations for Tc: Tc=(10)*bo*(Cd*I)*b1*(L)^b2*(S)^b3

I1440=isohyet/24hrs: 0.446
Ib=I1440*Ix/I1440: 6.384

Qd=Cd*I*A: 2.81
Qb=FF*((1-K)*((1-0.1*imp)*A*I-Qd))+Qd: 2.81
K=0.677*I^(-0.102): 0.56
Cb=FF*((1-K)*(1-Cu))+Cu: 0.82
Cba=(0.9*imp)+(1.0-imp)*Cb: 0.88
Qb=Cba*I*A: 2.82 no rounding

Iterations: 2 RESET

Tc estimate:	Tc calc:	Diff		Cu	Cd	Ix=Cd*I		I
3.65	3.65	0.00	RUN	0.82	0.88	5.610		6.38

Interpolated value for I

Tc high	Tc low	Ib|1440 low	Ib|1440 high	Interpolated Ib|1440	(1440/Tc)^0.47
4.00	3.00	14.32	14.32	14.32	14.32

Tolerance (min): 0.5

Use Tc value: 5.00 minutes

AREA 1A IS THE DEVELOPED AREA. FOR THE DEVELOPED PORTION Q25 WAS REQUIRED BY THE CITY.

FOR THE REST OF THE SITE WHICH WILL REMAIN UNDEVELOPED Q50 BURNED AND BULKED IS PROVIDED AS REQUIRED BY THE CITY.

2

Tc Calculator

Subarea No.	Area (acres)	Imp. %	Frequency	Soil Type	Length	Slope	Isohyet	Fire Factor
2A	3.3	0.11	50	66	1515	0.206	10.7	0.568

Undeveloped subarea coeff. (%imp=0):
bo= -0.507
b1= -0.519
b2= 0.483
b3= -0.135

Undeveloped subarea coeff. (0<%imp<.21):
bo= -0.507
b1= -0.519
b2= 0.483
b3= -0.135

Developed subarea coeff. (.21<%imp<.66):
bo= -0.507
b1= -0.519
b2= 0.483
b3= -0.135

Developed subarea coeff. (.66<%imp<1):
bo= -0.507
b1= -0.519
b2= 0.483
b3= -0.135

Equation, given parameters above:
Undeveloped subarea coeff. (0<%imp<.21):

bo= -0.507
b1= -0.519
b2= 0.483
b3= -0.135
0 0

Tc=(10)^-0.507*(Cd*I)^-0.519*(L)^0.483*(S)^-0.135

Equations for Tc: Tc=(10)^bo*(Cd*I)^b1*(L)^b2*(S)^b3

Qd=Cd*I*A: 15.86
I1440=Isohyet/24hrs: 0.446
Qb=FF*((1-K)*((1-0.1*Imp)*A*I-Qd))+Qd: 16.66
It=I1440*Ix/I1440: 5.690
K=0.677*I^(-0.102): 0.57
Cb=FF*((1-K)*(1-Cu))+Cu: 0.86
Cba=(0.9*Imp)+(1.0-Imp)*Cb: 0.86
Qb=Cba*I*A: 16.66 no rounding

Iterations: 2 RESET Tc estimate: 6.39 Tc calc: 5.04 Diff: 0.35 RUN Cu 0.81 Cd 0.82 Ix=Cd*I 4.810 It 5.86

Tolerance (min): 0.5

Interpolated value for I: Tc high 7.00 Tc low 6.00 I(t)1440 low 12.22 I(t)1440 high 13.14 Interpolated I(t)1440 12.79 (1440/Tc)^0.47 12.78

Use Tc value: 6.00 minutes

$Q_{50\ BURNED} = 16.7\ CFS$

$Q_{50\ BURNED\ \&\ BULKED} = 16.7 \times 1.66$ ← PEAK BULKING FACTOR

$= 27.7\ CFS$ FOR AREA 2A

THIS SITE IS IN DPA 4*.

~~RE~~ PEAK BULKING FACTOR FOR DPA 4 = 1.66

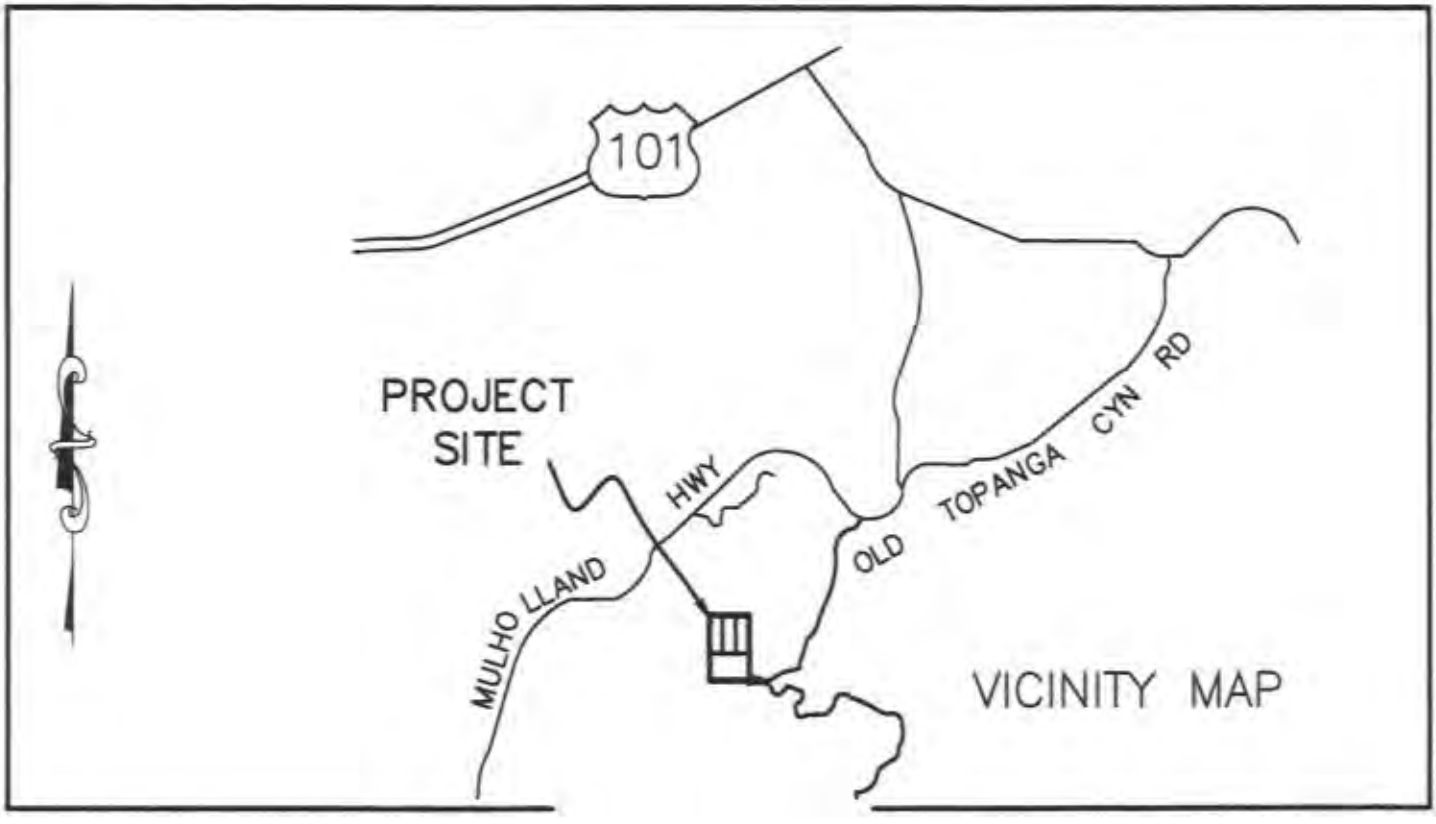
$Q_{TOTAL\ 1A + 2A}$

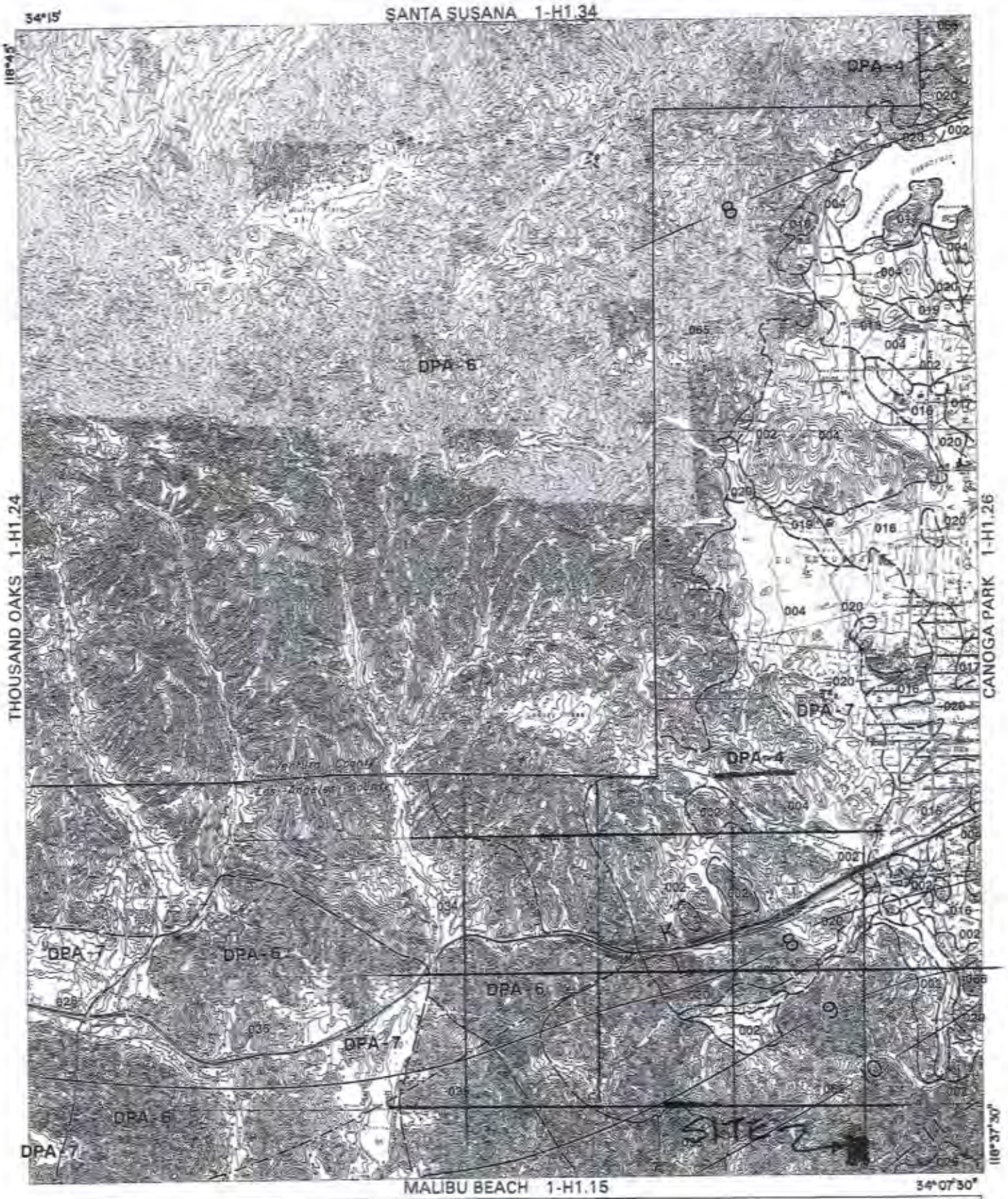
$= 2.8 CFS + 27.7$

$= 30.5\ CFS$

* DPA = DEBRIS PRODUCTION AREA

W


101
PROJECT
SITE
HWY
MULHO LLAND
OLD
TOPANGA CYN RD
VICINITY MAP



LEGEND

——— SOIL CLASSIFICATION AREA

..... DEBRIS POTENTIAL AREA

-·-·-·- RAINFALL ZONE

—12— 50-YEAR ISOHYET (MAX. 24-HOUR AMOUNT)

L A C D P W

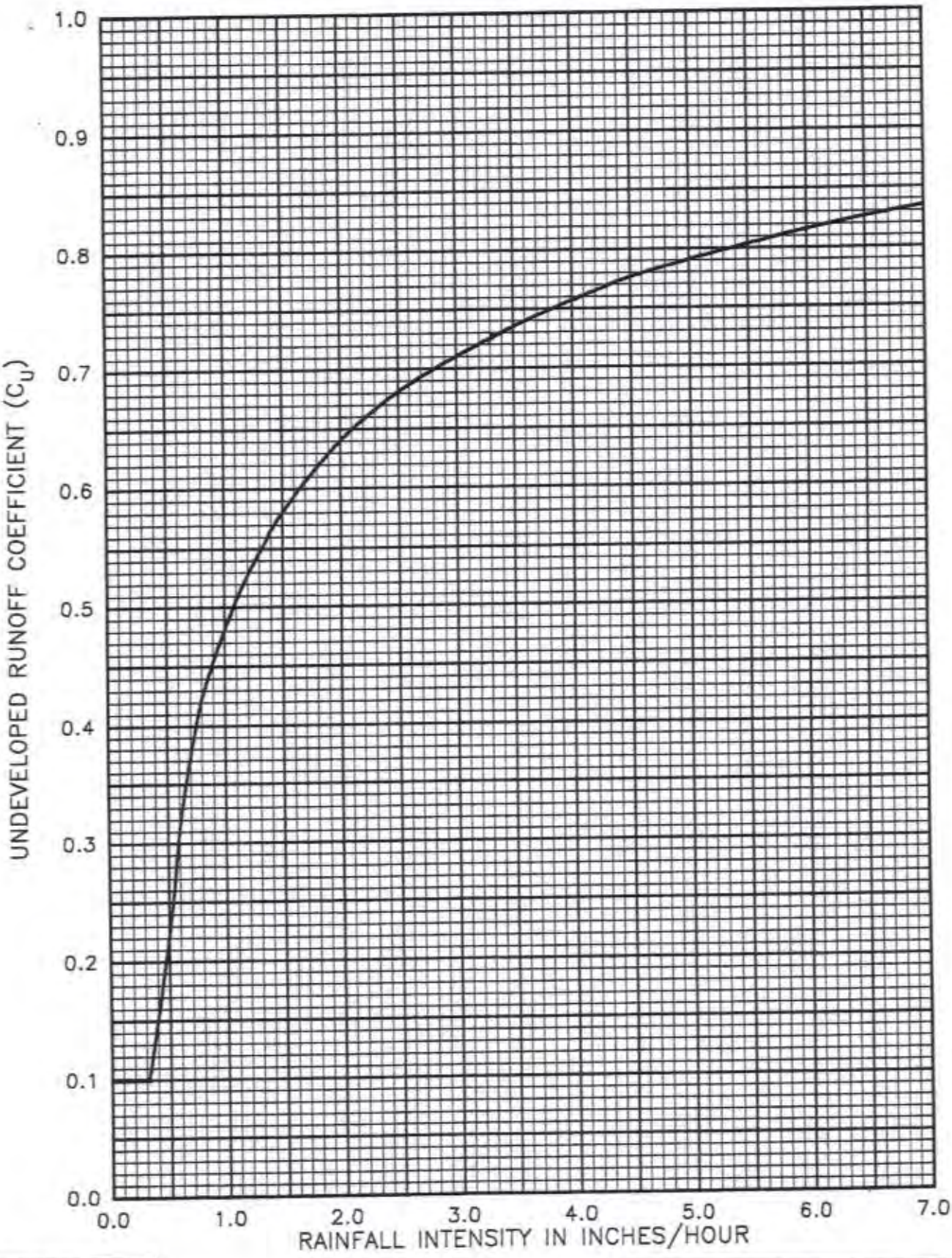
N

0 FEET 5000

CALABASAS **1967**

hydrologic map

5



Equation:

$C_D = (0.9 * IMP) + (1.0 - IMP)\ C_U$

C_D = Developed runoff coefficient.

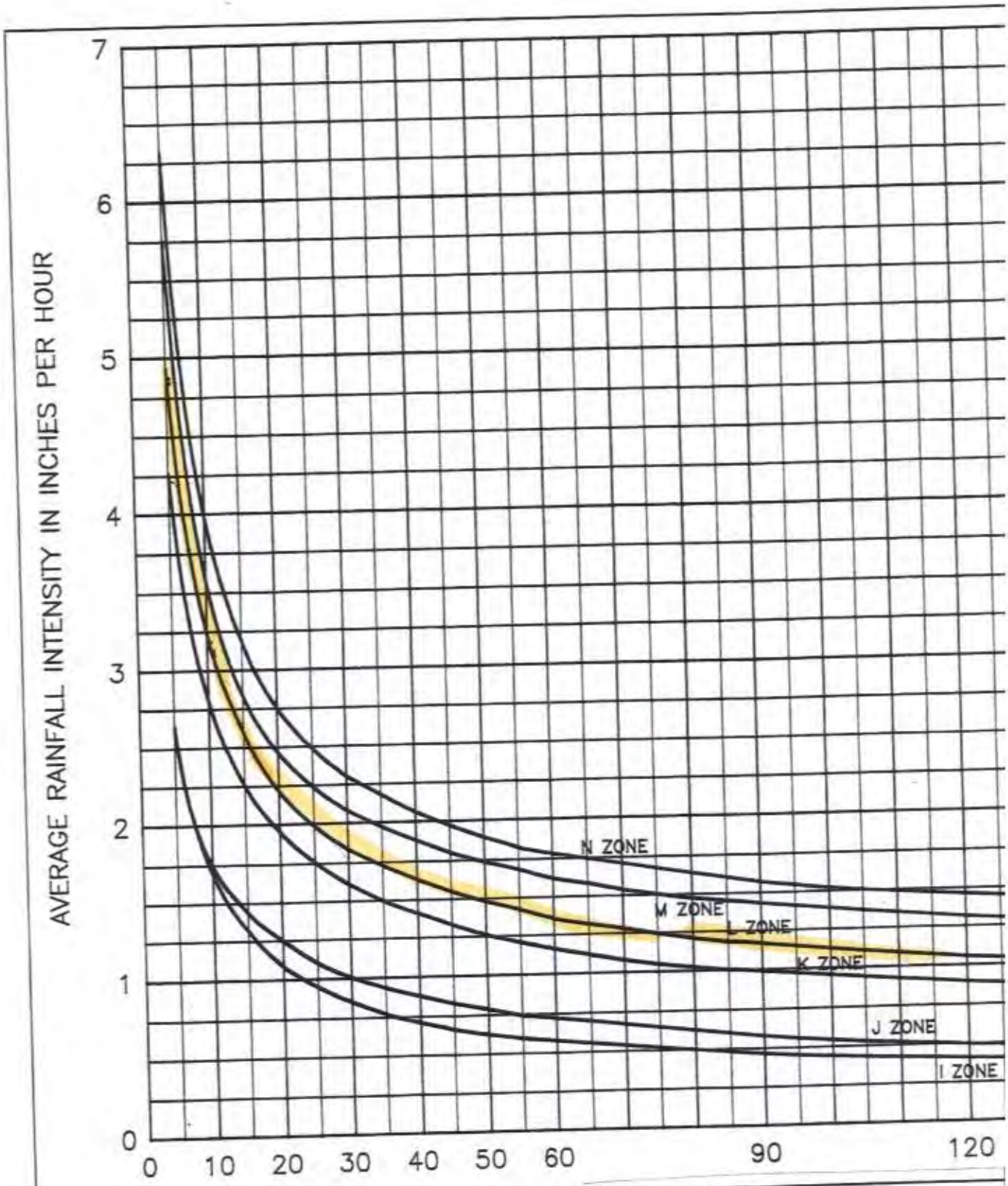
Where: IMP = Proportion impervious.

C_U = Undeveloped runoff coefficient.

Los Angeles County
Department of Public Works

RUNOFF COEFFICIENT CURVE 6

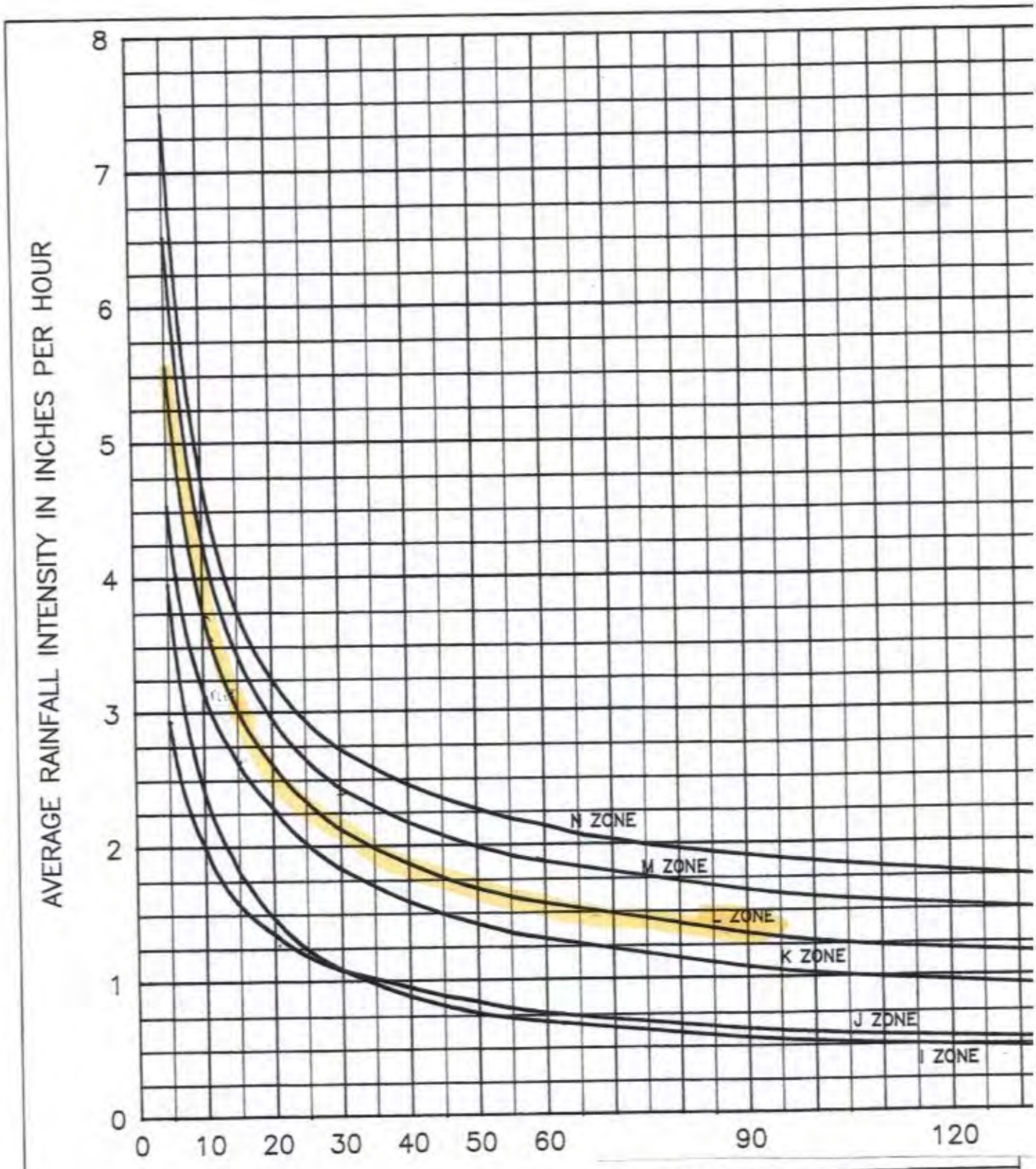
SOIL TYPE NO. 066



Los Angeles County
Department of Public Works

AVERAGE RAINFALL INTENSITY
DURATION CURVES
RECURRENCE INTERVAL 25 YEARS

25YRID—B.SPG



Los Angeles County
Department of Public Works

AVERAGE RAINFALL INTENSITY
DURATION CURVES
RECURRENCE INTERVAL 50 YEARS

50YRID-C.SPG

Burn Factor

Rainfall Intensity (in/hr)	Burn Factor K	Rainfall Intensity (in/hr)	Burn Factor K	Rainfall Intensity (in/hr)	Burn Factor K
.1	.856	3.5	.596	6.8	.557
.2	.798	3.6	.594	6.9	.556
.3	.765	3.7	.592	7.0	.555
.4	.743	3.8	.591	7.1	.554
.5	.727	3.9	.589	7.2	.554
.6	.713	4.0	.588	7.3	.553
.7	.702	4.1	.586	7.4	.552
.8	.693	4.2	.585	7.5	.551
.9	.684	4.3	.583	7.6	.550
1.0	.677	4.4	.582	7.7	.550
1.1	.670	4.5	.581	7.8	.549
1.2	.665	4.6	.579	7.9	.548
1.3	.659	4.7	.578	8.0	.548
1.4	.654	4.8	.577	8.1	.547
1.5	.650	4.9	.576	8.2	.546
1.6	.645	5.0	.575	8.3	.546
1.7	.641	5.1	.573	8.4	.545
1.8	.638	5.2	.572	8.5	.544
1.9	.634	5.3	.571	8.6	.544
2.0	.631	5.4	.570	8.7	.543
2.1	.628	5.5	.569	8.8	.542
2.2	.625	5.6	.568	8.9	.542
2.3	.622	5.7	.567	9.0	.541
2.4	.619	5.8	.566	9.1	.540
2.5	.617	5.9	.565	9.2	.540
2.6	.614	6.0	.564	9.3	.539
2.7	.612	6.1	.563	9.4	.539
2.8	.610	6.2	.562	9.5	.538
2.9	.607	6.3	.561	9.6	.538
3.0	.605	6.4	.560	9.7	.537
3.1	.603	6.5	.559	9.8	.536
3.2	.601	6.6	.558	9.9	.536
3.3	.599	6.7	.558	10.0	.535
3.4	.598				

BURN.TAB

Equation:

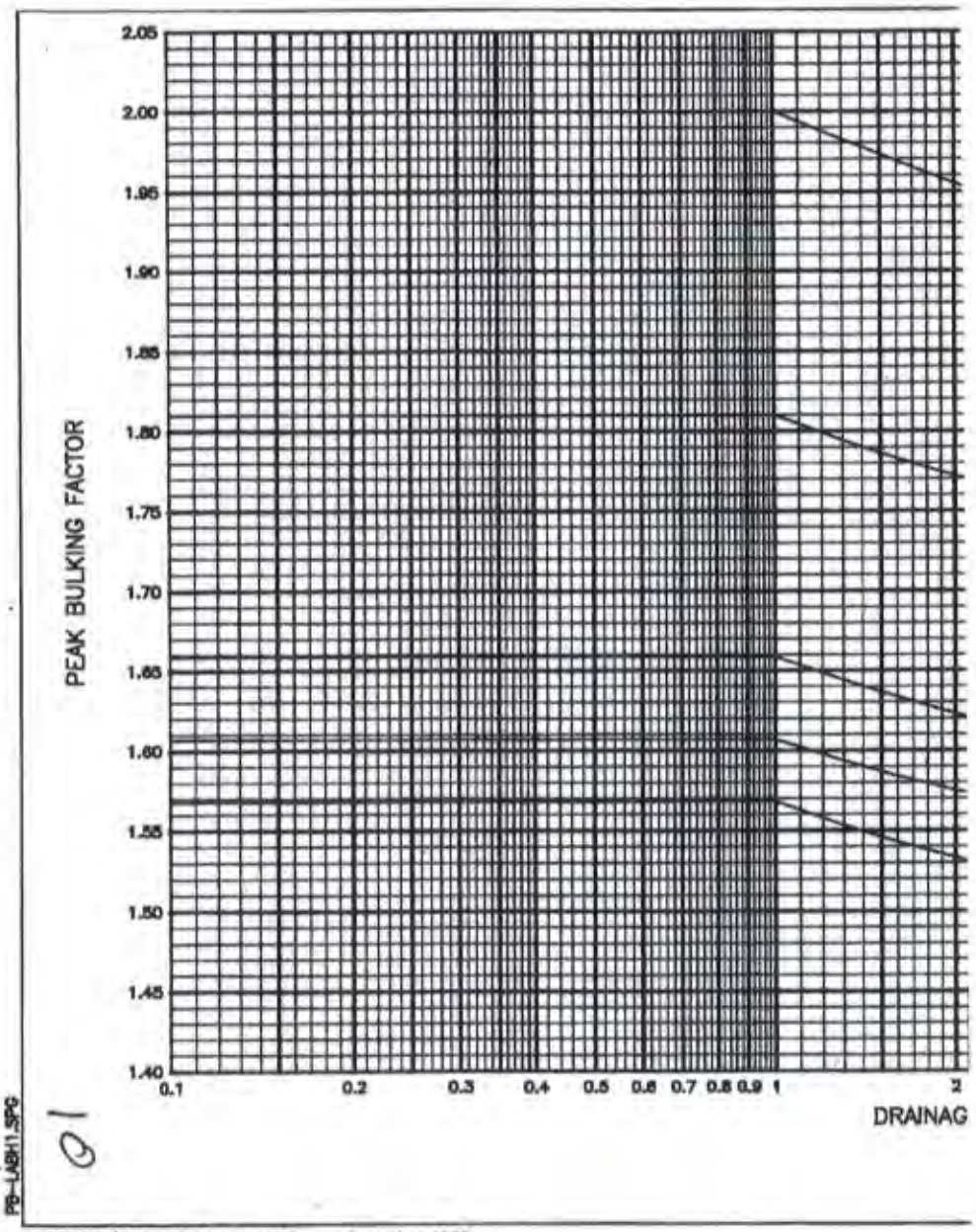
$$K = 0.677 * I^{-0.102}$$

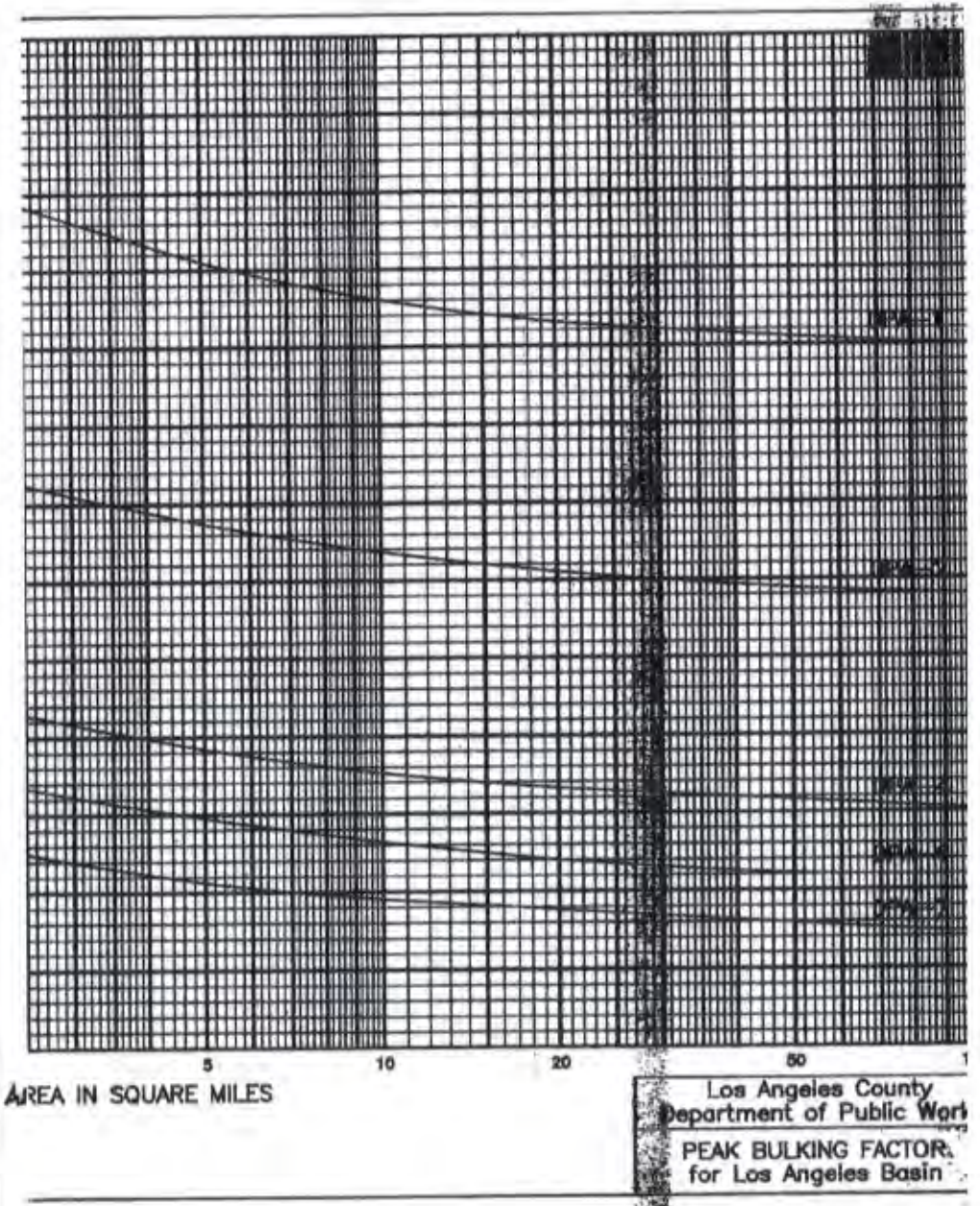
Where:

K = The Ratio of Burned to Unburned Infiltration Rates (Burn Factor).
I = The Rainfall Intensity (in/hr).

Los Angeles County
Department of Public Works

BURN FACTOR





Los Angeles County
Department of Public Work

PEAK BULKING FACTOR
for Los Angeles Basin

PB-LABH1.SPC

AREA 1A
6" D.I.P. DRAIN
$Q_{25} = 2.8$ CFS

CIRCULAR CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

October 8, 2013

PROGRAM INPUT DATA

DESCRIPTION	VALUE
Flow Rate (cfs)	2.8
Channel Bottom Slope (ft/ft)	0.34
Manning's Roughness Coefficient (n-value)	0.014
Channel Diameter (ft)	3.0

COMPUTATION RESULTS

DESCRIPTION	VALUE
Normal Depth (ft)	0.19
Flow Velocity (fps)	15.18
Froude Number	7.511
Velocity Head (ft)	3.58
Energy Head (ft)	3.77
Cross-Sectional Area of Flow (sq ft)	0.18
Top Width of Flow (ft)	1.45

TRAPEZOIDAL CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

October 8, 2013

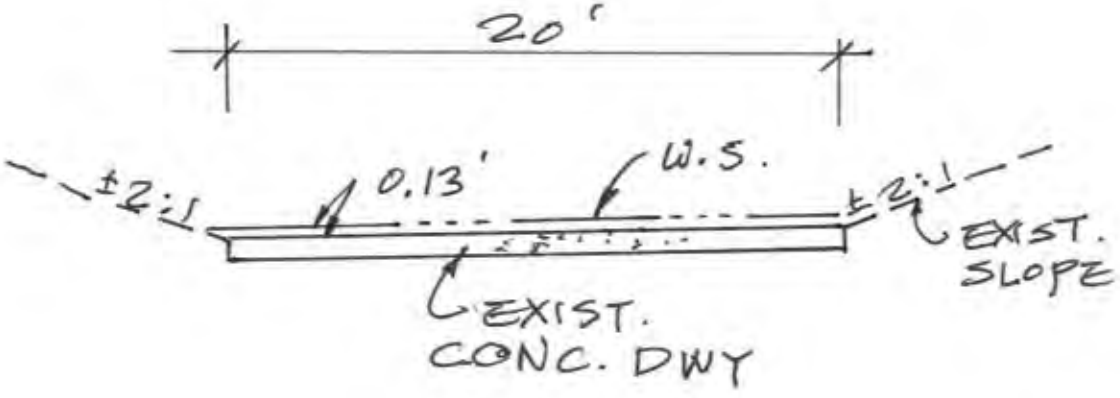
AREA 2A
20' CONC. DWY
$Q_{50} = 30.5$ CFS

PROGRAM INPUT DATA

DESCRIPTION	VALUE
Flow Rate (cfs)	30.5
Channel Bottom Slope (ft/ft)	0.16
Manning's Roughness Coefficient (n-value)	0.013
Channel Left Side Slope (horizontal/vertical)	2.0
Channel Right Side Slope (horizontal/vertical)	2.0
Channel Bottom Width (ft)	20.0

COMPUTATION RESULTS

DESCRIPTION	VALUE
Normal Depth (ft)	0.13
Flow Velocity (fps)	11.67
Froude Number	5.764
Velocity Head (ft)	2.12
Energy Head (ft)	2.25
Cross-Sectional Area of Flow (sq ft)	2.61
Top Width of Flow (ft)	20.52



ANAYSIS FOR EXIST. 20' X 3' GRATED CHANNEL INLET FOR AREA 2A

OPENING AREA FOR THE GRATE = 20'X3'X0.5 = 30 SF

INTERCEPT Q = $CA(2GH)^{1/2} = 0.5*30*(64.4*H)^{1/2} = 120.4H^{1/2}$

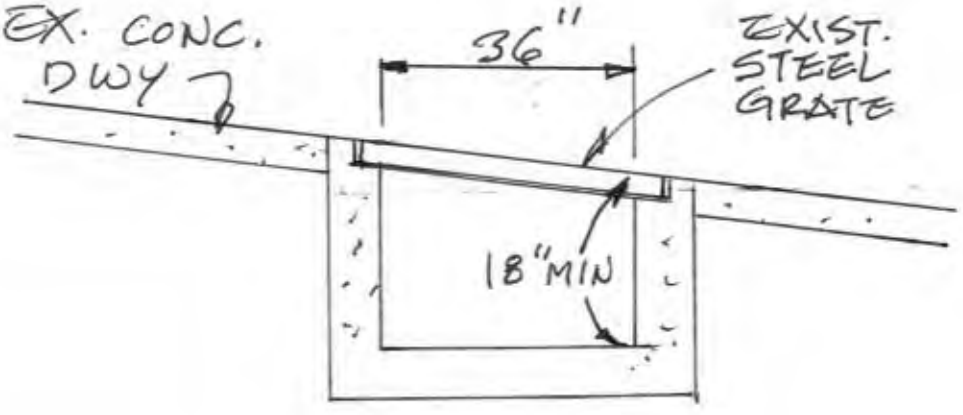
PONDED DEPTH = 0.13'

$Q_{INT} = 120.4(0.13)^{1/2} = 43.4$ CFS

$Q_{50B\&B}$ = 30.5 CFS

43.4 CFS >>30.5 CFS

The inlet capacity is more than adequate.



AREA 2A
EX. CONC SEMICIRCULAR DITCH
TOTAL Q_{50} = 30.5 CFS

CIRCULAR CHANNEL ANALYSIS
NORMAL DEPTH COMPUTATION

October 8, 2013

PROGRAM INPUT DATA

DESCRIPTION	VALUE
Flow Rate (cfs)	30.5
Channel Bottom Slope (ft/ft)	0.4
Manning's Roughness Coefficient (n-value)	0.013
Channel Diameter (ft)	3.0

COMPUTATION RESULTS

DESCRIPTION	VALUE
Normal Depth (ft)	0.55
Flow Velocity (fps)	34.69
Froude Number	9.926
Velocity Head (ft)	18.7
Energy Head (ft)	19.25
Cross-Sectional Area of Flow (sq ft)	0.88
Top Width of Flow (ft)	2.32

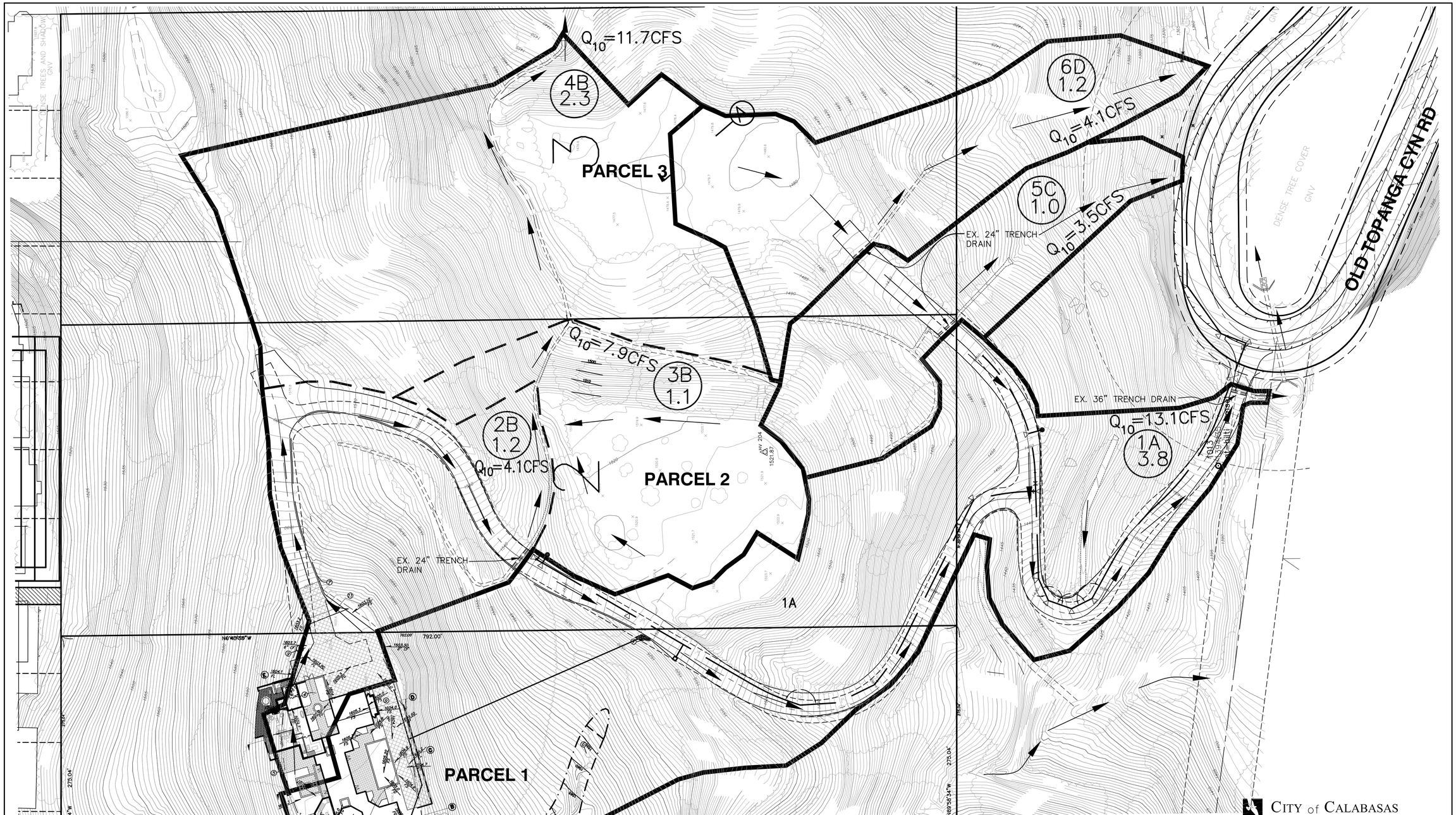
CONCLUSIONS

Based on the foregoing analyses, the existing drainage devices have been adequately sized. Provided all the recommended repair work for the drainage system and the erosion scars are performed, the drainage system for the site will be adequate to provide protection for the site and the area downstream of the site.

CONCLUSIONS

Based on the foregoing analyses, the existing drainage devices have been adequately sized. Provided all the recommended repair work for the erosion scars are performed, and the proposed storm drain system as shown on the grading plan is constructed per plan, the drainage system for the site will be adequate to provide protection for the site and the area downstream of the site. The homeowners will be responsible to maintain the private onsite storm drains system on a regular basis for proper functioning.

The 36" wide trench drain near the lower end of the existing concrete driveway drains into an existing 36" diameter RCP culvert maintained by the City of Calabasas. There is no sign of any damage to the culvert.



REV.	SYM.	DESCRIPTION	R.C.E.	DATE	TYPE	D.U.	DATE

PREPARED BY:
EJK & Associates
CIVIL ENGINEERING & LAND PLANNING
6320 Platt Ave. #338, West Hills, CA 91307
Phone: 818/337-8055

REGISTERED CIVIL ENGINEER NO. 42388 DATE
E. J. KIM, P.E., EXP. 3/31/14

CITY of CALABASAS

HYDROLOGY MAP
PCL 1-3, PM 11026

REVIEWED AND RELEASED:	REVIEWED AND RELEASED:
PUBLIC WORKS DIRECTOR DATE	PROJECT ENGINEER DATE

DESIGNED BY:	DRAWN BY:	CHECKED BY:
DATE:	DATE:	DATE:

DRAWING NUMBER —

SHEET 1 OF 1

JN2152-2-SHREN\GRADING\GRADING-LOT1.DWG

EPD consultants
sustainable water systems & solutions

20722 Main Street
Carson, CA 90745
P: 310.241.6565
F: 310.241.6566

City of Calabasas
Private Sewage Disposal System (PSDS) Review Sheet

Project Location: 3121 Old Topanga Canyon Road, Calabasas, California

Building and Safety #: BS1302344

Date of Review: September 16, 2013

Reviewer: Kevin Poffenbarger, PE

References:

A. Alpine Geotechnical, Inc: Update and Addendum Letter, dated July 25, 2013.
B. Alpine Geotechnical, Inc: Addendum Letter, dated May 22, 2007.
C. Alpine Geotechnical, Inc: Seepage Pit Percolation Investigation, dated September 19 2005.
D. California Plumbing Code, 2010 Edition (CPC)
E. United States Environmental Protection Agency: *Onsite Wastewater Treatment Systems Manual* (2002)

Previous Review:

Findings: [ ] Acceptable as presented [X] Response Required.

Remarks:

We have conducted a technical review of the referenced reports and plans with respect to the proposed Private Sewage Disposal System (PSDS), and request written responses to the following comments:

1. Septic Tank:
   It is proposed to utilize the a MicroSepTec Enviroserver ES25 supplemental treatment system. This is acceptable for the proposed 8-bedroom, 71 drainage fixture unit residence described in the reports.

   a. No architectural plans were provided for review to confirm the number of bedrooms or drainage fixture units proposed. Please provide architectural floor plans for review.

   b. For Final Approval of the proposed supplemental treatment system in this project, a covenant will need to be recorded with the County of Los Angeles.

EPD consultants
sustainable water systems & solutions

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Contact the City of Calabasas Department of Building and Safety for further clarification.

2. PSDS Disposal Area
A seepage pit-type private sewage effluent disposal system is proposed

   a. Design Considerations:
      i. Please show and label all trees proposed to remain on the property on the PSDS plot plan, and include the drip line of any protected trees (CPC Table K-1).

      ii. Locate all streams, tributaries to streams, drainage courses, flood plain/hazard areas, other bodies of water, and water wells within 150-feet of the property on the PSDS plot plan (CPC Table K-1, K 1.0 (D))

      iii. The PSDS plot plan must clearly show and label all existing and proposed structures, including stairs and retaining walls (CPC Table K-1).

   b. Soils Analysis / Percolation / Infiltration Report:

      i. Boring B-8 was tested, yet neither the present nor future reserve proposed seepage pits are located in the test boring. Because the proposed seepage pits discharge into bedrock, all necessary present and future seepage pits shall be required to be percolation tested prior to approval.

      ii. Calculations presented in the report suggest a demonstrated percolation capacity of 7,894 gallons per day per pit (gpd/pit) in Boring B-8. Percolation test data documents 1,705-gallons metered into the 2-ft diameter test hole, with 1.5-ft (36-gallons) of additional water remaining in the test hole after completion of testing. This results in a net demonstrated percolation capacity in this 2-ft diameter boring of 1,669 gpd. The ratio of sidewall area for a 5-ft diameter seepage pit to the 2-ft diameter test hole is 2.5:1, and the ratio for a 6-ft diameter pit is 3.0:1. This results in a demonstrated percolation capacity of only 4,172-gpd for a 5-ft diameter seepage pit and 5,007-gpd for a 6-ft diamter seepage pit in Boring B-8. Total required percolation capacity with a supplemental treatment system each for present and future reserve shall be the greater of three-times the minimum septic tank capacity based upon the the drainage fixture unit determination from CPC Table K-2, or five-times the minimum septic tank capacity based upon the bedroom method determination from CPC Table K-2.

      iii. Percolation testing shall be in accordance with Los Angeles County Meter Test or Modified Drop Methods. Provide complete percolation test data including all

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Carson, CA 90745
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the required information for each required present and future reserve seepage pit.

iv. Percolation or infiltration tests shall be performed by a California Registered Professional Civil Engineer, a California Registered Professional Geotechnical Engineer, a California Registered Geologist, a California Registered Engineering Geologist, or a California Registered Environmental Health Specialist.

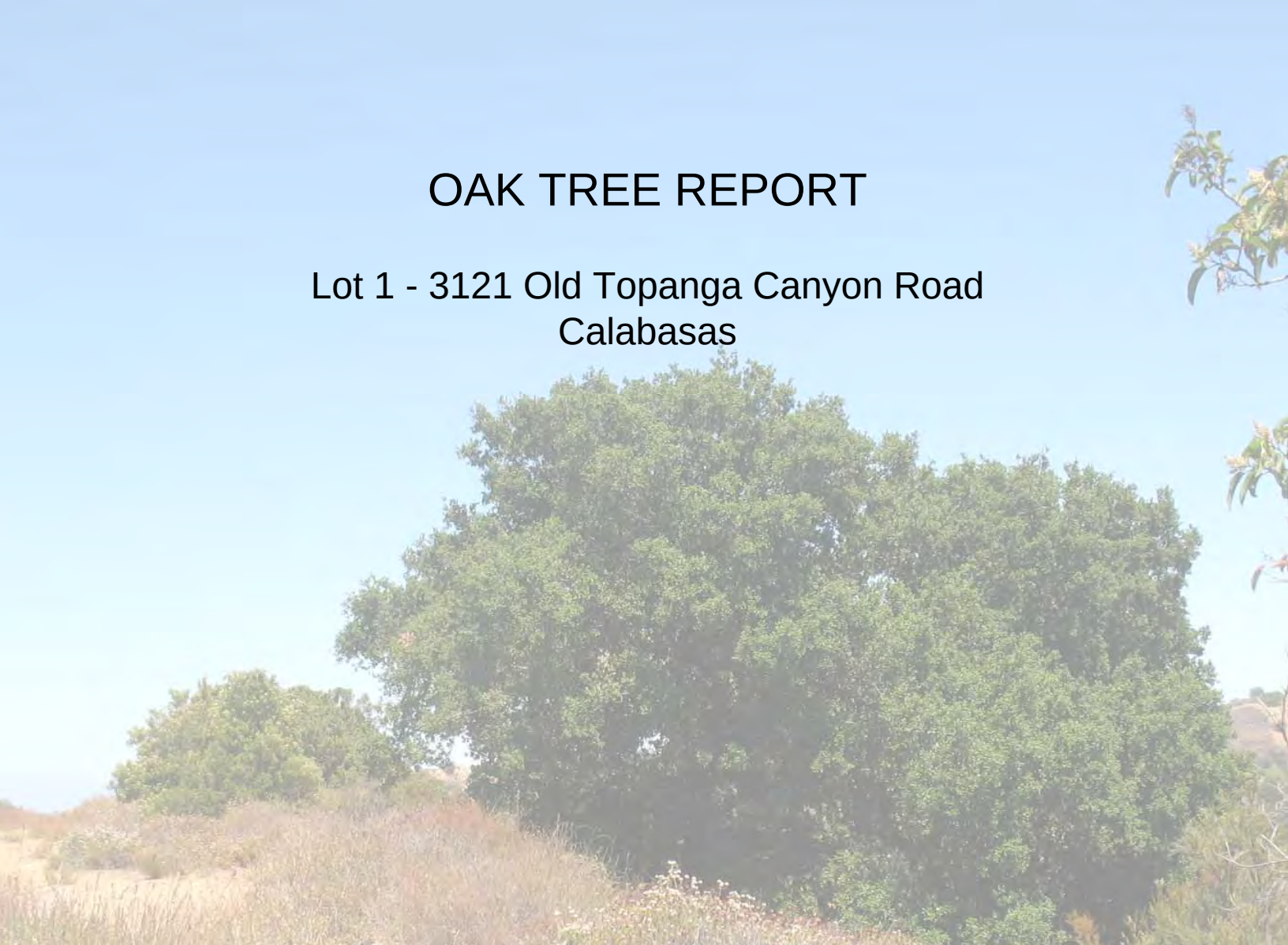
c. Supporting Geology/Soils Report (CPC K 12.0 (C)):

Provide an updated supporting geologic report for all new required seepage pit percolation tests. For all test holes, the report shall: include boring logs, address the required 10-ft separation to groundwater (CPC K 3.0 (4)), detail the anticipated path of efluent, provide a stability statement, and provide cap depth recommendations.

APPENDIX D
OAK TREE REPORT

OAK TREE REPORT

Lot 1 - 3121 Old Topanga Canyon Road
Calabasas



PREPARED FOR
Broadway Trust Residence
c/o Hayne Architects, Inc.
22467 Pacific Coast Highway
Malibu, CA 90265

PREPARED BY
L. Newman Design Group, Inc.
ASLA California State License #2464
ISA Certified Arborist WE-6820A
31300 Via Colinas, Suite 104
Westlake Village, CA 91362-3992
(818) 991-5056

May 31, 2013
Rev Date: May 2, 2014
LNDG Project No. 200-456

OBJECTIVES

The objective of this report is to assess the present condition of the site's existing oak trees and to discuss the potential encroachments to them and their effect on the health of the trees. This involved:

1. Assessing the condition of the protected oak trees (see **SUMMARY of FIELD OBSERVATION** sheets);
2. Ascertaining the impacts that will occur due to the project (see Site Plan/**OAK TREE LOCATION MAP** and **TREE SECTION)**;
3. Providing guidance to minimize any encroachments into the protected zones of the saved trees.

METHODS of STUDY

Oak trees were assessed using our standard visual survey, as completed by L. NEWMAN DESIGN GROUP, INC. (**LNDG**) in May of 2013. In the course of the fieldwork, we performed the following tasks:

1. Live tree trunks were measured at 4½' above mean natural grade. Oak trees with trunk diameters of two inches and larger were included in the inventory of protected trees. The trees were assessed for plant quality. Trees included were within the project boundaries and/or encroached by trenching for the waiter main;
2. The trees were tagged with numbered metal tags. These tags are affixed to the sides of the trees and correspond to those numbers on the **OAK TREE LOCATION MAP**;
3. Driplines (outermost edge of the tree's canopy) were field measured or estimated at eight compass directions equidistant around the circumference of the tree. The minimum clearance from the present grade to the bottom of the canopy at each of the points was estimated.
4. The inventoried trees were precisely land surveyed and are shown on a topographic map (scale: 1"= 40') prepared by Hayne Architects (dated April 4, 2013). Refer to the **OAK TREE LOCATION MAP** included herein for the tree locations.
5. The approximate locations of estimated areas of scrub oaks are indicated on the tree map.

PROJECT LOCATION

The site, Lot 1, 3121 Old Topanga Canyon Boulevard, is in the City of Calabasas, CA., APN 2072-023-013.

OAK SPECIES

All of the oak trees referenced in this report are of the species *Quercus agrifolia* (coast live oak). In addition, some scattered *Quercus berberidifolia* (scrub oak) were found and will not be encroached.

OAK TREE ORDINANCE (92-39)

The City lies in a unique area of Los Angeles County, the beauty of which is greatly enhanced by the presence of large numbers of majestic oak trees. Development of the area has resulted in the removal of a great number of these trees. Further uncontrolled and indiscriminate destruction of oak trees would detrimentally affect the safety and welfare of the citizens of Calabasas. This preservation program outlined in this Ordinance contributes to the welfare and aesthetics of the community and retains the great historical and environmental value of these trees.

This ordinance sets forth the policy of the City to require the preservation of all healthy oak trees unless reasonable and conforming use of the property justifies the removal, cutting, pruning and/or encroachment into the Protected Zone of an oak tree. The Protected Zone shall mean that area within the dripline of an oak tree and extending therefrom to a point at least 5' outside the dripline, or 15' from the trunks of the trees, whichever distance is greater.

The major thrust of the oak Tree Policy was established to recognize Oak trees as significant, historical, aesthetic and valuable ecological resources, and as one of the most picturesque trees in Los Angeles County, lending beauty and charm to the natural and man-made landscape, enhancing the value of property, and the character of the communities in which they exist. In addition, the Oak Tree Policy intends to create favorable conditions for the preservation and propagation of this unique, threatened plant heritage, particularly those trees which may be classified as `Heritage Oak Trees', for the benefit of current and future residents of Calabasas. It is the intent of the Oak Tree Policy to maintain and enhance the general health, safety, and welfare by assisting in counteracting air pollution, and in minimizing soil erosion and other related environmental damages. The Oak Tree Policy is also intended to preserve and enhance property values by conserving and adding to the distinctive and unique aesthetic character of many areas of Calabasas in which Oak trees are indigenous.

RESULTS of STUDY

1. **Physiological Condition of the Oaks**

   The physiological condition of the oak trees is detailed in the **SUMMARY of FIELD OBSERVATIONS** contained within this report. All recommendations made on our field forms relate only to the specific dates of our fieldwork.

2. **Summary of Data/Plan Review**

   A. This report addresses the encroachments of oak trees for grading and construction of a house proposed for Lot 1, repairs to the existing concrete driveway, and the connection of a new water mainline to the existing mainline in Old Topanga Canyon Road. Lot 1 (see architects site plan sheet A-1.1) has an existing building pad north of tree #2 where the new house will be built. Other oak trees on Lot 1 (trees #13 – #19) will not be encroached. Two of four mainstems of oak tree 19 have broken off at grade level and fallen into the existing driveway. These shall be removed without disturbing the live trunks.

   B. Repair work of the driveway (see architects master plan A-1.0) will not encroach into the protected zones of any other oak tree.

   C. The trench required to connect the new water mainline to the existing mainline will encroach slightly into 16 – 19 on Lot 1 and into 20 trees (trees 36, 37, 40 – 57) along Old Topanga Canyon Road. Refer to the oak tree map dated August 6, 2012, included in the appendix, for the location of the trees along Old Topanga Canyon Road.

D. The construction of the house will encroach into the protected zone of oak tree #2 causing a minor impact to the tree. Although the corner of the house and the 4 to 5-foot retaining wall will be constructed outside of the protected zone, it is anticipated that some over-excavation (assumed to be no more than 5 feet from the structure and retaining wall) and construction activity will cause encroachments. In addition, a portion of the paved patio will be placed within the protected zone, 4 feet from the trunk at its closest point. The combined areas of encroachment will be approximately 18% of the total area of the protected zone. The encroachments will remove a significant percent (less than 10 percent likely) of the root system but this will not be detrimental to the long term health of the tree if best practices are used in mitigating the impact.

E. Based on the site plan, no oak trees will be removed for this proposed development.

F. Most of the scrub oak will have to be thinned according to the fuel modification requirements for the County of Los Angeles. The calculations of areas of scrub oak in each zone were based on LNDG's estimation of the limits of the zones. Some areas that will be impacted by the fuel modification requirements are off property. The following table indicates the extent of the scrub oak encroachments:

	Area of scrub oak
Not in F.M Zones	1,320 SF
Zone A	3,280 SF
Zone B	17,050 SF
Zone C	23,010 SF

Zone B – scrub oaks must be thinned to at least as much as Zone C but maybe more, as agreed to by Fire Dept. Zone C – must be thinned of scrub oaks so that the canopies are no closer than 15 feet apart.

G. There is no pruning of any oak trees anticipated.

H. Oak tree 15 is a heritage tree and is labeled as such on the **OAK TREE LOCATION MAP.**

I. Driplines on the **OAK TREE LOCATION MAP** are schematic only, based on driplines estimated or measured in the field by LNDG. See the **DRIPLINE MEASUREMENTS** section for dripline data.

3. **PRC Values of the Oak Trees**

A. The following table lists the tree values derived using the PRC method as described in the "Oak Tree Preservation and Protection Guidelines" from the City of Calabasas:

Tree Number	Assessed Tree Value
2	$31,800
13	$8,000
14	$2,300
15	$18,700
16	$29,600
17	$22,120

18	$25,900
19	$49,900

4. **Mitigation Recommendations**

A. Any City approved work within the protected zones of the saved oak trees, including branch removals, shall be under the direct inspection/observation of **LNDG**.

B. Copies of the Oak Tree Report and the City's approved Oak Tree Permit shall be kept on-site during all construction.

C. The applicant shall provide a forty-eight (48) hour notice to the City and the applicant's oak tree consultant prior to the start of any approved work within the protected zone of any oak tree.

D. At the completion of construction, the applicant shall have in place three inches of approved mulch throughout the dripline of each encroached oak tree unless natural leaf litter is present.

E. Within ten (10) days of the completion of work, the applicant's oak tree consultant shall submit written certification to the City's Planning Division. This certification shall describe all work performed and whether such work was performed in accordance with the permit conditions.

OAK TREE PRESERVATION PROGRAM

1. **General Oak Tree Protection**

A. Trees that are to be preserved on the site during construction shall be fenced at the location of their protected zones or at the limit of grading with a temporary chain link fence prior to commencement of grading unless they are considered inaccessible to construction activity. Recommended protective fences are shown on the **OAK TREE LOCATION MAP**.

B. No activity, such as equipment or building materials storage, deposit of debris and trash, or parking shall be allowed within the protected zones of any oak tree at any time.

2. **Pruning**

A. Any pruning approved by the City of Calabasas prior to commencement of work shall be executed only after notification of the oak tree consultant and the City of Calabasas.

B. Pruning required, but not previously approved by the City of Calabasas, shall not be performed until a written request for pruning has been submitted and approved by the City of Calabasas unless the branches are less than 2" in diameter and is deemed necessary by **LNDG**.

C. All pruning shall be performed to the standards set forth by the International Society of Arboriculture (ISA).

D. Pruning wounds shall not be sealed. Approved pruning shall be performed by an ISA certified arborist under the direct supervision of the oak tree consultant.

3. **Grading within the Protected Zones of Oak Trees**

A. There shall be no grading within the driplines of any oak tree.

B. The City requirement to hand-dig any approved excavation within the drip line of oak trees is designed to avoid irreparable root damage. The purpose is to locate and expose roots that must be pruned and to carefully prune them, thereby avoiding the ripping and tearing caused with the use

of heavy equipment. Therefore, a **WORK PROCEDURES PROGRAM** is proposed to execute the work with precise and controlled methods that avoid indiscriminant damage. The program is as follows:

WORK PROCEDURES PROGRAM

1. **Preparation Phase**

During the pre-construction, on-site survey and staking, to provide layout control for the proposed improvements, the precise location of any improvement directly affecting any oak tree that is to be preserved in place shall be identified with monument stakes. The following information will be provided by this survey:

A. The verified location of affected oak trees that will remain along with the precise location of improvements that are encroaching within the protected zone of the individual trees.
B. For ease of identification, stakes with information concerning oak trees shall be uniquely flagged.

2. **Execution Phase**

A. Protective Fencing:

i. See "General Oak Tree Protection" above. The oak trees that are to be preserved on the site shall be kept fenced during the construction operation, per the approved fencing plan, with a 5-foot high, temporary, chain-link fence. The fence shall remain during all phases of construction. Damaged fencing shall be immediately replaced or repaired.
ii. In some cases, fencing may be placed at the limit of grading or excavation in order to allow approved work to be done inside the protected zones. Refer to the fencing plan for these situations. No fencing shall be removed or moved without notifying the oak tree consultant and without approval from the City of Calabasas Community Development Department.

B. Pruning:

Pruning, as permitted for clearance and if necessary, shall be performed before grading to avoid conflict between oak trees and heavy equipment. This action should eliminate the potential for broken branches resulting from the equipment.

D. Other protective measures:

i. Protect oak trees by not wounding them. Nailing of any thing such as grade stakes must be avoided.
ii. The potential for breaking of branches by mechanical equipment should be anticipated. Notify the oak tree consultant with a request for an evaluation and recommendation.
iii. It is important to leave the natural leaf litter that exists beneath an oak tree.
iv. No chemicals such as herbicides shall be used upstream and within one hundred feet of any oak tree protected zone.
v. Oak trees do not require supplemental watering. Although the increase in water and nutrients may improve tree vigor and appearance initially, most often disease problems increase over time. Decay, root, and crown rots are favored by high moisture conditions. To avoid disease infestation irrigation water system must not ever be applied any closer

to the tree trunk than fifteen feet. In other words, the ground must remain totally dry for at least fifteen feet in all directions in and around the trunk of an oak tree.

vi. If grading is completed other than during the rainy season, dust deposited on the foliage of oaks must be hosed off so that the growth processes of the tree are not disrupted

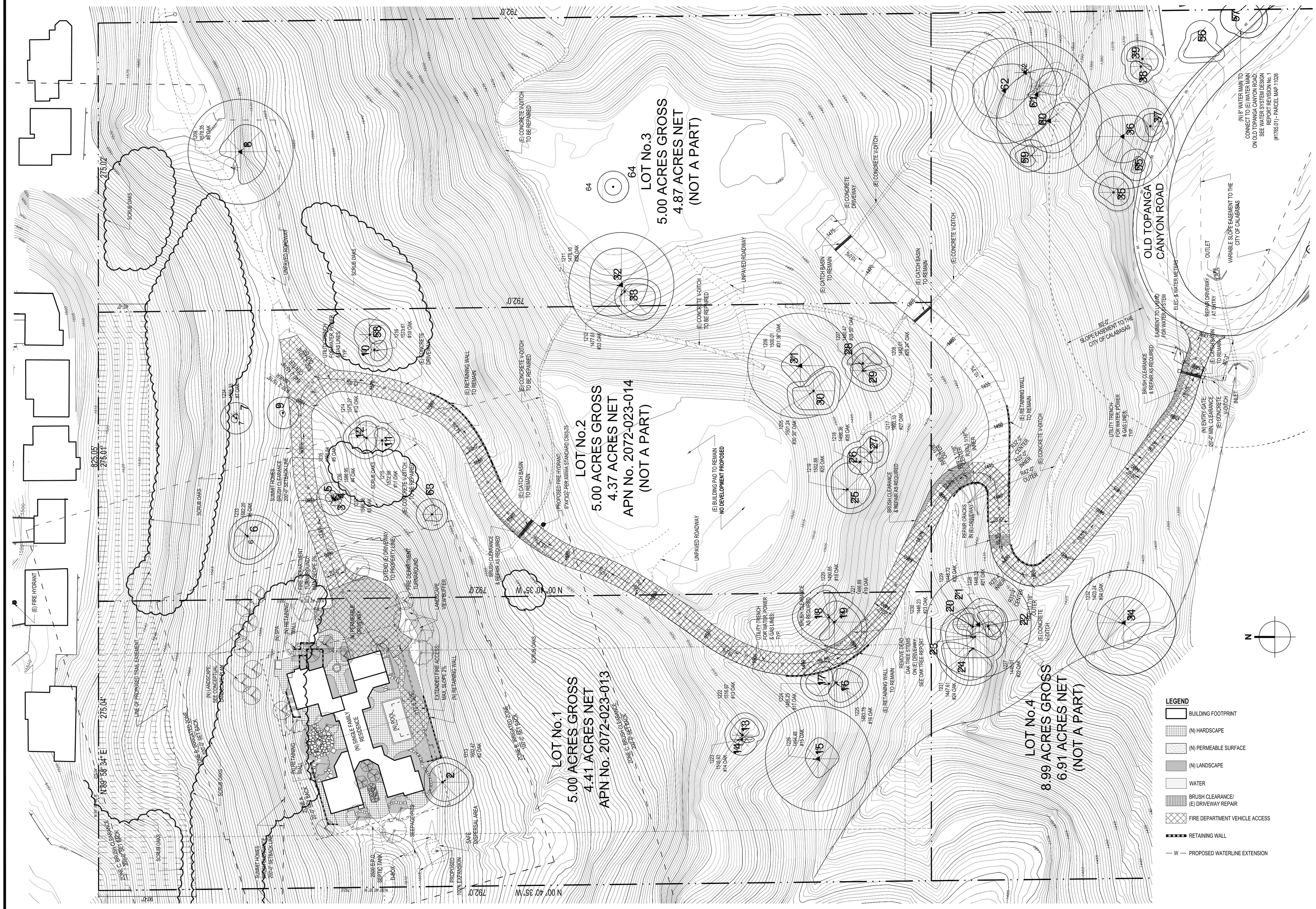
NOTICE OF DISCLAIMER:

This report represents the independent opinion of the signatory consultant (L. NEWMAN DESIGN GROUP, INC.). The tree(s) discussed herein was/were generally reviewed for physical, biological function and aesthetic conditions. This examination was conducted in accordance with presently accepted industry procedures, which are a ground-plane macro-visual observation only. No extensive micro-biological, soil-root excavations, upper crown examination nor internal tree investigations were conducted and therefore, the reporting herein reflects the overall visual appearance of the tree(s) on the date reviewed and no warranty is implied as to the potential failure, health or demise of any part or of whole of any tree described in the report. Records may not remain accurate after our inspection due to unknown causes of changeable deterioration of the reviewed site.

Sincerely,

L. NEWMAN DESIGN GROUP, INC.
ASLA, California State License #2464

John Oblinger
Certified Arborist WE-6820A



MASTER PLAN — SCALE 1"=40'-0" — 1

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CALABASAS, CA 91302

MASTER PLAN: OAK TREE LOCATION MAP

4	PLANNING RESUBMITTAL	3/3/2014
3	PLANNING RESUBMITTAL	12/17/2013
2	PLANNING RESUBMITTAL	10/8/2013
1	PLANNING RESUBMITTAL	8/1/2013
	PLANNING SUBMITTAL	6/10/2013

DATE: 3/3/2014
SCALE: AS NOTED
DRAWN BY: HLJ
FILE:

LICENSED ARCHITECT ROBERT D. HAYNE NO. C21070 STATE OF CALIFORNIA

A-1.0