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Th14a

Prepared April 10, 2013 for April 11, 2013 Hearing

To: Commissioners and Interested Persons

From: Madeline Cavalieri, District Manager
Daniel Robinson, Coastal Planner

Subject: **STAFF REPORT ADDENDUM for Th14a**
Appeal Number A-3-SLO-11-064 (Lewis SFD)

The purpose of this addendum is to modify the staff recommendation for the above-referenced item. In the time since the staff report was distributed, staff has received input and information from the Applicant's representative and interested parties regarding various issues, including related to procedural matters, archaeological resources, bluff setbacks, freshwater spring, and tree protection (see correspondence in the Central Coast Deputy Director's report for the April 11, 2013 hearing). Several issues that were raised would benefit from clarification, and therefore this addendum adds a "Response to Comments" section to the recommended findings.

With regard to archaeological resources, comments from a local Native American group indicate concern about the potential for discovering archaeological resources at the site. During the County's review of the project, the Applicant had a preliminary archaeological study performed and no archaeological resources were identified. Thus, no specific requirements were attached to the staff recommendation on this point. However, the LCP also requires that measures be taken in case such resources are found during construction. Thus, additional findings and a special condition are necessary in that respect.

With regard to erosion, staff, including the Commission's Senior Geologist, Dr. Mark Johnsson, continue to believe that the erosion threats are adequately addressed, and that the required setbacks are expected to be adequate to ensure stability for a period of 100 years, as required by the LCP. That said, the staff report inaccurately frames the way in which sea level rise is addressed in such setbacks, and thus clarification to the findings is required.

These addendum changes do not modify the basic staff recommendation, which is still approval with conditions. Thus, the staff report is modified as shown below (where applicable, text in underline format indicates text to be added, and text in ~~strikethrough~~ format indicates text to be deleted).

1. Archaeological Resources.

a. Add text on staff report page 25 under "Cultural Resources" as follows:

The LCP requires archaeological resources to be protected and preserved:

> *CZLUO Section 23.07.104. Archaeologically Sensitive Areas. To protect and preserve archaeological resources, the following procedures and requirements apply to development within areas of the coastal zone identified as archaeologically sensitive.*
>
> > *a. Archaeologically sensitive areas. The following areas are defined as archaeologically sensitive: (1) Any parcel within a rural area which is identified on the rural parcel number list prepared by the California Archaeological Site Survey Office on file with the county Planning Department. (2) Any parcel within an urban or village area which is located within an archaeologically sensitive area as delineated by the official maps (Part III) of the Land Use Element. (3) Any other parcel containing a known archaeological site recorded by the California Archaeological Site Survey Office.*
> >
> > *b. Preliminary site survey required. Before issuance of a land use or construction permit for development within an archaeologically sensitive area, a preliminary site survey shall be required. The survey shall be conducted by a qualified archaeologist knowledgeable in local Native American culture and approved by the Environmental Coordinator. The County will provide pertinent project information to the Native American tribe(s).*
> >
> > *c. When a mitigation plan is required. If the preliminary site survey determines that proposed development may have significant effects on existing, known or suspected archaeological resources, a plan for mitigation shall be prepared by a qualified archaeologist. The County will provide pertinent project information to the Native American tribe(s) as appropriate. The purpose of the plan is to protect the resource. The plan may recommend the need for further study, subsurface testing, monitoring during construction activities, project redesign, or other actions to mitigate the impacts on the resource. Highest priority shall be given to avoiding disturbance of sensitive resources. Lower priority mitigation measures may include use of fill to cap the sensitive resources. As a last resort, the review authority may permit excavation and recovery of those resources. The mitigation plan shall be submitted to and approved by the Environmental Coordinator, and considered in the evaluation of the development request by the Review Authority.*
> >
> > *d. Archeological resources discovery. In the event archeological resources are unearthed or discovered during any construction activities, the standards of Section 23.05.140 of this title shall apply. Construction activities shall not commence until a mitigation plan, prepared by a qualified professional archaeologist reviewed and approved by the Environmental Coordinator, is completed and implemented. The County will provide pertinent project information to the affected Native American tribe(s) and consider comments prior to approval of the mitigation plan. The mitigation plan shall include measures to avoid the resources to the maximum degree feasible and shall provide mitigation for unavoidable impacts. A report verifying that the approved mitigation plan*

has been completed shall be submitted to the Environmental Coordinator prior to occupancy or final inspection, whichever occurs first.

CZLUO Section 23.05.140. Archeological resources discovery. In the event archeological resources are unearthed or discovered during any construction activities, the following standards apply: (1) Construction activities shall cease, and the environmental coordinator and planning department shall be notified so that the extent and location of discovered materials may be recorded by a qualified archeologist, and disposition of artifacts may be accomplished in accordance with state and federal law. (2) In the event archeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the county coroner is to be notified in addition to the planning department and environmental coordinator so that proper disposition may be accomplished.

The project site is located in an LCP-mapped Archeological Sensitive Area (ASA), and development within areas of the coastal zone identified as archaeologically sensitive are subject to additional procedures and requirements. CZLUO 23.07.140b requires a preliminary site survey, which the Applicant has provided. In March 2010, a Cultural and Historic Resources Report was conducted, which identified no evidence of cultural materials on the property, and thus no follow up mitigation plan was required for this project. However, CZLUO 23.07.140d and CZLUO 23.05.140 also require that in the event that archeological resources are unearthed or discovered during any construction activities, all construction activities shall not commence until a mitigation plan, prepared by a qualified professional archaeologist reviewed and approved by the Environmental Coordinator, is completed and implemented. Consultation with the affected Native American tribe(s) must follow and measures must be implemented to avoid the resources to the maximum degree feasible and mitigate for unavoidable impacts. Therefore to ensure the project complies with the LCP in this regard, ***Special Condition 7*** *requires the applicant to comply with the above CZLUO policies.*

b. Add Special Condition 7 on staff report page 10 as follows:

7. Archaeological Resources. *DURING ALL GROUND DISTURBING ACTIVITIES, if archaeological resources are unearthed or discovered, construction shall cease in the vicinity of the resource, and an Archeological Mitigation Plan (Plan) prepared by a qualified archaeologist shall be submitted for the review and approval of the Executive Director. The Plan shall:*

(a) Include measures to avoid the resources to the maximum degree feasible and shall provide mitigation for unavoidable impacts.

(b) Ensure that a qualified archaeologist and Native American representatives have examined the site and helped develop mitigation measures that address and proportionately offset the impacts of the project on archaeological resources.

(c) Provide for an archaeological monitor to be present during all additional ground disturbing activities.

(d) Include a description of monitoring methods, including with respect to procedures for halting work on the site if necessary to protect archaeological resources and a description of

reporting procedures that will be implemented during ground disturbing activities to ensure that cultural resources are not disturbed.

(e) Include a list of the personnel involved in the monitoring activities and their qualifications, including qualified local Native Americans as project monitors as applicable.

All requirements above and all requirements of the approved Plan shall be enforceable components of this coastal development permit. The Permittee shall undertake development in accordance with the approved Plan.

2. Modify text on staff report pages 21-22 as follows:

Per the LCP, setbacks must be adequate to ensure stability for the economic life of the project, and at least a period of 100 years with a minimum required setback of at least 25 feet in all cases (LCP Sections 23.04.118(a) and Estero Area Plan Chapter 7, Section III). In this case, the Applicant's geologic report determined that the average annual long-term bluff retreat rate due to wave attack and erosion at the site is 2 inches per year, equaling approximately 17 feet over 100 years. In addition, the Applicant's geologic report also evaluated slope stability (adding a slope stability buffer), and determined potential landslide scenarios that dictated setbacks of an additional 20 feet and 10 feet (on the western and eastern sides of the site respectively). Together ~~(and rounding up to be conservative)~~, setting back for slope stability and long-term erosion over the next 100 years, and rounding up to both be conservative and ~~adding a 10 foot buffer~~ to account for possible acceleration in bluff retreat due to sea level rise, the Applicant's reports dictate a setback of 40 feet on the western side and 30 feet on the eastern side. The Commission's Senior Geologist, Dr. Mark Johnsson reviewed the relevant reports, visited the site, and agreed that the blufftop setbacks were consistent with the LCP requirements in this regard. Given all of the above, the setbacks for the proposed residence are expected to be adequate to ensure stability for a period of 100 years, consistent with the LCP's requirements.

3. Insert new Section H on page 28 of the staff report, and renumber existing Section H (California Environmental Quality Act (CEQA)) as Section I. The new Section H is as follows:

H. Response to Comments

In response to the Applicants' comments dated April 4, 2013 and John and Sue Black's comments dated April 4, 2013, the Commission finds the following:

Appeal Versus CDP Application

Regarding the Applicant's representative's allegation that the project is inappropriately being treated as a CDP application, Section 30625(b)(2) of the Coastal Act provides that the Commission shall hear an appeal unless it determines that no substantial issue exists with respect to the grounds on which the appeal has been filed. Section 13115(b) of the Commission's implementing regulations (Title 14, Division 5.5 of the California Code of Regulations (CCR))

specifically states that unless the Commission finds that no substantial issue exists, the Commission shall consider the application de novo in accordance with CCR Sections 13057-13096. Accordingly, after finding a substantial issue in the substantial issue portion of the hearing on April 12, 2012, the Commission continued the de novo portion of the hearing to a later date (April 11, 2013).

In any event, the distinction that the Applicant's representative is attempting to make is unclear. The Commission concurs that the standard for review for the de novo application is the LCP, as the Applicant's representative appears to indicate. In addition, based on Coastal Act Section 30604(c), the public access and recreation policies of the Coastal Act also apply as the site is located seaward of the first through public road.

LCP Policy Applicability

The Applicant's representative goes on to suggest that the standards of the LCP's Estero Area Plan prevail over the rest of the LCP, and that the Commission inappropriately relied on CZLUO and other LCP provisions to evaluate the proposed project when the Estero Area Plan standards should govern. The LCP is structured such that the Estero Area Plan standards govern in the case of a conflict with non-Area Plan policies and ordinance provisions (per LCP Framework For Planning Chapter 8 and LCP Coastal Plan Policies Chapter 1), but it is inappropriate to suggest that the rest of the LCP not apply to the project and that only the Estero Area Plan be consulted. The LCP is to be read as a whole in terms of evaluating development proposals, such as this. Yes, its hierarchy and conflict resolution provisions can be applied, but there is nothing in the LCP to suggest that non-Estero Area Plan policies should be rendered moot by virtue of the Estero Area Plan. As applied to this case, the LCP policies work together to identify a common goal, and there is nothing to suggest that the policies cited in this report somehow conflict with one another in such a way as to require that only the Estero Area Plan's provisions be applied. In fact, the Applicant's representative does not identify any specific area where the hierarchy or conflict provisions of the LCP should have been applied and/or where they would direct a different outcome.

Staff Report Differences

Much of the Applicant's representative's comments are based on their frustration that the current staff report includes different findings and conclusions as compared to the substantial issue hearing staff report. The staff reports are different for a variety of reasons. First and foremost, the Commission did not adopt the substantial issue report (in which staff had recommended that the Commission <u>not</u> find a substantial issue) and instead found that the County's CDP decision raised a substantial LCP conformance issue. By finding substantial issue, the Commission expressly rejected staff's original recommendation that no substantial issue existed. Thus, staff's original recommendation in the original substantial issue staff report is no longer relevant.

In addition, Commission deliberations at the substantial issue hearing clearly indicated concerns with the mass and scale of the development, including explicitly the length of the development across the front of the property along Lucerne Road, and the need for better articulation there, and particularly better protection for Highway 1 views. Because the substantial issue question represented a threshold investigation into the merits of the appeal contentions as opposed to a de novo review of the project, and in light of the hearing testimony (including conflicting testimony regarding the effect of the project on Highway 1 views) and Commission deliberations, staff

redoubled its efforts to better understand the range of project issues, including through additional site visits and developing improved information regarding potential view impacts, including specifically related to the Highway 1 view. This staff report is the culmination of that effort. It represents a de novo evaluation emanating directly from the Commission's finding of substantial issue in April 2012, and has thus gone further than staff's threshold substantial issue analysis, including due to staff's better understanding of issues and facts associated with potential project impacts, including critically with respect to the Highway 1 view.

Erosion

John and Sue Black question whether the project is appropriately setback from the blufftop edge, and suggest that the site is subject to substantially more erosion than identified in this report. They contend that the 2-inch per year long-term average annual historic erosion rate is understated, citing additional erosion that has occurred since the 2009 report was prepared. They state that as much as 110 feet of erosion has occurred since 1972, but have not provided evidence in support of that claim.

Erosion, which can be both episodic as well as more gradual, is to be expected at this site, so it is not unusual that there has been some erosion in the time since the geologic reports were completed. While it is reasonable to assume from recent photos that some erosion has occurred since the original geologic reports were produced, Dr. Johnsson continues believe that the setbacks prescribed in this case (as detailed starting on page 21 of this report) are adequate to ensure stability for a period of 100 years, as required by the LCP. This is in part because the setbacks already build in an extra setback (of about 3 feet) to err on the conservative side.

Spring/Groundwater Flows

John and Sue Black raise questions regarding the effect of the proposed project on a spring that is purportedly on the Applicant's property and which purportedly feeds a spring box on the neighboring property. As previously indicated, geologic investigations have concluded that the garage/basement will not affect groundwater flows (see pages 2 and 23 of this report). As described above, Dr. Johnsson, who is also a California-licensed Certified Hydrogeologist, has reviewed the relevant reports, visited the site, and concluded that it is likely that the majority of groundwater flow at the site, as is commonly the case in this region, is through the marine terrace deposits lying on top of the bedrock layer, and that the garage/basement is unlikely to interrupt groundwater flow.

Tree Removal

John and Sue Black raise the argument that trees 1-5, which are required to be retained, pruned and protected through this approval, are in fact in danger of falling over the bluff edge. Photos do appear to show the roots of several of these trees overhanging the bluff edge. While protective measures have been required to reduce the weight of these trees through pruning, it is not unreasonable to assume that with expected erosion rates as they are, and with periodic erosional events occurring in the future, these trees may well be lost in the near term. Such is the nature of coastal erosion, however. To address this issue, the Applicant has proposed (and this approval requires) 26 replacement trees, a 2:1 ratio for both the trees to be removed as well as for trees 1-5 in any event.

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Filed:	9/19/2011
Action Deadline:	None
Staff:	D. Robinson - SC
Staff Report:	3/29/2013
Hearing Date:	4/11/2013

STAFF REPORT: CDP APPLICATION

Application Number:	**A-3-SLO-11-064**
Applicant:	**Dr. Marshall Lewis**
Project Location:	709 Lucerne Road in Cayucos, San Luis Obispo County (APN 064-281-09).
Project Description:	Demolition of an existing 2,810 square-foot, one-story single-family dwelling and accessory structures, construction of a new 4,555 square-foot, two-story SFD with a 2,377 square-foot underground garage/basement, and removal of eight Monterey cypress trees.
Staff Recommendation:	Approval with Conditions

SUMMARY OF STAFF RECOMMENDATION

The Applicant proposes to demolish an existing 2,810 square-foot, one-story single-family dwelling (SFD) and accessory structures and construct a new 4,555 square-foot, two-story SFD with a 2,377 square-foot underground garage (a total of 6,932 square-feet of space), as well as other related site activities, including removal of 8 Monterey cypress trees on the property. The proposed project is located on the blufftop seaward of 709 Lucerne Road on the upcoast edge of the community of Cayucos. The project site is subject to a series of development constraints, primarily related to addressing shoreline hazards and public view protection (including from Highway 1).

The County approved the proposed project in August of 2011, and that approval was appealed to the Commission. On April 12, 2012, the Commission found that the County's approval raised a substantial LCP conformance issue, primarily in terms of viewshed compatibility, and took jurisdiction over the coastal development permit (CDP) application. Thus, the CDP application is now before the Commission for consideration and action.

The scenic and visual resource protections of the LCP are intended, among other things, to protect views to and along the shoreline. The project site is present in Highway 1 views, as well as in views from Ocean Avenue and Lucerne Road below the Highway. Currently the project site includes the existing SFD and some accessory structures, fronted along the road by a row of 13 Monterey cypress trees. Together, the trees and residential development block some blue water views to the ocean, including from Highway 1, and are prominent in public views in the area. The proposed project would similarly block some ocean views and be in the public view otherwise, but in a different form. Namely, the proposed removal of eight of the cypress trees would open up some views, but the proposed SFD would occupy more of the public view than the existing SFD, largely due to increasing the frontage length of the development along Lucerne, and extending to two stories from one.

In short, the proposed project would adversely affect the public view and the character of that view. Specifically, the increased massing would further block important public views, and introduce a large linear form into that view. Although the removal of the trees would open up some views that are currently blocked, the tree removal, along with the increased SFD massing proposed, would adversely alter the character of the viewshed. In short, the proposed project appears to have overly subscribed a constrained site with development, and that development will adversely affect protected public views. Thus, as proposed, the project is inconsistent with the LCP.

These issues can be addressed by reducing the frontage of the proposed SFD to the same linear frontage as the existing SFD, by requiring additional building articulation, and by requiring landscaping, including replacement trees, to help soften the appearance of the proposed development in the public view. Other conditions address hazards (by pulling the development far enough back to allow for 100 years of stability and by prohibiting future shoreline armoring) and other coastal resource concerns (e.g., construction best management practices, tree trimming/removal requirements, and future notice requirements). As conditioned, staff believes that the project can be found consistent with the LCP and that it appropriately responds to the unique circumstances of this constrained project site. Thus, staff recommends that the Commission approve the coastal development permit subject to the recommended conditions. The motion is found on page 4 below.

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I. MOTION AND RESOLUTION

Staff recommends that the Commission, after public hearing, **approve** a coastal development permit for the proposed development. To implement this recommendation, staff recommends a **YES** vote on the following motion. Passage of this motion will result in approval of the CDP as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Motion: *I move that the Commission approve Coastal Development Permit Number A-3-SLO-11-064 pursuant to the staff recommendation, and I recommend a yes vote.*

Resolution to Approve a CDP: *The Commission hereby approves Coastal Development Permit Number A-3-SLO-11-064 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of the San Luis Obispo County Local Coastal Program and the public access and recreation policies of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.*

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment.** The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittees or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation.** Any questions of intent or interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittees to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Revised Project Plans.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit two full-size sets of Revised Project Plans to the Executive Director for review and approval. The Revised Project Plans shall be in substantial conformance with the plans submitted to the Coastal Commission (dated received in the Commission's Central Coast District Office on February 27, 2013 and March 19, 2013 (see Exhibit 3)) except that they shall be revised and supplemented to comply with the following requirements:

   a. **Lucerne Road Frontage.** The linear length of the above-ground portion of the single-family dwelling along Lucerne Road shall be no longer than 80 feet.

   b. **Articulation.** The front of the single-family dwelling along Lucerne Road shall be prominently articulated (with offsets and projections, varied indents, second floor elements pulled back from first, architectural embellishments, softening of upcoast and downcoast edges, etc.) in such a manner as to minimize the perceived massing of the structure as seen from Highway 1, Ocean Avenue, and Lucerne Road.

   c. **Design.** The plans shall clearly identify all measures that will be applied to ensure that the project design, including all structures and including all other project elements (e.g., lighting, landscaping, railings, etc.) reduces the appearance of bulk and mass and blends with the surrounding neighborhood environment. At a minimum, exterior materials shall appear natural and non-reflective, including through the use of wood, stone, brick, and earth tone colors. Plans shall clearly identify all structural elements, materials, and finishes (including through site plans and elevations, materials palettes and representative photos, product brochures, etc.).

   d. **Lighting.** All exterior lights, including any lights attached to the outside of the residence, shall be the minimum necessary for the safe ingress and egress of the residence, and shall be low-wattage, non-reflective, shielded, and have a directional cast downward such that no light will shine beyond the boundaries of the subject parcel.

   e. **Cypress Protection**.

      1. **Retention.** The Monterey cypress trees numbered 1 through 5 (see Exhibit 5) shall be retained and shall be maintained in good growing condition for as long as it is feasible to do so.

      2. **Pruning.** All cypress pruning shall be monitored by a certified arborist. Trees 1-5 shall be pruned and reduced in weight, thereby reducing branching defects and deadwood, and reducing the pull of the trees over the blufftop edge. Pruning for trees 1 and 2 shall remove approximately 50% of the branch weight to reduce the pull of these trees over blufftop edge. Pruning for trees 3, 4, and 5 shall remove no more than 25% of the living canopy of these trees.

3. **Grading and Demolition.** Demolition of the existing structure shall occur in such a manner as to provide continual protection of the roots and soil areas beneath trees 1-5. The contractor shall exercise caution to fell all materials away from trees 1-5 and to apply practices designed to best protect the retained trees (e.g., appropriate use of equipment, such as a backhoe positioned on the south side of tree 5, which can more carefully pull the existing foundation material away from the tree trunk). The arborist shall provide continual monitoring of the demolition and excavation work directly adjacent to tree 5. No grading shall occur within 12 feet of the cypress trees numbered 1-5 (see Exhibit 5). Any grading necessary between tree 5 and the proposed development (beyond 12 feet) shall only be allowed subject to monitoring by a certified arborist, and shall be limited to grading for foundation construction only.

4. **Raptors.** Construction activities shall not be allowed during potential raptor nesting season (March through July, inclusive) unless a qualified biologist has surveyed the site and determined that no raptor nesting activities will be adversely impacted.

f. **Tree Replacement Plan.** As proposed, 26 replacement native and non-invasive trees shall be planted. The locations of all replacement trees shall be identified, with some replacement trees on site and some replacement trees in the median area between Ocean Avenue and Lucerne Road, or in a similar location, to provide mottled screening of the development as seen from Highway 1, Ocean Avenue and Lucerne Road. Replacement tree heights shall be maintained in such a way as to limit incursions into blue water views as much as possible while still maintaining mottled screening, and all replacement tree species shall be chosen with these objectives in mind.

g. **Landscaping.** Final Plans shall include landscape and irrigation parameters that shall identify all plant materials (size, species, quantity, etc.), all irrigation systems, and all proposed maintenance measures, including for replacement trees. All plant materials shall be native and non-invasive species selected to be complimentary with the mix of native species in the project vicinity, prevent the spread of exotic invasive plant species, and avoid contamination of the local native plant community gene pool. Landscaping (at maturity) shall be capable of partial/mottled screening and softening the appearance of the development as seen from Highway 1, Ocean Avenue and Lucerne Road. All landscaped areas shall be continuously maintained by the Permittee; all plant material shall be continuously maintained in a litter-free, weed-free, and healthy growing condition, and shall be replaced as necessary to maintain compliance with this CDP. No plant species listed as problematic and/or invasive by the California Native Plant Society, the California Invasive Plant Council, or as may be so identified from time to time by the State of California, and no plant species listed as a 'noxious weed' by the State of California or the U.S. Federal Government shall be planted or allowed to naturalize or persist.

h. **Drainage Plan.** All project area drainage, including drainage of subsurface water from the garage/basement areas and concentrated surface water, shall be directed away from the bluff, either to pervious areas on the site that can provide for infiltration without contributing to geologic instability, or to inland drainage systems capable of handling such flows. The drainage plan shall be submitted with evidence of the review and

approval of a California-licensed Certified Engineering Geologist or Geotechnical Engineer indicating that drainage satisfies the terms of this condition.

i. **Utilities Underground**. All utilities shall be installed underground.

All requirements above and all requirements of the approved Revised Project Plans shall be enforceable components of this coastal development permit. The Permittee shall undertake development in accordance with the approved Revised Project Plans.

2. Construction Plan. PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit two copies of a Construction Plan to the Executive Director for review and approval. The Construction Plan shall, at a minimum, include the following:

a. **Construction Areas.** The plan shall identify the specific location of all construction areas, all staging areas, and all construction access corridors in site plan view. All such areas within which construction activities and/or staging are to take place shall be minimized to the maximum extent feasible in order to protect the coastal bluffs and the Monterey cypress root zones for retained trees 1-5 (see Exhibit 5). Construction (including but not limited to construction activities, and materials and/or equipment storage) is prohibited outside of the defined construction, staging, and storage areas.

b. **Construction Methods and Timing.** The plan shall specify the construction methods to be used, including all methods to be used to keep the construction areas separated from root zones areas (including using unobtrusive fencing (or equivalent measures) to delineate construction areas). All work shall take place during daylight hours.

c. **General BMPs.** The plan shall identify the type and location of all erosion control/water quality best management practices that will be implemented during construction to protect coastal water quality, including the following: (1) silt fences, straw wattles, or equivalent apparatus shall be installed at the perimeter of the construction site to prevent construction-related runoff and/or sediment from discharging to coastal waters or to areas that would eventually transport such discharge to coastal waters; (2) equipment washing, refueling, and/or servicing shall take place at least 50 feet from the bluff edge; (3) all construction equipment shall be inspected and maintained at an off-site location to prevent leaks and spills of hazardous materials at the project site; (4) the contractor shall ensure that good construction housekeeping controls and procedures are maintained at all times (e.g., clean up all leaks, drips, and other spills immediately; keep materials covered and out of the rain (including covering exposed piles of soil and wastes); dispose of all wastes properly, place trash receptacles on site for that purpose, and cover open trash receptacles during wet weather; remove all construction debris from the site); and (e) all erosion and sediment controls shall be in place prior to the commencement of construction as well as at the end of each work day.

d. **Material Containment BMPs.** Particular care shall be exercised to prevent foreign materials (e.g., construction scraps, wood preservatives, other chemicals, etc.) from entering the beach or coastal waters.

e. **Construction Site Documents.** The plan shall provide that copies of the signed coastal development permit and the approved Construction Plan be maintained in a conspicuous location at the construction job site at all times, and that such copies are available for public review on request. All persons involved with the construction shall be briefed on the content and meaning of the coastal development permit and the approved Construction Plan, and the public review requirements applicable to them, prior to commencement of construction.

f. **Construction Coordinator.** The plan shall provide that a construction coordinator be designated to be contacted during construction should questions arise regarding the construction (in case of both regular inquiries and emergencies), and that their contact information (i.e., address, phone numbers, etc.) including, at a minimum, a telephone number that will be made available 24 hours a day for the duration of construction, is conspicuously posted at the job site where such contact information is readily visible from public viewing areas, along with indication that the construction coordinator should be contacted in the case of questions regarding the construction (in case of both regular inquiries and emergencies). The construction coordinator shall record the name, phone number, and nature of all complaints received regarding the construction, and shall investigate complaints and take remedial action, if necessary, within 24 hours of receipt of the complaint or inquiry.

g. **Notification.** The Permittee shall notify planning staff of the Coastal Commission's Central Coast District Office at least 3 working days in advance of commencement of construction, and immediately upon completion of construction.

Minor adjustments to the above construction requirements may be allowed by the Executive Director in the approved Construction Plan if such adjustments: (1) are deemed reasonable and necessary; and (2) do not adversely impact coastal resources. All requirements above and all requirements of the approved Construction Plan shall be enforceable components of this coastal development permit. The Permittee shall undertake construction in accordance with the approved Construction Plan.

3. Coastal Hazards Risk. By acceptance of this coastal development permit, the Permittee acknowledges and agrees, on behalf of himself and all successors and assigns:

a. **Coastal Hazards.** That the site may be subject to hazards including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunami, tidal scour, coastal flooding, and the interaction of same;

b. **Assume Risks.** To assume the risks to the Permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development;

c. **Waive Liability.** To unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards;

d. **Indemnification.** To indemnify and hold harmless the Coastal Commission, its officers, agents, and employees with respect to the Commission's approval of the project against

any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such coastal hazards; and

e. **Property Owner Responsible.** That any adverse effects to property caused by the permitted project shall be fully the responsibility of the property owner.

4. Coastal Hazards Response.

a. By acceptance of this CDP, the Permittee acknowledges and agrees, on behalf of himself and all successors and assigns that no bluff or shoreline protective device(s) shall ever be constructed to protect the development approved pursuant to CDP A-3-SLO-11-064 including, but not limited to, the SFD, garage and foundations, in the event that the development is threatened with damage or destruction from coastal hazards (including but not limited to episodic and long-term shoreline retreat and coastal erosion, high seas, ocean waves, storms, tsunami, tidal scour, coastal flooding, and the interaction of same). By acceptance of this CDP, the Permittee waives, on behalf of himself and all successors and assigns, any rights to construct such devices that may exist under Public Resources Code Section 30235 and San Luis Obispo County LCP Hazards Policy 4.

b. By acceptance of this CDP, the Permittee further acknowledges and agrees, on behalf of himself and all successors and assigns, that the landowner shall remove and/or relocate the development authorized by this CDP, including but not limited to the SFD, garage and foundations, if any government agency has ordered that the structures are not to be occupied due to any of the coastal hazards identified above. Prior to removal/relocation, the Permittee shall submit two copies of a Removal/Relocation Plan to the Executive Director for review and approval. The Removal/Relocation Plan shall clearly describe the manner in which such development is to be removed/relocated and the affected area restored so as to best protect coastal resources, including the Pacific Ocean. In the event that portions of the development fall to the bluffs or ocean before they are removed/relocated, the landowner shall remove all recoverable debris associated with the development from the bluffs and ocean and lawfully dispose of the material in an approved disposal site. Such removal shall require a coastal development permit.

c. In the event the edge of the blufftop recedes to within 10 feet of the principal residence or the water tank but no government agency has ordered that the structures not be occupied, a geotechnical investigation shall be prepared by a licensed coastal engineer and geologist, retained by the Permittee, that addresses whether any portions of the residence or water tower are threatened by coastal hazards. The report shall identify all those immediate or potential future measures that could stabilize the principal residence and/or water tank without bluff or shoreline protective device(s), including but not limited to removal or relocation of portions of the residence and/or water tower. The report shall be submitted to the Executive Director and the appropriate local government official. If the geotechnical investigation concludes that any portion of the residence and/or water tank are unsafe for occupancy, the Permittee shall, within 90 days of submitting the investigation, apply for a coastal development permit amendment to remedy the hazard which shall include removal and/or relocation of the threatened portion of the structures.

5. **Deed Restriction.** PRIOR TO ISSUANCE OF THE COASTAL DEVELOPMENT PERMIT, the Permittee shall submit to the Executive Director for review and approval documentation demonstrating that the Permittee has executed and recorded against the property governed by this permit a deed restriction, in a form and content acceptable to the Executive Director: (1) indicating that, pursuant to this permit, the California Coastal Commission has authorized development on the subject property, subject to terms and conditions that restrict the use and enjoyment of that property; and (2) imposing the special conditions of this permit as covenants, conditions and restrictions on the use and enjoyment of the property. The deed restriction shall include a legal description and site plan of the property governed by this permit. The deed restriction shall also indicate that, in the event of an extinguishment or termination of the deed restriction for any reason, the terms and conditions of this permit shall continue to restrict the use and enjoyment of the property so long as either this permit or the development it authorizes, or any part, modification, or amendment thereof, remains in existence on or with respect to the property.

6. **County Conditions.** All conditions of approval of County application DRC2009-00027 (see Exhibit 9) imposed on the project by San Luis Obispo County pursuant to an authority other than the California Coastal Act remain in effect but do not alter the Permittee's responsibility to satisfy all conditions of approval as specified herein. The Permittee shall be responsible for satisfying all terms and conditions of this coastal development permit in addition to any other requirements imposed by other local conditions.

IV. COASTAL DEVELOPMENT PERMIT DETERMINATION

The standards of review for this CDP application are the San Luis Obispo County certified LCP and the public access and recreation policies of the Coastal Act.

A. PROJECT LOCATION

The project site is located on a generally south-facing blufftop parcel at the north end of Estero Bay at the upcoast edge of the unincorporated community of Cayucos, north of the City of Morro Bay, in San Luis Obispo County. The site is located along a frontage road (Lucerne Road) which is accessed from another frontage road (Ocean Avenue). Both Ocean Avenue and Lucerne Road are located seaward of and at a lower elevation than Highway 1. Highway 1 is about 300 feet away from the site, and the subject site is prominent in the highway viewshed. From the Highway 1 exit, Ocean Avenue loops toward the bluff. This section of Ocean Avenue is developed with six SFDs that are located on the bluff side of the street. In the vicinity of the intersection of Ocean Avenue and Lucerne Road, there is a roughly 250 foot section of blufftop that is undeveloped. The project site is the first site downcoast of this undeveloped stretch and is also the first developed site on Lucerne Road. The remainder of the seaward side of Lucerne Road toward the community of Cayucos is developed with a variety of single-family dwellings and multi-family developments. Estero Bluffs State Park is located approximately ¼ mile upcoast of the project site. See **Exhibit 1** for a location map and **Exhibit 2** for photos of the site and surrounding areas.

The subject property is a triangular-shaped parcel of approximately 24,480 square feet (which includes the bluff slope and beach area below the bluffs). Thirty to forty-foot tall bluffs are located on two of the parcel's sides. Thirteen mature Monterey cypress trees that range in height from 40 to 55 feet are located along the parcel's third side (i.e. between the existing house and Lucerne Road). The trunks of the trees range in diameter from several inches to several feet. The tree trunks and low lying branches partially screen the existing house as viewed from areas inland of the site. The larger canopies of the trees combine to form a type of vegetated ceiling above the property and, with the existing house, are clearly visible from southbound Highway 1.

The project site is designated by the LCP as Residential Multi-Family[1], and is located within the Urban Reserve Line of Cayucos. Several combining designations apply to the site, including Archeologically Sensitive, Flood Hazard, and Geologic Study. While a County mapped Sensitive Resource Area (SRA) is close by (from the urban reserve line just west of the subject property), it is not located within this Ocean Shoreline SRA.

B. PROJECT DESCRIPTION

The Applicant proposes to demolish an existing 2,810 square-foot, one-story SFD and accessory structures, and to construct a new 4,555 square-foot, two-story SFD, with a 2,377 square-foot underground garage/basement. The proposed project also includes the removal of 8 of the 13 existing Monterey cypress trees, as well as a proposed tree replanting plan that includes planting

[1] Single family residential uses are permitted in the Residential Multi-Family land use designation.

at least 26 native trees both on and off of the site. See proposed project plans in **Exhibit 3** and the Applicant's visual simulations in **Exhibit 7 and Exhibit 8**.

C. PROJECT HISTORY

On August 26, 2010, the San Luis Obispo County Planning Commission denied the Applicant's application for a CDP for a 5,300 square-foot two story residence with an 2,812 square-foot underground garage/basement, which included two variances: 1) to allow the residence to be located within the front yard setback, and 2) to allow the driveway to be located within the bluff setback. The application was denied due to the height and scale of the proposed residence, the close proximity of the residence to the street and the impacts the proposed residence would have on the Monterey cypress trees fronting the site.

The Applicant appealed the Planning Commission's denial to the Board of Supervisors, and the appeal was heard on November 2, 2010. At this hearing the Board directed the Applicant to redesign the project to reduce its mass and better fit the character of the area, to reconsider the need for variances, to conduct a policy analysis on why the site is not developed as a residential multi-family project, to expand the geologic report to include consideration of a nearby spring and the structural effect of the garage/basement on the bluff's stability, and to refer the redesigned project to the Cayucos Citizens Advisory Council for their consideration.

The Applicant redesigned the project in response to Board direction, including by relocating the SFD outside of the front setback, relocating the driveway out of the bluff setback, reducing the residence to 4,555 square feet, reducing the garage/basement to 2,377 square feet, and reducing the frontage length from 136.5 to 127.5 feet. The Land Use Committee of the Cayucos Citizens Advisory Council (CCAC) considered the redesigned project on January 31, 2011 and May 2, 2011 and recommended to the full Advisory Council that the redesigned project not be supported. The full Advisory Council reviewed the project on June 1, 2011 and recommended that the project be denied on a 9 to 4 vote (with 2 abstentions).

The Board of Supervisors considered the Applicant's redesigned project on June 21, 2011 and continued the matter to August 9, 2011, at which time the CDP for the proposed project was ultimately approved by a 4 to 1 vote. The Board's CDP approval was appealed to the Coastal Commission, and on April 12, 2012, the Commission found that the County's approval raised a substantial LCP conformance issue, primarily in terms of viewshed compatibility, and took jurisdiction over the CDP application. Thus, the CDP application is now before the Commission for consideration and action.

D. PUBLIC VIEWSHED

The LCP includes strong protections for coastal zone visual and scenic resources and requires new development to respect its setting. Applicable LCP policies include:

> ***Visual and Scenic Resources Policy 1. Protection of Visual and Scenic Resources.*** *Unique and attractive features of the landscape, including, but not limited to unusual landforms, scenic vistas and sensitive habitats are to be preserved and protected.*

Visual and Scenic Resources Policy 2. Site Selection for New Development. *Permitted development shall be sited so as to protect views to and along the ocean and scenic coastal areas. Wherever possible, site selection for new development is to emphasize locations not visible from major public view corridors. In particular, new development should utilize slope created "pockets" to shield development and minimize visual intrusion.*

Visual and Scenic Resources Policy 5. Landform Alterations. *Grading, earthmoving, major vegetation removal and other landform alterations within public view corridors are to be minimized. Where feasible, contours of the finished surface are to blend with adjacent natural terrain to achieve a consistent grade and natural appearance.*

Visual and Scenic Resources Policy 7. Preservation of Trees and Native Vegetation. *The location and design of new development shall minimize the need for tree removal.*

Estero Bay Plan Section I-c. *New development to be located on a coastal bluff shall be, to the maximum extent feasible, compatible with the character of the surrounding neighborhood.*

CZLUO Section 23.04.210e. General Visual Standards for Coastal Development. *Notwithstanding subsections (a) – (d) above, all development requiring a coastal development permit must be consistent with the requirements of Coastal Plan Visual and Scenic Resource Policies 1-11 as applicable.*

CZLUO Section 23.05.034(d). Landform Alterations Within Public View Corridors. *Grading, vegetation removal and other landform alterations shall be minimized on sites located within areas determined by the Planning Director to be a public view corridor from collector or arterial roads. Where feasible, contours of finished grading are to blend with adjacent natural terrain to achieve a consistent grade and appearance.*

CZLUO Section 23.05.064. Tree Removal Standards. *Applications for tree removal in accordance with Section 23.05.062 are to be approved only when the following conditions are satisfied:*

> ***a. Tagging required.*** *Trees proposed for removal shall be identified for field inspection by means of flagging, staking, paint spotting or other means readily visible but not detrimental to a healthy tree.*
>
> ***b. Removal criteria.*** *A tree may be removed only when the tree is any of the following:*
>
> *(1) Dead, diseased beyond reclamation, or hazardous;*
>
> *(2) Crowded, with good horticultural practices dictating thinning;*
>
> *(3) Interfering with existing utilities, structures or right-of-way improvements;*
>
> *(4) Obstructing existing or proposed improvements that cannot be reasonably designed to avoid the need for tree removal;*
>
> *(5) Inhibiting sunlight needed for either active or passive solar heating or*

cooling, and the building or solar collectors cannot be oriented to collect sufficient sunlight without total removal of the tree;

(6) In conflict with an approved fire safety plan where required by Section 23.05.080;

(7) To be replaced by a tree that will provide equal or better shade, screening, solar efficiency or visual amenity within a 10-year period, as verified in writing by a registered landscape architect, licensed landscaping contractor or certified nurseryman.

c. Replacement. *Any tree removed to accommodate new development or because it is a safety hazard shall be replaced, in a location on the site and with a species common to the community, as approved by the Planning Director.*

d. Tree removal within public view corridors. *Tree removal within public view corridors (areas visible from collector or arterial roads) shall be minimized in accordance with Visual and Scenic Resources Policy 5.*

e. Preservation of trees and natural vegetation. *New development shall incorporate design techniques and methods that minimize the need for tree removal.*

In addition, the LCP's Estero Area Plan extends certain protections to areas that constitute sensitive features. Applicable Estero Area Plan Sections include:

Estero Special Area Plan, Chapter 7, Section III, Article 2(a)(5): *Cluster or concentrate development on the least sensitive portions of the site in order to protect and sustain environmentally sensitive areas and the following sensitive features… Other significant stands of vegetation such as Bishop Pine, eucalyptus, and cypress--whether or not identified as Sensitive Resources Area combining designations--that do not need to be removed due to hazardous condition or restoration/enhancement of native habitat.*

Estero Special Area Plan, Chapter 7, Section III, Article 2(b): *All development within 100 feet of the preceding sensitive features shall comply with the applicable standards for ESH in the Coastal Plan Policies and in Chapter 23.07 of the CZLUO, except as otherwise specified in this plan.*

Thus, the LCP has multiple provisions that require new development to be sited and designed to ensure protection of significant visual resources, to minimize tree removal, and to protect against new private development impacting water quality. Such policies and protections specifically protect areas having regional public importance for their natural beauty by ensuring that new development is appropriately designed and constructed to have minimal to no adverse impact upon identified visual resources. Views to and along the shoreline and in scenic coastal areas are protected visual resources under the LCP.

Existing Site Characteristics

The existing SFD on the site is approximately 80 feet long along Lucerne Road, about 65 feet of which has a more pitched roof (approximately 17 feet tall) and 15 feet of which has a flatter roof (approximately 12 feet tall). A water tank, that has been designated a historical resource, and

which is roughly 13 feet by 13 feet square and approximately 30 feet tall, is located upcoast of the house, with an approximately 9 foot high solid fence connecting the water tank to the SFD. A series of sheds, one seaward of the water tank and two downcoast of the SFD, also occupy the property. Thirteen mature Monterey cypress trees, which range in height from 40 to 55 feet, are located in row fashion along Lucerne Road. The trunks of the trees range in diameter from several inches to several feet. The tree trunks partially screen the existing house as viewed from areas inland of the site. The canopies of the trees combine to form a type of vegetated ceiling towering above the overall property.

The existing SFD and its related development, as well as the cypress trees fronting the site, are present in Highway 1 views, including because Highway 1 is at a higher elevation than the project site, and from upcoast at Estero Bluffs State Park. Although most northbound Highway 1 travelers will find it difficult, if not impossible, to see the site due to the higher elevation and angle of highway, vehicles on southbound Highway 1 are afforded a fairly complete, if short in duration, view of the site as the road curves into Cayucos. What is visible from the southbound vantage point is a fairly solid mass of cypress tree canopies and to a lesser extent the existing house nestled behind the trees. Closer to the site along Ocean Avenue and Lucerne Road, the existing SFD and trees and related development become much more pronounced as the elevation of these streets is much closer to that of the site (Ocean Avenue) or at site elevation (Lucerne Road).

Public Viewshed Impacts
With respect to views from Estero Bluffs State Park (upcoast of the Ocean Avenue and Highway 1 intersection), the site is visible from the hiking trails located there, looking downcoast and back toward the bluffs extending into Cayucos. The impacts of this project on these views, however, will not be significant because the proposed project will be seen in the context of other residential structures located in the existing developed residential neighborhood along Lucerne Road.

Currently, the Monterey cypress trees along the street frontage and the existing house together present visually as a fairly solid mass in the viewshed from Highway 1 and the coastal roads. The proposed project would remove 8 of the 13 existing cypress trees. In terms of the through view, the removal of some of the downcoast trees will open up increased blue water and through views at the site (including due to the downcoast shed removal). This is perhaps most pronounced in the view from Highway 1 at the higher elevation, where the tree removal will actually allow more blue water views over the site. However, tree removal would also reduce the existing screening, so that more of the structure could be seen from the highway.

In terms of mass and scale, the existing 2,810 square-foot existing single-story SFD would be replaced with a larger, two-story SFD, the location of which would be shifted downcoast (i.e., away from the upcoast undeveloped area along the bluffs and towards the string of SFDs extending towards Cayucos proper) compared to the location of the existing SFD. The existing SFD is 80 feet in length, and the proposed SFD is 127.5 feet in length. Therefore, compared with the existing residence, the proposed residence would be roughly 60% longer along Lucerne Road (roughly 47.5 feet longer). In terms of height, the proposed residence would be slightly lower than the maximum height allowed (i.e., it is 20-feet in height when the LCP maximum is 22 feet), but it would be taller than the existing SFD (3 feet taller than the existing SFD's pitched

roof section, and 8 feet taller than the existing SFD's flat roof section). Thus, the proposed residence would increase the frontage of the house along Lucerne, and it would occupy more two- and three-dimensional air space than is currently the case, increasing the mass and scale of development on the site. All told, 4,555 square-feet of SFD is proposed above ground, and 2,377 square-feet below ground; a total of almost 7,000 square-feet, as compared to the existing 2,810 square-foot house.

A wide variety of single family residences, ranging from 1,497 square-feet to 5,727 square-feet (not including garage space), and several multi-family (condo) residences, line Lucerne Road (see **Exhibit 8,** page 12). The average square footage of the surrounding SFDs is 3,149 square-feet (not including garages), and the 5 multi-family condo complexes average 5,532 square-feet.[2] Thus, the proposed SFD is some 1,400 square-feet larger (or nearly 50% larger) than the average nearby SFD.

The relatively large mass and scale of the proposed SFD is magnified in this case by the proposed linear extent of the residence along Lucerne. As indicated, the proposed home would span some 127.5 feet along Lucerne, and would present significantly more viewshed barrier along the neighboring roads and Highway 1 than the existing SFD. In general, the other SFDs along Lucerne Road are typified by a shorter/narrower frontage length and a longer depth, spanning toward the ocean. In this case, the bluff setbacks on the subject property are such that the proposed residence cannot stretch as far seaward as the neighboring houses. However, this property constraint does not automatically allow the proposed project to bypass LCP viewshed protection policies. For example, the Cayucos Urban Area Standards of the LCP's Estero Area Plan recommends avoiding "long, uninterrupted exterior walls on all structures."

In terms of design, the character of the project's neighborhood is fairly eclectic, and there is no LCP-required design theme or similar requirement. The proposed project presents a fairly unique design (see **Exhibit 3** and **Exhibit 7**) as compared to the existing home. Although some articulation is provided, the relatively long length of the SFD along the street conspires against the effectiveness of such features at helping to reduce the structure's perceived mass and scale.

In addition, the proposed removal of eight of the 13 on-site Monterey cypress trees is also expected to have an adverse effect on neighborhood character, albeit not permanently. Specifically, the tree removal would at first make the residential structure appear significantly starker than is currently the case and the linear massing and increased size of the structure would stand out for some years. The proposed landscaping (including 26 proposed replacement trees)[3] should help to soften such initial starkness (**see Exhibit 5**), and the new trees will eventually regrow to effectively screen the proposed development, but the change from a mature, established tree canopy to a more traditionally landscaped site in the immediate future will change the character of the immediate area.

Lastly, from a community character perspective, the row of cypress trees are locally appreciated

[2] Based on the Applicant's estimates (see Exhibit 8).

[3] The Applicant has proposed planting 26 native Monterey cypress trees in the area, both on-site and off-site, to help screen the proposed residence from Highway 1, although the proposed mitigation plan in Exhibit 5, shows 18 trees.

and cherished by the community and anecdotally have been referred to as the entranceway to Cayucos. Members of the public expressed their support for keeping the trees during the local proceedings. The Cayucos Advisory Council, in addition, recommended the project be denied in part due to the loss of the trees (as well as citing the project's incompatible nature with the surrounding neighborhood and its size and resultant impact on the environment and the community, among other concerns). And although the trees were planted ornamentally in row fashion, and are currently in various states of poor to fair condition showing obvious signs of neglect,[4] they have been a part of Cayucos's history for decades, and contribute to the neighborhood's current character and aesthetic.

Therefore, the increased frontage and increased mass and scale of the proposed SFD and the removal of eight of the cypress trees will adversely impact public views from the highway and coastal roads by blocking more of the view than is currently blocked by structures, and by increasing the visibility of the structure through tree removal. See project plans in **Exhibit 3**, and photo simulations and renderings of the proposed project in **Exhibit 7.** In short, the proposed project is inconsistent with the LCP's policies for scenic and visual resources and community character because it does not adequately preserve and protect views to the ocean and scenic vistas. Therefore, **Special Condition 1** is required, which limits the house to no more than 80 feet in linear length along Lucerne Road and requires articulation in such a manner as to help minimize the perceived massing of the structure as seen from Highway 1. Although an 80 foot frontage is relatively longer than other nearby SFD frontages, it appears an appropriate standard for this case because it matches the existing SFD length in that respect. It would also afford the Applicant a sizeable residence of approximately 3,000 square feet (above ground, not including the garage/basement). In terms of a claim that the frontage of the house and its related sheds and connecting fence/door together is more than 80 feet and should be the standard applied in this respect, that appears inappropriate here because the solid fence/door and sheds are shorter than the existing house (thus contributing less than the existing house to view blockage, and significantly less than the frontage of the proposed SFD), and because the new SFD would increase the amount of development in the view corridor (as it is going higher across the entire frontage area), and the removal of the existing sheds and connecting fence/door will help offset the impact of this additional height.[5] Therefore, this special condition will help ensure that the new SFD will appropriately protect the public view as required by LCP policies related to preserving and protecting scenic vistas, including the scenic vista at this location as seen from Highway 1. When combined with required landscaping (see also below), the result is an approvable project under the LCP.

Tree Removal

Although the LCP does not prohibit tree removal in certain cases (see CZLUO section 23.05.064), including when the trees are among other things, dead, diseased beyond reclamation, or crowded, the LCP does speak to minimizing tree removal and, in certain instances, applies an

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[4] According to several reports, little work has been undertaken to prune, remove deadwood, thin, or irrigate the trees during the summer months, which would all benefit their health.

[5] In addition, the historic water tank has been proposed to remain on site in its present location (and thus will contribute no less or no more to visual blockage) and is clearly not a part of the SFD. Thus, while in the existing viewshed as much as the other accessory structures, and larger in stature than the associated sheds and fence/doors, the water tank is similarly not appropriate to be used in calculating the frontage of the existing SFD.

additional protective layer to certain stands of trees subject to the Estero Area Plan. In terms of the latter, the cypress trees at this site do not constitute a significant stand requiring application of the Area Plan's Sensitive Features policies. The trees are a feature, to be sure, and a stand of trees, but they are also a hedge row, in poor condition and offering poor habitat, fronting and integrated with residential development. In addition, the Applicant's arborist's determined that the trees themselves are in generally poor health.[6] The trees in question are in various states of poor to fair condition, where the close proximity of the trees to one another has created dense canopies that have suppressed leaf growth and increased deadwood in the upper parts of the trees. Limited care has been given to the trees and the trees generally reflect that fact. In sum, these are not the type of clustered stand for which the Area Plan offers additional protection. The Commission's staff ecologist, Dr. Jonna Engel, reviewed the relevant arborist materials and assessed the project site, and concludes that the trees do not meet the definition of a 'significant stand' under the Estero Area Plan.

Thus, although the trees themselves do not constitute a sensitive resource requiring an additional layer of LCP protection, the trees are still protected by the LCP in terms of minimizing tree removal and protecting public views and scenic character. Under these policies, new development must minimize tree removal. In this case, the proposed development is expected to negatively impact the root zones of the eight closest trees to the development and ultimately result in the death of these trees because the root zones stretch across almost the entire parcel (see **Exhibit 4**, page 4). The Applicant looked at the alternative of using the existing house foundation to avoid such impact, but the existing foundation is in the required setback area for hazards (and the footprint is being moved downcoast to better address the hazards at this site; see Coastal Hazards section below), so it was infeasible to site new development on the existing foundation. Another potential option was to remove the underground garage/basement to potentially limit the effects of this impact. However, any new development on the site, with or without the garage/basement, would adversely impact the root zones including due to the shallow root zones typical of cypress and the necessary depth of the foundation of any house on the site. Thus, although the proposed development results in removal of trees, such removal is minimized under the existing conditions and constraints of the site.

The primary issue with tree removal is that removal of 8 of the existing cypress trees would contribute to a more exposed appearance of the proposed residence, and would magnify the proposed project's increased length and height, and will conflict, at least temporarily, with the historic nature of the trees in this location, and the overall neighborhood's character, as described above.

Conclusion

The proposed project will adversely affect the public viewshed, including both in terms of blocking views as well as the way in which it will change the character of the area and the views overall. Although some through views will be opened up more than is currently the case, others will be blocked (e.g., due to increased massing and height of the proposed residence). The

[6] One of the Applicant's arborist's report (by Davey Resource Group, dated August, 2010) indicates that "significant deadwood, poor structure, and crowded canopies contribute to 12 of the 13 trees being in poor to fair condition," with only one tree having a rating above 70% (Construction Site Tree Inventory and Tree Protection Plan, Davey Resource Group, August 2010 (see Exhibit 4)).

proposed project is inconsistent with the LCP's visual and scenic resource protection policies, and cannot be approved consistent with the LCP.

Fortunately, these project impacts can be addressed by reducing the frontage of the proposed SFD to the same linear frontage as the existing SFD (**Special Condition 1a**), by providing for articulation of the SFD's frontage to help reduce the perceived sense of massing from such a linear form (**Special Condition 1b**), by requiring appropriate design materials and components to help reduce perceived massing and blend with the neighborhood environment (**Special Condition 1c**), by retaining and pruning cypress trees numbers 1-5 not affected by construction, including grading and demolition protection measures (**Special Condition 1e**), and by requiring the proposed 26 trees and other landscaping to help soften the appearance of the proposed development in the public view (**Special Condition 1f** and **Special Condition 1g**, respectively). To ensure adequate protection and retention of the trees nearest the western bluff edge, **Special Condition 1e** includes the requirement of the Applicant to retain trees 1-5 and to alleviate any adverse pull over the bluff edge by appropriately pruning them, based on the project arborist's recommendations.

In addition, lighting must be limited to the maximum extent feasible to avoid impacts to views, and all utilities must be undergrounded (**Special Condition 1i**). All lighting must be downward directed and designed so that it limits the amount of light or glares visible from the ocean and from the nearby roads and Highway 1 to the maximum extent feasible, including through directing all interior lighting away from windows to the maximum extent feasible. See **Special Condition 1d**.

Finally, construction must be limited in scale and scope to the maximum extent feasible to limit the visual impacts from construction. Therefore, **Special Condition 2** is required to ensure best management practices are carried out during construction to limit these anticipated impacts (see also Section G below).

The objective of these conditions is to ensure consistency with the applicable LCP policies, including ensuring neighborhood compatibility, and protection of public views. Thus, as conditioned the project can be found consistent with the scenic and visual resource policies of the LCP.

E. COASTAL HAZARDS

The LCP requires that new development avoid and minimize risks due to coastal hazards and that new development ensure that it will not result in increased hazards. CZLUO policy 23.07.086 (c) states:

> ***CZLUO Section 23.07.086(c):*** *New development shall insure structural stability while not creating or contributing to erosion, sedimentation, or geologic instability.*

The LCP also specifically addresses the risks due to bluff and shoreline related hazards. The LCP defines bluffs and blufftops, prohibits most new development on bluff faces, requires adequate setbacks from bluffs, and addresses the need to ensure long-term stability and structural integrity and avoid landform-altering devices. The LCP also restricts the development of permanent

structures on the beach, prohibits new development that would require shoreline protection now or in the future, and provides criteria and standards for the development of shoreline structures, including groins, piers, breakwaters and other similar structures that serve to protect development. Relevant LCP policies include:

> ***CZLUO Section 23.070.080:*** *A Geologic Study Area combining designation is applied by the Official Maps (Part III) of the LUE, to areas where geologic and soil conditions could present new developments and their users with potential hazards to life and property. These standards are applied where the following conditions exist:*
>
> > ***(d):*** *Areas along the coast with coastal bluffs and cliffs greater than 10 feet in vertical relief that are identified in the Coastal Erosion Atlas, prepared by the California State Department of Navigation and Ocean Development (1977), in accordance with Hazards Policy 7 of the LCP.*
>
> ***CZLUO Section 23.07.084c-2. Application Content – Geologic and Soils Report Required.*** *All land use permit applications for projects located within a GSA shall be accompanied by a report prepared by a certified engineering geologist and/or registered civil engineer (as to soils engineering)…. Conclusions and recommendations regarding the potential for active land sliding or slope failure.*
>
> ***CZLUO Section 23.07.084c-3. Application Content – Geologic and Soils Report Required.*** *All land use permit applications for projects located within a GSA shall be accompanied by a report prepared by a certified engineering geologist and/or registered civil engineer (as to soils engineering)…. Conclusions and recommendations regarding the potential for adverse groundwater conditions.*
>
> ***Hazard Policy 7.*** *The GSA combining designation in coastal areas of the county is amended to include all coastal bluffs and cliffs greater than 10 feet in vertical relief and that are identified in the Assessment and Atlas of Shoreline Erosion (DNOD, 1977) as being critical to future or present development… These hazards shall include steep slopes, unstable slopes, expansive soils, costal cliff and bluff instability, active faults, liquefaction and tsunami. [THIS POLICY SHALL BE IMPLEMENTED BY DESIGNATING GSA AREAS ON THE COMBINING DESIGNATION MAPS AND PURSUANT TO SECTION 23.07.080 OC THE CZLUO]*
>
> ***Policy 10: Drainage Provisions.*** *Site design shall ensure THAT drainage does not increase erosion. This may be achieved either through on-site drainage retention, or conveyance to storm drains or suitable watercourses. [THIS POLICY SHALL BE IMPLEMENTED AS A STANDARD AND PURSUANT TO SECTION 23.05.034 OF THE CZLUO.]*
>
> ***CZLUO Section 23.07.060. Flood Hazard.*** *Drainage Plan is required where any portion of the proposed site is located within the flood hazard combining district.*
>
> ***CZLUO Section 23.04.118(a). Bluff Retreat Setback Method.*** *New development or expansion of existing uses on blufftops shall be designed and set back from the bluff edge a distance sufficient to assure stability and structural integrity and to withstand bluff erosion and wave action for a period of 75 years without construction of shoreline protection structures…*

> ***CZLUO Section 23.07.066 (a). Construction, general.*** *On the basis of structural plans and the depth analysis, the ground floor of all structures is to be constructed at a minimum of one-foot above the 100-year storm flood profile level.*

In addition, the LCP's Estero Area Plan includes other policies associated with coastal hazards, including policies requiring that certain new development only be allowed if it can be setback for its economic lifetime (at least 100 years) and that future shoreline armoring and similar coastal hazard response be prohibited.

> ***Estero Area Plan 7-III. Bluff Setbacks.*** *The bluff setback is to be determined by the engineering geology analysis required in I.1.a above adequate to withstand bluff erosion and wave action for a period of 100 years. In no case shall bluff setbacks be less than 25 feet…*

Site Characteristics
As mentioned, the proposed project site is located on a triangular shaped blufftop parcel with both a western facing bluff and a more easterly facing bluff (see **Exhibit 2**). These bluffs range in vertical height from 25 to 45 feet. At its closest point, the existing SFD is located approximately 12 feet from the western bluff edge. The proposed SFD would be built farther downcoast, and farther away from this western facing bluff. Specifically, the proposed residence would have setbacks ranging from 40 feet along the western bluff to 30 from the eastern bluff.

Bluff Setbacks
The Applicant has developed a significant geologic and soils framework for the project, including the LCP required reports and analyses regarding the potential for active land sliding and slope failure at the project site.[7]

Per the LCP, setbacks must be adequate to ensure stability for the economic life of the project, and at least a period of 100 years with a minimum required setback of at least 25 feet in all cases (LCP Sections 23.04.118(a) and Estero Area Plan Chapter 7, Section III). In this case, the Applicant's geologic report determined that the average annual long-term bluff retreat rate due to wave attack and erosion at the site is 2 inches per year, equaling approximately 17 feet over 100 years. In addition, the Applicant's geologic report also evaluated slope stability (adding a slope stability buffer), and determined potential landslide scenarios that dictated setbacks of an additional 20 feet and 10 feet (on the western and eastern sides of the site respectively). Together (and rounding up to be conservative), setting back for slope stability and long-term erosion over the next 100 years, and adding a 10 foot buffer to account for possible acceleration in bluff retreat due to sea level rise, the Applicant's reports dictate a setback of 40 feet on the western side and 30 feet on the eastern side. The Commission's Senior Geologist, Dr. Mark Johnsson reviewed the relevant reports, visited the site, and agreed that the blufftop setbacks were consistent with the LCP requirements in this regard. Given all of the above, the setbacks for the proposed residence are expected to be adequate to ensure stability for a period of 100 years,

[7] Applicable reports include the County's Mitigated Negative Declaration under CEQA (prepared June 2010), and the Applicant's geologic reports (by Geo Solutions Inc., dated August 14, 2009 and January 15, 2010), geotechnical investigation (by Mid Coast Geotechnical, dated July 30, 2009), bluff stability and seepage report (by GeoSolutions Inc., dated January 26, 2011), and geologic and groundwater report entitled "Discussion of Groundwater" (by GeoSolutions, dated January 18, 2012).

consistent with the LCP's requirements.

The LCP further requires that development such as this not lead to shoreline armoring and/or other bluff altering development should it be threatened by erosion and coastal hazards in the future. The setback addresses this requirement but cannot by itself assure these LCP requirements are met. Thus, this approval prohibits future shoreline protection (including prohibiting construction of a seawall, retaining wall, revetment, or similar structures), and requires that the residence and the water tank be moved or removed if threatened by coastal hazards for which shoreline armoring and/or other shoreline altering development might otherwise typically be considered (see **Special Condition 4**). Also, given the project's location on a blufftop area that is subject to coastal hazards, and given that the Applicant is pursuing residential development nonetheless, **Special Condition 3** requires that the Applicant assumes all risks for developing at this location so as to ensure that the Applicant, not the public, bears the costs for the Applicant's development in this potentially hazardous location. To ensure that future property owners are aware of these, and the other conditions of approval, **Special Condition 5** requires that the Applicant record a deed restriction against the property recording the conditions of approval as covenants, conditions and restrictions on the property.

Basement/Groundwater Flow

The proposed project includes a proposed 2,377 square-foot garage/basement to be built to a depth of approximately 11.5 feet below grade (see **Exhibit 6**, page 5 for a cross section from the geologic report). Given the proposed project's location on a blufftop lot, there is a concern that construction of the garage/basement might adversely impact bluff stability, the integrity of the coastal bluffs and erosion, and negatively impact groundwater flows at this location, including in relation to a nearby spring. The Applicant's geotechnical consultants prepared a report that addresses these issues, concluding that the basement does not negatively affect bluff stability and that potential impacts associated with the spring have been appropriately addressed.[8]

Although groundwater was not found within a boring in the area of the garage, the presence of groundwater was assumed in the quantitative slope stability analysis at between 2 and 4 feet above the Franciscan Complex bedrock (encountered approximately 22 to 25.5 feet below the ground surface) as a conservative element incorporated into the stability modeling. Any groundwater is expected to flow primarily at the boundary between the relatively impermeable Franciscan Complex and the more permeable overlying terrace deposits. The proposed plans show that the garage is not proposed to extend into the bedrock, leaving approximately 13 feet of marine terrace deposits intact, and thus that it is unlikely to affect groundwater flow, bluff stability and erosion at this location.[9] This analysis was part of the information used to develop the above-described setbacks, and it appears to have adequately addressed the spring/groundwater issue (see **Exhibit 6** for the Applicant's most recent groundwater discussion). In addition, Dr. Johnsson, who is a California-licensed Certified Hydrogeologist, has reviewed the relevant reports, visited the site, and concurred that it is likely that the majority of groundwater flow in this situation, as is commonly the case in this region, is through the marine

[8] Bluff stability and seepage report by GeoSolutions Inc., dated January 26, 2011, and follow-up report entitled "Discussion of Groundwater" dated January 18, 2012.

[9] Groundwater at the subject property is at a depth of approximately 24.5 feet, according to the Discussion of Groundwater report, dated January 18, 2012.

terrace deposits lying on top of the bedrock layer, and that the garage/basement is unlikely to interrupt groundwater flow.

Effect of Tree Removal on Bluff Stability
As described earlier, the project site contains 13 mature Monterey cypress trees generally running from west to east between the existing (and proposed) residence and Lucerne Road. Trees 1-5 are located at the far western portion of the property and within approximately 20 feet of the bluff (see **Exhibit 5** for tree diagrams and **Exhibit 4** for more detail). The proposed project includes the removal of the 8 easternmost, or downcoast, Monterey cypress trees (trees 6-13) due to their close location in relation to the construction area needed to build the proposed residence (which is constrained on the site due to the required bluff setbacks).

Project opponents contend that removal of the Monterey cypress trees could lead to increased bluff erosion at the site, particularly if the trees nearest the bluff were removed. While there is the potential for the trees nearest the bluff edge (at the upcoast edge of the site) to destabilize the bluff if they topple over the bluff edge and take the bluff and root ball with them,[10] there is nothing to suggest that the trees themselves are responsible for the current erosion at the site. As is apparent from the slope stability analyses, which do not take into account any effects of the trees, the trees are not the controlling factor for bluff stability at this location. There also is evidence that these trees are near the end of their lifetime, and some are dead or dying, and thus their effect on bluff stability appears somewhat fleeting. Even so, the tree roots have been identified by some project opponent's arborist's as helping to provide bluff cohesion, and thus that their removal could adversely affect the bluffs.[11]

Dr. Johnsson has visited the site, and noting the somewhat conflicting effects of the added mass to the bluff top and the cohesive effects of roots on the uppermost soil layers, concluded that the effects of removing the trees will only be felt in the surficial soil layers, and the destabilizing effects of overhanging tree mass is somewhat made up for by the cohesive effects of the root mass. Accordingly, the removal of the trees will affect only surficial stability, and will likely increase stability in the short term (removal of overhanging mass), and may decrease stability slightly in the long term as the roots decay and these soils are deprived of their cohesive effects. In addition, trees 1-5 can be retained, and with pruning, the effects of their mass on bluff instability will be reduced. In conjunction with the 40 foot setbacks at this location, the westernmost trees could remain in place (with pruning, appropriate irrigation, and other measures to alleviate pull on the bluff edge) and not significantly reduce the integrity of the bluff's over time. To ensure that trees 1-5 are protected during construction and into the future, and to help prevent bluff erosion, **Special Condition 1e** requires final plans showing on-site monitoring by a qualified biologist at all times during the excavation/demolition, and provides pruning standards (prune Monterey cypress trees 1 and 2 to reduce their canopy weight by 50%, and cypress trees 2, 3, and 4 to reduce their canopy weight by 25%).

[10] Roots are currently exposed over and in the bluff edge for the two trees nearest the upcoast edge of the site.

[11] The Appellants' certified arborist, Robert Schreiber, has stated that the roots of these trees are helping hold the bluff together and that disturbing or cutting roots on the side where most of them are growing will affect the structural integrity of the bluff.

Conclusion
The project site is subject to geologic hazards by virtue of its blufftop location. However, the project design has appropriately addressed bluff stability concerns. To address potential drainage issues that can in some cases exacerbate geologic hazards, **Special Condition 1h** requires submission of a drainage plan that shows all drainage directed away from the bluff and either retained through infiltration or other means on the undeveloped portions of the project site or directed to inland drainage systems in such a way that does not exacerbate geologic hazards or degrade visual resources. Therefore, as conditioned, the Commission finds that the proposed project is consistent with the LCP's hazard policies.

F. PUBLIC ACCESS AND RECREATION

Coastal Act Section 30604(c) requires that every coastal development permit issued for any development between the nearest public road and the sea "shall include a specific finding that the development is in conformity with the public access and public recreation policies of [Coastal Act] Chapter 3." The proposed project is located seaward of the first through public road (Lucerne Road) and thus such a finding is required. Coastal Act Sections 30210 through 30224 specifically protect public access and recreational opportunities, including visitor-serving resources. In particular:

> ***Section 30210:*** *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*
>
> ***Section 30211:*** *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*
>
> ***Section 30212(a):*** *Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects….*
>
> ***Section 30213.*** *Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.*
>
> ***Section 30220.*** *Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*
>
> ***Section 30221.*** *Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.*
>
> ***Section 30223.*** *Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.*

The LCP also includes policies which are intended to maximize opportunities for public access to and along the coast.

> ***Estero Bay Planning Area Standards. Coastal Access and Recreation.*** *1. New development shall be required to provide public access and improvements to an along the coast, and shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization.*
>
> ***CZLUO Section 23.04.420(d)(3). Lateral Access Dedication.*** *All new development shall provide a lateral access dedication of 25 feet of dry sandy beach available at all times during the year. Where topography limits the dry sandy beach to less than 25 feet, lateral access shall extend from the mean high tide to the toe of the bluff. Where the area between the mean high tide line (MHTL) and the toe of the bluff is constrained by rocky shoreline or other limitations, the County shall evaluate the safety and other constraints and whether alternative siting of accessways is appropriate…*

The County's LCP and the public access and recreation policies of the Coastal Act require public recreational access opportunities to be maximized. As previously described, the proposed project is located on a coastal bluff in a small coastal community in the central coast of California. Several public accessways to and along the coast exist close to the project site, including Estero Bluffs State Park to the west (upcoast) and Cayucos State Beach to the east (downcoast). Within this context, although clearly the subject property could be used to augment and enhance public access in relation to existing public use areas, it is not required for Coastal Act and LCP consistency in this case. Access in the area is adequate, the project is not adversely impacting public access, and there is not a compelling need for use of the subject property for this purpose. Thus, the project site is not necessary for direct public access, and thus the proposed development can be found consistent with Coastal Act and LCP public access and recreation requirements.

G. Other Issues

Cultural Resources

The existing water tank on the property is another piece of Cayucos's history, and one that relates to the character of the neighborhood.[12] As the Applicant's CEQA study and Cultural and Historic Resources Report identifies, the water tank is a significant historic resource and meets three of the four requirements necessary to be included in the California Register.[13] Originally built by James Cass, considered the founder of Cayucos, sometime in the late 1800's, the tank retains its integrity of location, and a high degree of integrity of design, materials, craftsmanship, and overall historic nature. Despite interior alterations and the loss of the original windmill, the structure has most of its original materials, including such character-defining elements as the tank, tank platform, siding, and fenestration. It retains the ability to convey a strong sense of the

[12] The CEQA analysis identifies the water tank as a "tank house" that was originally owned by James Cass, the founder of Cayucos.

[13] Under CEQA a resource is considered an "historic resource" if the property listed or determined eligible for the National Register or California Register; listed in a local register; or identified as significant in a local survey. To be listed, a property must meet at least one of four requirements: 1) associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States; 2) Associated with the lives of persons important to local, California, or national history; 3) Embodies the distinctive characteristics of type, period, region or method of construction, or that represents the work of a master, or that possess high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; and/or 4) Has yielded, or has the potential to yield, information important in prehistory or history of local, California or the nation.

time during which it was constructed and during which it was significant. The tank house, however, has been deemed to have lost some of its integrity of setting and association due to the loss of the original adjacent warehouse and due to the intrusion of expanses of modern residential construction on the bluffs to the east and west.

In general, the LCP protects historic and cultural resources through combining designations of historic sites (H) and archaeologically sensitive areas (ASA). During the local permitting process, the County recognized the important historic nature of the on-site water tank (including finding it a significant historic resource) and analyzed it under an archaeological policy (CZLUO section 23.07.104) and required the on-site retention of the water tank or relocation to an appropriate area if certain criterion were met. However, the water tank is as much a part of the culture and character of the neighborhood, based on its history, aesthetic, and importance to the community of Cayucos, as its archaeological nature. Recognizing this, the Applicant has proposed to retain the water tank on-site, and thus this approval is intended to ensure retention of it in its exact current location.

In a hazard sense, while the water tank is within the proposed 40-foot side setback, at present the tank is not threatened by erosion. In addition, there is no evidence that it is contributing toward bluff instability in its present location. However, in the future the water tank could very well be in harm's way from bluff erosion and will need to be relocated either on site, if there is adequate room outside the property's setback areas to ensure protection, or off-site in an appropriate location (see **Special Condition 4**). Any relocation would require an amendment to this permit.

Lastly, **Special Condition 1e** which requires pruning of trees 1-5, should help to alleviate any danger that any deadwood might fall and damage the tank in its present location in the future.

Water Quality

The LCP contains a number of coastal watershed policies which provide protection against new development affecting marine resources and other waterways. These policies aim to ensure that construction minimizes sedimentation, erosion, and that drainage does not cause increased erosion

> ***Watershed Policy 8*: *Timing of Construction and Grading.*** *Land clearing and grading shall be avoided during the rainy season if there is a potential for serious erosion and sedimentation problems. All slope and erosion control measures should be in place before the start of the rainy season. Soil exposure should be kept to the smallest area and the shortest feasible period. [THIS POLICY SHALL BE IMPLEMENTED AS A STANDARD AND PURSUANT TO SECTION 23.05.036 OF THE CZLUO.]*
>
> ***Watershed Policy 9: Techniques for Minimizing Sedimentation.*** *Appropriate control measures (such as sediment basins, terracing, hydro-mulching, etc.) shall be used to minimize erosion and sedimentation. Measures should be utilized from the start of site preparation. Selection of appropriate control measures shall be based on evaluation of the development's design, site conditions, predevelopment erosion rates, environmental sensitivity of the adjacent areas and also consider costs of on-going maintenance. A site specific erosion control plan shall be prepared by a qualified soil scientist or other qualified*

professional. To the extent feasible, non-structural erosion techniques, including the use of native species of plants, shall be preferred to control run-off and reduce increased sedimentation. [THIS POLICY SHALL BE IMPLEMENTED AS A STANDARD AND PURSUANT TO SECTION 23.05.036 OF THE CZLUO.]

Estero Area Plan Chapter 6 Section IV(A). Areawide Water Quality. Policies, Cayucos and Rural Area.

1. *Control, and where feasible, prevent nonpoint source pollution resulting from private and public development and land management practices*

2. *Avoid, and if not feasible, minimize impacts to watershed from erosion, runoff, pollution , and water diversions by new public and private development*

3. *Minimize erosion, siltation and water pollution by promoting sound land management practices and minimizing the amount of impervious surfaces on public and private lands.*

As described earlier, this is a blufftop parcel directly seaward and adjacent to the Pacific Ocean and more specifically, Estero Bay, which is an important local, regional and state biological resource. Minimizing sedimentation and runoff and other construction related impacts from new development is paramount to protecting nearby water quality, and is required by the LCP. The proposed construction activities associated with the development could lead to adverse impacts on coastal resources, including drainage and runoff from the project that could potentially result in adverse impacts on Estero Bay water quality. In particular, those activities include the demolition and excavation of existing structures and replacement of a SFD, including an underground garage/basement and driveway. The project requires work over and adjacent to coastal bluffs, which could also lead to potential adverse water quality impacts. This project would involve large equipment along Lucerne Road, including a staging area, and would impact the public's use and enjoyment of the immediate neighborhood, and generally intrude and negatively impact the aesthetics, ambiance, serenity, and safety of the public experience in this area.

These impacts can be contained through a construction condition that includes limiting the times when work can take place, clearly fencing off the minimum construction area necessary, clearly delineating and avoiding to the maximum extent feasible public use areas, and protecting marine and groundwater through BMPs (see **Special Condition 2**). To ensure maximum public notification and good construction relations, the CDP and the construction plan must also be kept on site and all persons involved in construction briefed on the content and requirements of them, and a construction coordinator must be designated and be available to answer questions and also investigate complaints and take remediation action if necessary 24 hours per day for the duration of the project. Thus, as conditioned, the project is consistent with LCP requirements.

Future Notice

The terms and conditions of this approval are meant to be perpetual. In order to inform future owners of the requirements of the permit, and add a level of legal implementation of this fact, this approval is conditioned for a deed restriction designed to record the project conditions against the affected property (see **Special Condition 5**).

County Conditions
Finally, **Special Condition 6** notes that all conditions imposed by the County pursuant to an authority other than the Coastal Act remain in effect.

H. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

San Luis Obispo County, acting as lead agency, adopted a Mitigated Negative Declaration under CEQA for the proposed project. The County generally found that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the project revisions would reduce any potential impacts to an insignificant level.

The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. The Commission has reviewed the relevant coastal resource issues associated with the proposed project, and has identified appropriate and necessary modifications to address adverse impacts to such coastal resources. All public comments received to date have been addressed in the findings above. All above findings are incorporated herein in their entirety by reference.

The Commission finds that only as modified and conditioned by this permit will the proposed project avoid significant adverse effects on the environment within the meaning of CEQA. As such, there are no additional feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse environmental effects that approval of the proposed project, as modified, would have on the environment within the meaning of CEQA. If so modified, the proposed project will not result in any significant environmental effects for which feasible mitigation measures have not been employed consistent with CEQA Section 21080.5(d)(2)(A).

APPENDIX A: SUBSTANTIVE FILE DOCUMENTS

Geotechnical Engineering Report, Proposed Replacement Residence, 709 Lucerne Avenue, Cayucos Vicinity of San Luis Obispo County, MidCoast GeoTechnical Inc., July 30, 2009.

Geological Coastal Bluff Evaluation, 709 Lucerne Road, APN: 064-281-009, Cayucos Area, San Luis Obispo, California, Project No. SLO7201-1, by GeoSolutions, August 14, 2009

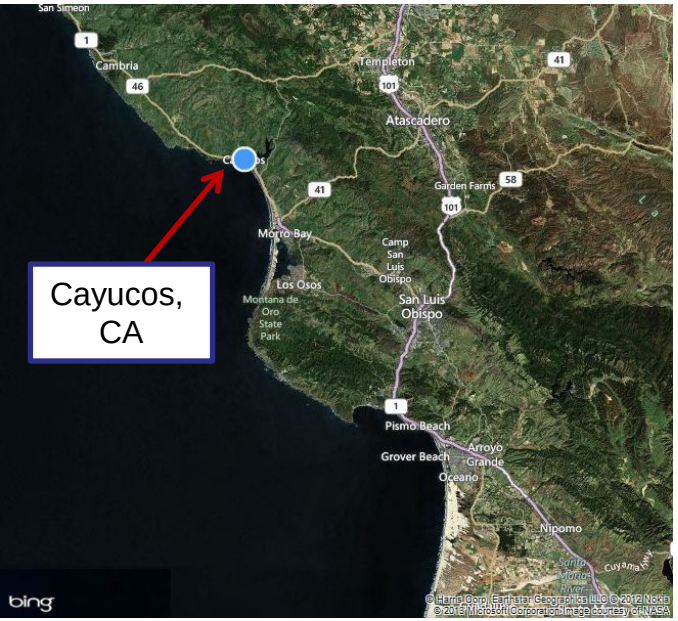
Updated Geological Coastal Bluff Evaluation, Prepared for Dr. Marshall Lewis by GeoSolutions, September 9, 2009

Response to Comments, Geological Coastal Bluff Evaluation, 709 Lucerne Road, APN: 064-281-009, Cayucos Area, San Luis Obispo, California, Project No. SLO7201-2, by GeoSolutions, January 15, 2010

Geologic Site Conditions, Prepared for Dr. Marshall Lewis by GeoSolutions, April 23, 2010

Review of Bluff Stability and Seepage, Prepared for Dr. Lewis by GeoSolutions, January 26, 2011

Cultural and Historic Resources Assessment Report for the 709 Lucerne Project in Cayucos, San Luis Obispo County, California, Cogstone, March 2010


Cayucos, CA
San Simeon
Cambria
Templeton
Atascadero
Morro Bay
Camp San Luis Obispo
Los Osos
San Luis Obispo
Pismo Beach
Grover Beach
Arroyo Grande
Oceano
Nipomo
bing


Project site
709 Lucerne Road
Cayucos Creek Rd
ADELAIDA
Cayucos
1
13th St
Pacific Ave
Ocean Blvd
Sheaver Ave
bing
Available Exclusively by DigitalGlobe © 2012 Nokia
© 2013 Microsoft Corporation Image courtesy of USDA

Exhibit 1


Highway One
Ocean Avenue
Lucerne Road
Project Site


Existing residence
Lucerne Road
Ocean Avenue

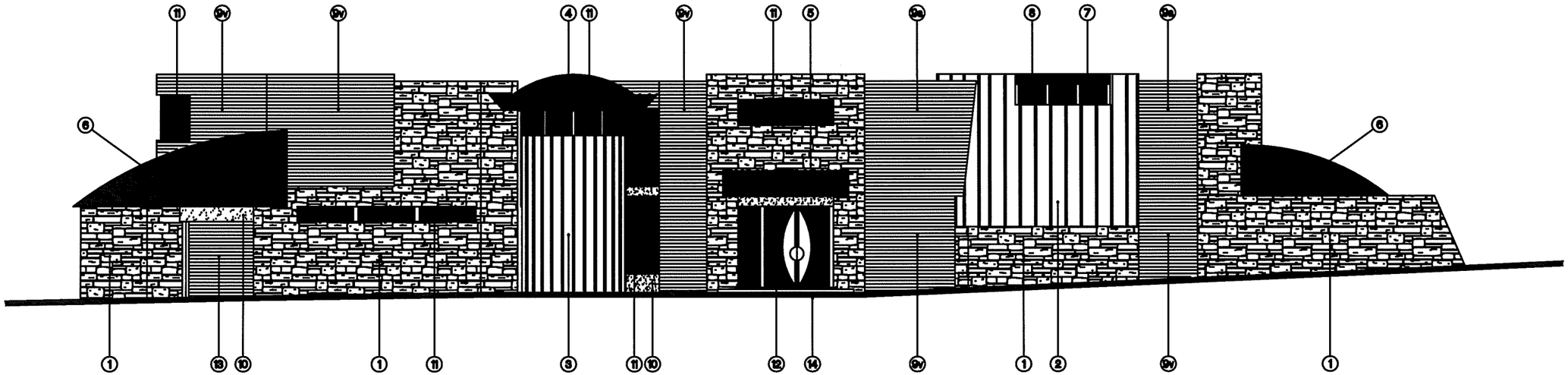

Existing residence
Water tank
Shed
Lucerne Road


Shed
Lucerne Road

View from Southbound Highway 1

View from Southbound Highway 1

View from Southbound Highway 1



FRONT ELEVATION (facing Lucerne Road)

SCALE 1/4"=1'-0"

exterior materials

1. natural stone veneer
2. copper metal siding with standing vertical seams @ 16" o.c.
3. copper metal siding with standing vertical seams @ 12" o.c.
4. copper metal round roof and slanted fascia with standing seams @ 16" o.c.
5. round planter copper metal with vertical seams @ 12" o.c.
6. copper metal roof and sides with standing seams@ 16" o.c.
7. metal fascia to match skylite window
8. skylite window
9v. redwood t and g siding (vertical face)
9a. redwood t and g siding (slanted face)
10. exterior plaster smooth texture
11. window
12. front specialty door and sidelite
13. metal overhead door to garage
14. finish grade

0' 6' 12' 18' 24' 30'

GRAPHIC SCALE

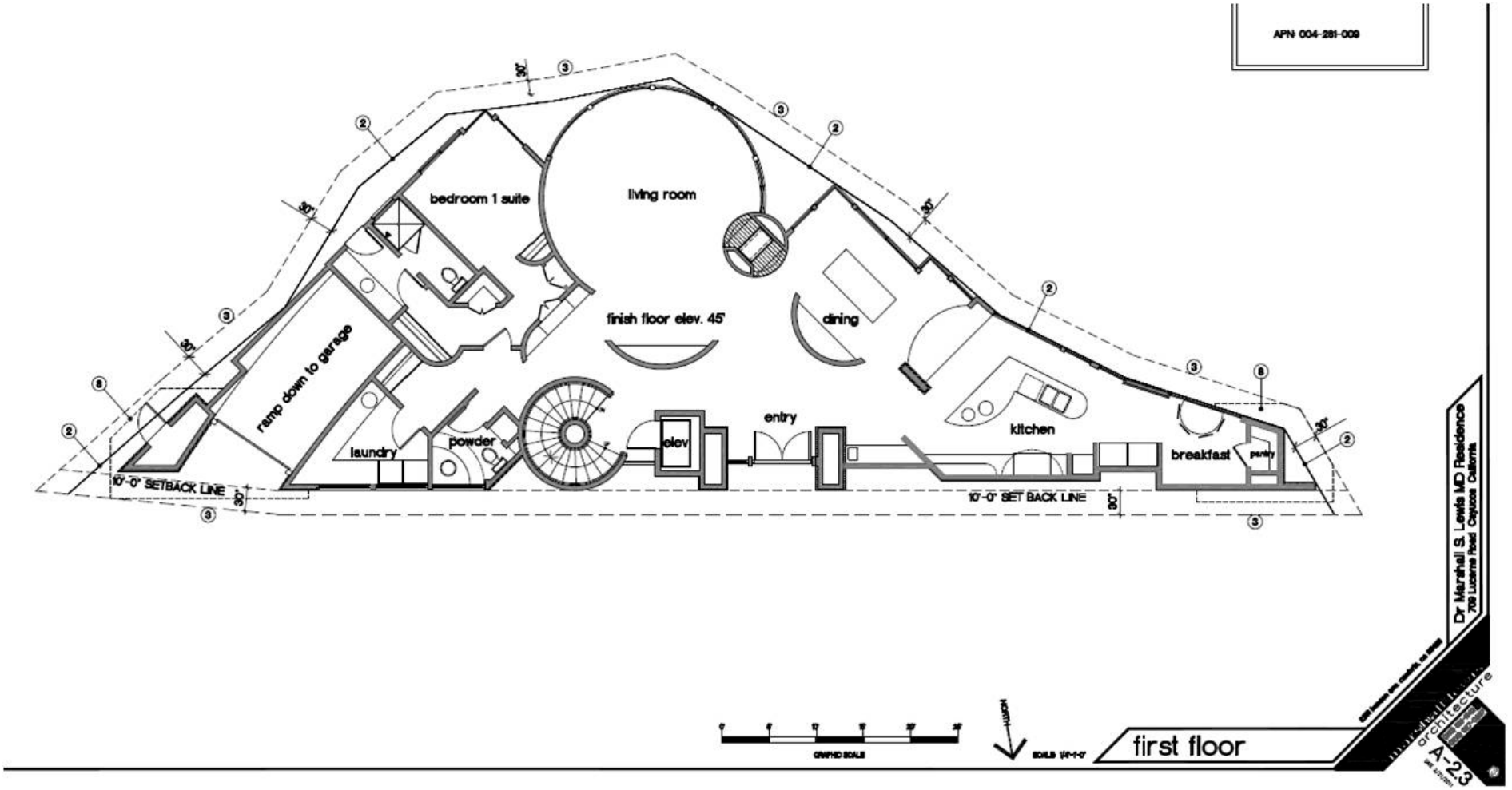
SCALE 1/4"-1'-0"

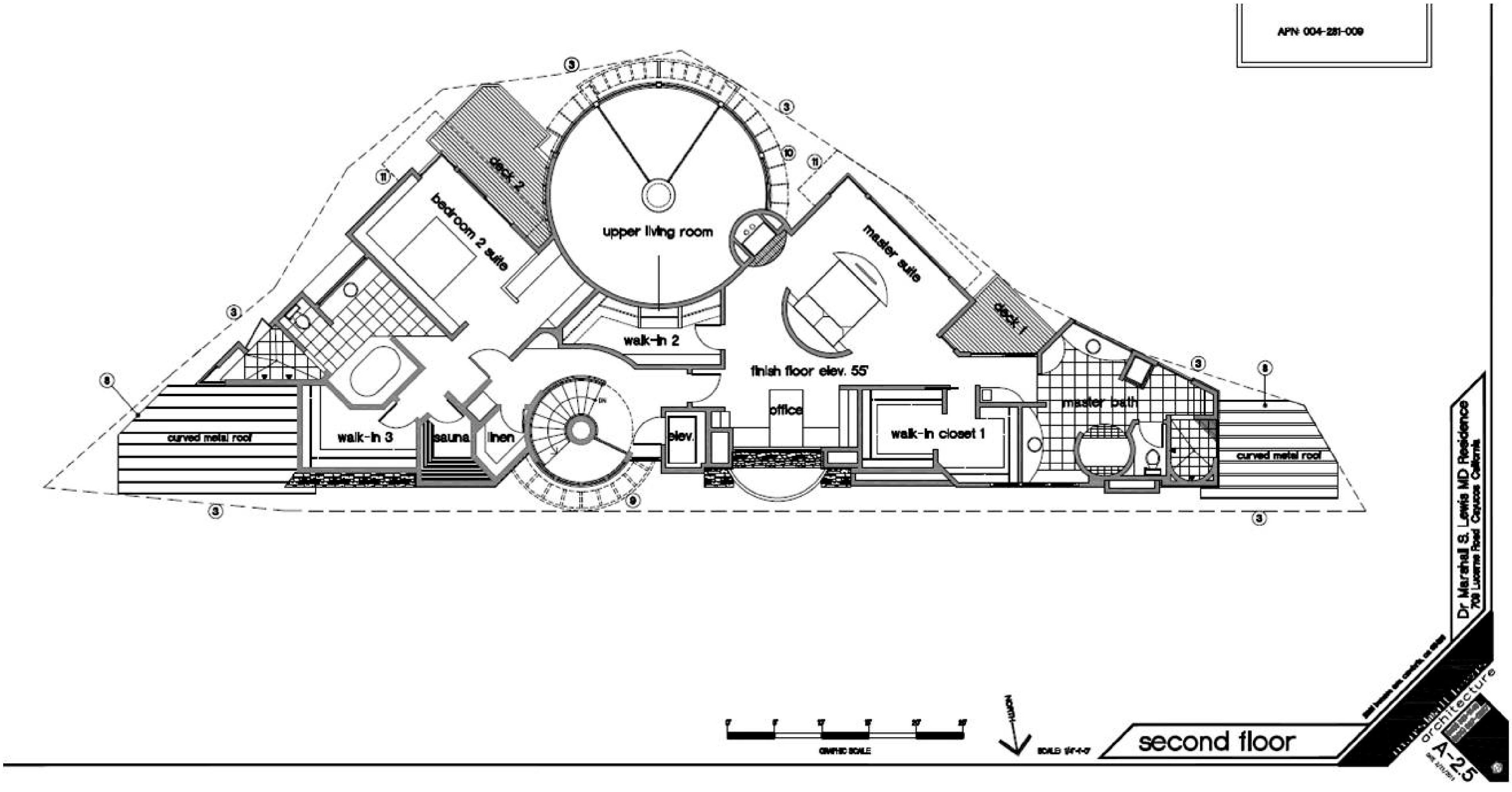
Dr Marshall S. Lewis MD Residence
709 Lucerne Road Cayuca California

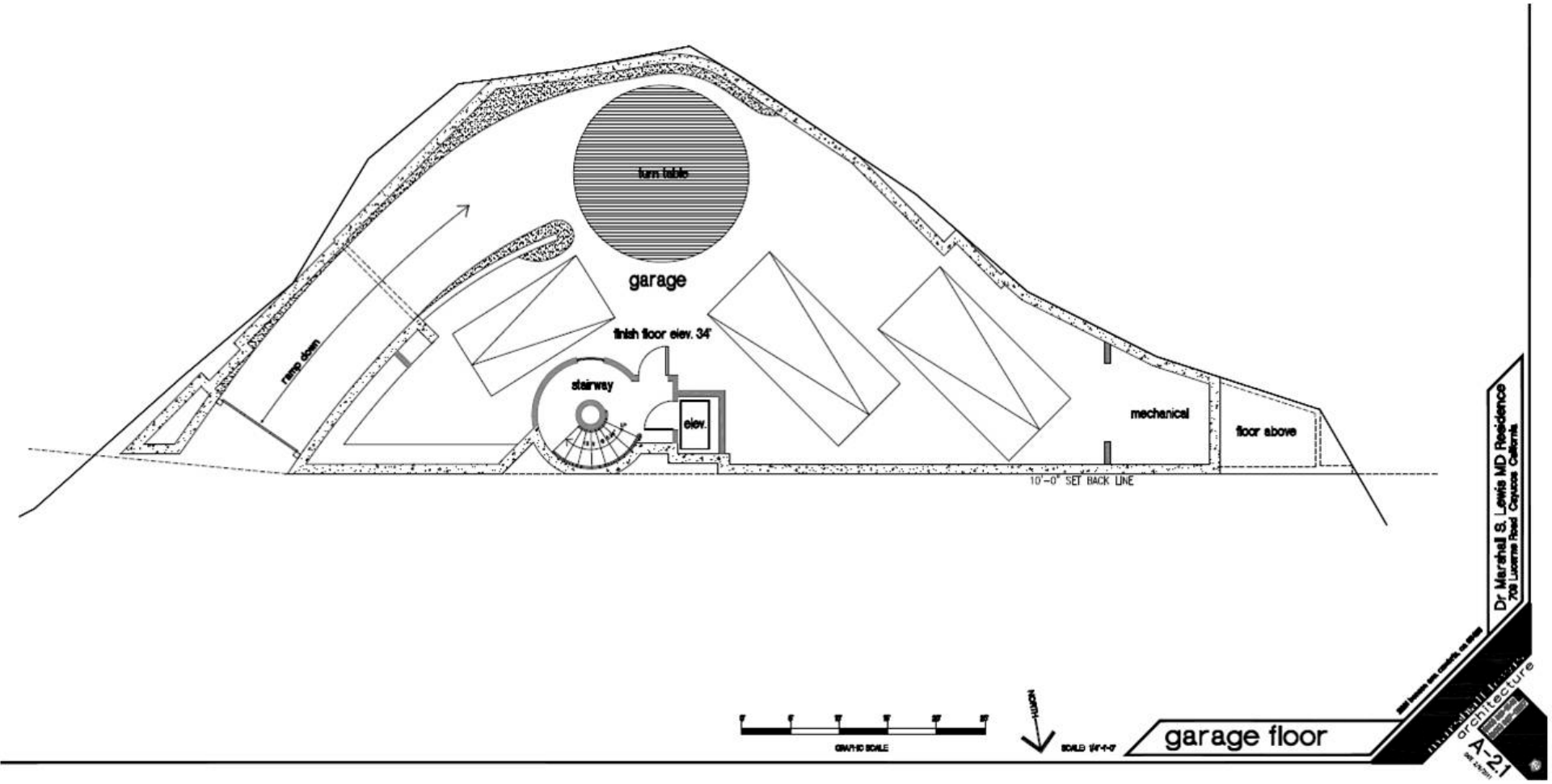
architecture

front elevation

A-4.1


APN 004-281-009
bedroom 1 suite
living room
finish floor elev. 45'
dining
ramp down to garage
laundry
powder
elev
entry
kitchen
breakfast
pantry
10'-0" SETBACK LINE
10'-0" SET BACK LINE
30'
Dr Marshall S. Lewis MD Residence
709 Lucerne Road Capucos California
first floor
A-2.3


APN: 004-281-009
upper living room
bedroom 2 suite
deck 2
master suite
deck 1
walk-in 2
finish floor elev. 55'
office
master bath
walk-in 3
sauna
linen
elev.
walk-in closet 1
curved metal roof
curved metal roof
second floor
architecture
A-2.5
Dr Marshall S. Lewis MD Residence
709 Lucerne Road Cayucos California


turn table
garage
finish floor elev. 34'
ramp down
stairway
elev.
mechanical
floor above
10'-0" SET BACK LINE
NORTH
garage floor
Dr. Marshall S. Lewis MD Residence
709 Lucerne Road Cayucos California
architecture
A-21

KMA

Kevin Merk Associates, LLC P.O. Box 318, San Luis Obispo, CA 93406 805-748-5837(o)/439-1616(f)

March 22, 2012

Ms. Rachel Kovesdi
Kirk Consulting
8830 Morro Road
Atascadero, California 93422

Subject: **Lewis Residence Tree Habitat Assessment, 709 Lucerne Road, Cayucos, San Luis Obispo County, California (MUP/CDP DRC2009-00027)**

Dear Ms. Kovesdi:

Kevin Merk Associates, LLC (KMA), at your request, visited the subject property to evaluate the habitat value of existing Monterey cypress trees (*Hesperocyparis macrocarpa*) planted along Lucerne Road in front of the existing home and structures. Prior to conducting the field work, project information was reviewed to better understand the resources present and environmental review completed to date, including the biological mitigation measures imposed on the project by the County of San Luis Obispo (County). The background review included the County's Initial Study and Mitigated Negative Declaration (IS/MND revised June 30, 2011), the Tree Site Inventory and Preservation Arborist Report and supplement (Davey Resources Group, August 24, 2010 and September 1, 2010), and Footprint Comparison (EDA, May 11, 2011) illustrating the proposed new home's location in relation to the existing structures and trees onsite.

Field work was conducted on March 21, 2011 and included an inspection of the Monterey cypress trees growing along Lucerne Street. Upon arriving at the site, select vantage points on North Ocean Avenue and Lucerne Road away from the property were used to observe bird activity in and around the subject trees. Binoculars (8x42 magnification) were used to scan for birds and identify potential nest sites and areas for closer inspection. After observing the trees from a distance, each tree was inspected from the property frontage along Lucerne Road searching for cavities and nests that could be used by birds.

No nests or bird nesting behavior was observed onsite. Several cavities and holes that could be used by cavity dwelling species were located in trees 9, 12, and 13 as identified on the Arborist Report. No signs of bird guano or nest materials were observed around the holes, and they did not appear to support bird activity at this time. In general, very few birds were observed using the trees during the site visit. Four house finches (*Carpodacus mexicanus*) were seen foraging in the trees, and perching on neighboring cable and phone lines.

The Monterey cypress trees on the property were planted in a linear fashion along the edge of the road, and are sited less than 10 feet from the edge of pavement and the existing house and walkways. The trees apparently have not been pruned in some time and branches extend well over the roof. Excessive deadwood and a large amount of cone production was also present, which is

typical of older trees nearing the end of their life span. High winds and salt spray coming off the Pacific Ocean contribute to their shape, and have sculpted the trees creating the typical coastal cypress tree growth habit with dense flat-topped branches and leaves at the top of the trees.

Only one of the 13 specimens was given a rating of good by the project arborist, and trees 1 and 2 were located along the edge of bluff and are close to falling into the ocean. Further, the arborist report concludes that construction of the proposed project will affect the critical root zone of the trees making preservation difficult. As stated above, based on the presence of excessive deadwood and high cone production, it appears the trees are nearing the end of their life span. Any substantial trimming of limbs or roots may weaken these trees, making them susceptible to blow over during high winds.

Still, the trees have suitable structure to provide nesting habitat for birds. The large amount of deadwood and high number of cones and seed production appears to provide foraging opportunities for small birds such as the house finch that are common to the area. In compliance with the California Environmental Quality Act, the County utilized their standard mitigation measures for tree removal that require construction activities to occur outside the nesting bird season. If tree removal cannot occur during that time frame, a qualified biologist must conduct a nesting bird survey to make sure tree removal and associated construction activities do not affect nesting birds or their young. This requirement also complies with California Fish and Game Code and federal regulations such as the Migratory Bird Treaty Act protecting nesting and migratory birds.

Given the Monterey cypress trees are horticultural specimens planted in a linear fashion as street trees, they provide marginal habitat for wildlife. Their location and structure on Lucerne Road does not connect to larger woodland habitat or create a suitable microclimate for insects or other species that in turn would support a larger food chain or increase bird species diversity. Further, their proximity to existing development, human activities, as well as high winds coming off the ocean, likely precludes bird species such as raptors that are sensitive to disturbance. Therefore, removal of any of the subject trees is not expected to adversely affect birds or wildlife habitat value in the general area, especially considering the County's requirements placed on the project.

I trust that this information assists with your reporting requirements at this time. If you have any questions regarding the above information, please call Kevin Merk directly. Thank you for the opportunity to provide environmental consulting services for this project.

Sincerely,
KEVIN MERK ASSOCIATES, LLC

Kevin B. Merk
Principal Biologist

DAVEY RESOURCE GROUP
A Division of The Davey Tree Expert Company

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Western Region Office
7627 Morro Road
Atascadero, CA 93422
805-461-7500
Fax: 805-461-8501
Direct 805-286-0181
Michael.bova@davey.com

August 24, 2010

Dr. Marshall Lewis
Pacific Orthopedic Medical Group
2619 F Street
Bakersfield, CA 93301

RE: Tree Site Inventory and Preservation Arborist Report for 709 Lucerne, Cayucos, CA

Dear Dr. Lewis:

Thank you for contracting with Davey Resource Group regarding the above project. In support of your objectives, Davey Resource Group (DRG) is pleased to provide you with the attached report.

A DRG International Society of Arboriculture (ISA) Certified Arborist conducted the site survey of the trees on August 13, 2010. The trees were assessed by their location, size, current condition, and overall health. The data was then used to determine any potential impacts from construction to the trees by overlaying the proposed project plans over the existing site conditions. The current edition of the ISA *Best Management Practices for Managing Trees During Construction* and other industry standards were also used to determine the potential impact on the trees of the proposed project.

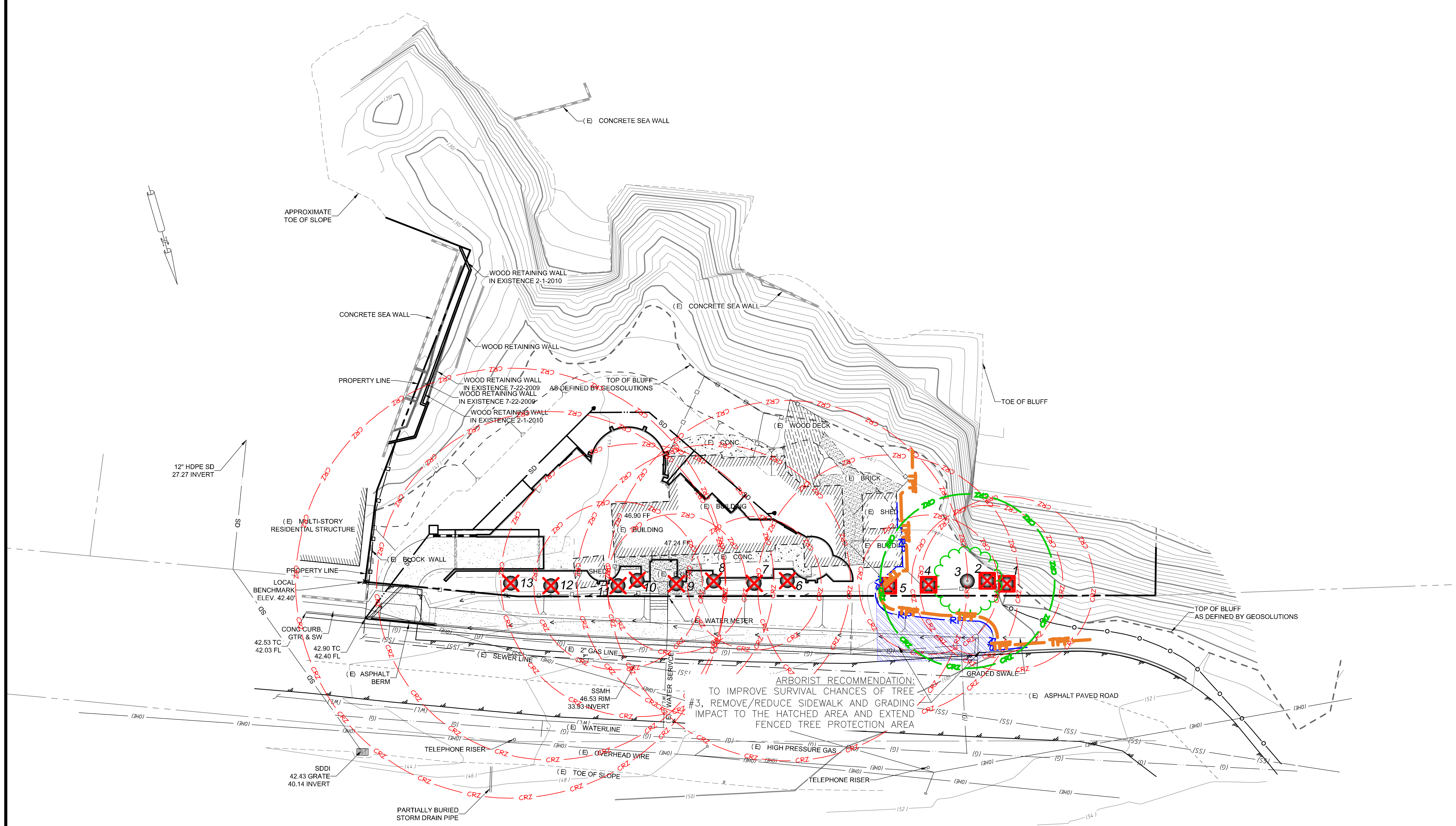
The results of the analysis determined that, based on the proposed construction plans and the health of the existing trees, twelve (12) of the thirteen (13) Monterey Cypress would require removal and one (1) Cypress tree should have specific tree preservation measures implemented before any construction activities begin. Although the specific construction plans for this project would cause fatal consequences to at least nine of the thirteen trees, it is likely that *any* new construction in the limited area available would have the same detrimental effects on the trees. Therefore, any significant development on this site would ultimately result in the removal of the identified trees. Because of this, DRG has also recommended some alternative species as potential replacements for the removed Monterey Cypress that will complement the new building and add to the value of the property while maintaining the unique character of the local landscape.

Please feel free to contact me at 805-286-0181 or michael.bova@davey.com if you would like more information or have any questions.

Sincerely,

Michael J. Bova

Michael J. Bova
Project Coordinator
Davey Resource Group
Certified Arborist WE3372A



LEGEND

- EXISTING TREE WITH CRITICAL ROOT ZONE (CRZ) TO REMAIN
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO BE REMOVED BY ARBORIST (SEE SPECIFICATIONS)
- TPF — PROPOSED TREE PROTECTION FENCE (SEE DETAIL & SPECIFICATIONS)
- RP — PROPOSED ROOT PRUNING (SEE DETAIL & SPECIFICATIONS)

REFER TO THE TREE PROTECTION PLAN REPORT FOR ADDITIONAL INFORMATION AND SPECIFICATIONS

20 0 20 40
1 INCH = 20 FEET

DRAWN:	CJH.	REV. NO.
DESIGN:	CJH.	0
CHECKED:	M.B.	

BASED ON PLANS PROVIDED BY EDA, SAN LOUIS OBISPO, CA

REV.	DATE	COMMENT	BY

INTERNATIONAL SOCIETY OF ARBORICULTURE — CARY HULSE — ISA No PD-1080A — CERTIFIED ARBORIST

thecareoftrees
tree preservation & land restoration division
2138 Priest Bridge Court, Suite 4 • Crofton, MD 21114
Office 410.774.0024 • Fax 310.858.0184
National 877.818.7337

709 LUCERNE ROAD
CAYUCOS, CALIFORNIA

TREE PRESERVATION PLAN

SCALE: 1" = 20'
DATE: 08/18/2010
SHEET NO: 1 OF 2

THIS PLAN IS FOR TREE PRESERVATION PURPOSES ONLY AND NOT FOR CONSTRUCTION. THE PROFESSIONAL'S SEAL IS INVALID ON ANY PLOT THAT DOES NOT INCLUDE AN ORIGINAL INK SIGNATURE.

TREE PRESERVATION SPECIFICATIONS

1. GENERAL
 1.1. ALL MEASURES WILL BE REVIEWED AFTER INSTALLATION AND APPROVED BY OWNER AND PROJECT ARBORIST.
 1.2. REFER TO ARBORIST REPORT FOR ADDITIONAL INFORMATION.
 1.3. SUBSTITUTIONS OR ALTERNATIVE METHODS OR MATERIALS SHALL BE REVIEWED AND APPROVED BY PROJECT ARBORIST.
 1.4. ALL TREE PROTECTION MEASURES MUST BE IN PLACE PRIOR TO COMMENCEMENT OF DEMOLITION, SITE CLEARING OR CONSTRUCTION AND MAINTAINED THROUGHOUT CONSTRUCTION.
 1.5. REFER TO THE TREE PROTECTION ACTION KEY (TPAK) FOR SPECIFIC RECOMMENDATIONS FOR EACH TREE.
2. REMOVAL BY ARBORIST
 2.1. TREES DESIGNATED AS "REMOVAL BY ARBORIST" SHALL BE REMOVED BY A QUALIFIED ARBORIST "BY HAND", TO MINIMIZE POTENTIAL FOR DAMAGE TO REMAINING TREES AND ROOTS.
 2.2. CREWS SHALL BE DIRECTLY SUPERVISED BY A CERTIFIED ARBORIST.
 2.3. TRUCKS AND MECHANIZED EQUIPMENT SHALL NOT ENTER THE FENCED TREE PROTECTION AREAS.
 2.4. STUMPS SHALL BE GROUND OUT. ROOTS SHALL REMAIN TO MINIMIZE EROSION POTENTIAL.
 2.5. STUMP GRINDING SHALL BE WITH SMALL MACHINES SPECIFICALLY DESIGNED FOR THAT PURPOSE. NO STUMPS SHALL BE EXCAVATED EXCEPT AS DESCRIBED HEREIN. STUMPS SHALL BE GROUND NOT MORE THAN 6" BELOW GRADE AND CARE MUST BE TAKEN TO MINIMIZE DAMAGE TO ROOTS OF RETAINED TREES.
3. TREE PROTECTION FENCE
 3.1. TYPICALLY, INSTALL AFTER ROOT PRUNING AND PRIOR TO CLEARING & GRADING.
 3.2. FENCE SHALL BE 4' HIGH, 14 GAUGE WELDED WIRE FENCE MOUNTED ON 6' STEEL "T" POSTS SPACED NOT MORE THAN 10' APART. FENCE SHALL BE ATTACHED TO POSTS USING GALVANIZED STEEL CLIPS OR ALUMINUM TIES. PLASTIC "ZIP" TIES SHALL NOT BE USED. (SEE DETAIL)
 3.3. TREE PROTECTION AREA SIGNS SHALL BE AFFIXED TO ALL TREE PROTECTION FENCE AT 50' SPACING AVERAGE. SIGNS SHALL BE BILINGUAL (ENGLISH AND SPANISH). SIGNS SHALL NOT BE AFFIXED DIRECTLY TO TREES. SEE DETAIL.
 3.4. SILT FENCE SHALL BE COORDINATED FOR INSTALLATION TO ENHANCE PROTECTION AND AVOID UNNECESSARY ROOT CUTS BY SILT FENCE INSTALLATION.
 3.5. FENCE MAY BE REMOVED ONLY AFTER ALL CONSTRUCTION AND FINAL LANDSCAPING IS COMPLETE AND WITH PROJECT ARBORIST APPROVAL.
4. ROOT PRUNE
 4.1. THE EXACT LOCATION AND DEPTH WILL BE DETERMINED BY PROJECT ARBORIST DURING THE PRE-CONSTRUCTION MEETING. (SEE DETAIL)
 4.2. HAND PRUNE ROOTS OVER 1" DIAMETER WITHIN CRZS OF SIGNIFICANT TREES. STEEP SLOPES, DEEP EXCAVATIONS AND PAVEMENT/CURB REMOVAL WILL BE REVIEWED WHEN OPEN FOR HAND ROOT PRUNING DURING CONSTRUCTION.
 4.3. COORDINATE WITH SILT FENCE INSTALLATION TO MINIMIZE UNNECESSARY ROOT DAMAGE.
 4.4. ROOT PRUNING SHALL BE PERFORMED BY A CERTIFIED ARBORIST.
5. WOOD CHIP MULCH
 5.1. INSTALL MULCH BED RINGS FOR DESIGNATED SIGNIFICANT TREES OR PROVIDE CONTINUOUS MULCH STRIP 10' TO 15' WIDE ALONG LOD WITHIN PRESERVED CRZ AREAS.
 5.2. MULCH SHALL BE INSTALLED TO A DEPTH OF 4".
 5.3. MULCH SHALL BE DOUBLE GROUND SHREDDED HARDWOOD, AGED FOR AT LEAST 6 MONTHS FROM AN APPROVED SOURCE. INSUFFICIENTLY OR IMPROPERLY AGED MULCH CONTAINING HIGH BACTERIAL COUNTS OR HIGH LEVELS OF BARK OR OTHER MATERIALS RESISTANT TO DECOMPOSITION SHALL NOT BE USED. MULCH SHALL NOT CONTACT TRUNK OF TREES.
 5.4. EDGING IS NEITHER NECESSARY NOR DESIRABLE FOR THIS OPERATION.
6. CONSTRUCTION MONITORING/INSPECTIONS
 6.1. A CERTIFIED ARBORIST SHALL MAKE REGULAR WEEKLY INSPECTIONS DURING ACTIVE CONSTRUCTION AND DEMOLITION AND PROVIDE REPORTS TO THE OWNER AND PROJECT ARBORIST. REPORTS SHALL DOCUMENT CONDITION OF TREE PROTECTION DEVICES AND PROVIDE RECOMMENDATIONS FOR MAINTENANCE AND/OR ADDITIONAL CARE.
7. MISCELLANEOUS TREE PROTECTION REQUIREMENTS
 7.1. NO TOXIC MATERIALS SHALL BE STORED WITHIN 100' OF TREE PROTECTION AREAS.
 7.2. ALL WORK IN OR NEAR TREE PROTECTION AREAS SHALL BE PERFORMED IN A MANNER TO MINIMIZE DAMAGE TO TREES, SHRUBS, GROUND COVER, SOIL AND ROOT SYSTEMS.
 7.3. MECHANIZED EQUIPMENT SHALL NOT BE PERMITTED TO ENTER ANY TREE PROTECTION AREAS.
8. CANOPY PRUNING & SUPPORT CABLES
 8.1. CANOPY PRUNING SHALL BE CLEANING PRUNING AND/OR RESTORATION PRUNING AND SHALL BE IN CONFORMANCE WITH CURRENT ANSI A300 STANDARDS AND ISA BEST MANAGEMENT PRACTICES.
 8.2. PRUNING SHALL REMOVE ONLY DEAD, DYING, DAMAGED OR BROKEN BRANCHES GREATER THAN 1" IN DIAMETER. PRUNING OF SMALL TREES MAY INCLUDE REMOVAL OF LIMBS TO IMPROVE STRUCTURE.
 8.3. FOLIAGE REMOVAL SHALL NOT BE MORE THAN 25% OF THE TOTAL LIVE CANOPY VOLUME OF ANY TREE IN ANY ONE SEASON. PRUNING SHALL NOT REMOVE INTERIOR BRANCHING EXCEPT AS OTHERWISE STATED.
 8.4. PRUNING FOR SPECIFIC CLEARANCE (FOR CONSTRUCTION ACCESS OR PROPOSED IMPROVEMENTS) SHALL BE REVIEWED AND APPROVED BY THE OWNER AND PROJECT ARBORIST.
 8.5. SUPPORT CABLES (IF REQUIRED) SHALL BE INSTALLED IN CONFORMANCE WITH CURRENT ANSI A300 STANDARDS AND ISA BEST MANAGEMENT PRACTICES.
9. CONSTRUCTION STRATEGIES FOR TREE PROTECTION
 9.1. CONSTRUCTION STAGING, STOCKPILING EQUIPMENT STORAGE, ETC. SHALL BE LIMITED TO AREAS OF EXISTING PAVEMENT AND AREAS WITHIN THE LOD EXCEPT AS OTHERWISE NOTED.
 9.2. PROPOSED LANDSCAPE PLANTINGS INSIDE TREE PROTECTION AREAS SHALL BE INSTALLED BY HAND. MECHANIZED EQUIPMENT SHALL NOT BE USED WITHIN TREE PROTECTION AREAS TO EXCAVATE FOR PLANTINGS OR FOR STAGING PLANT MATERIAL.
 9.3. COORDINATE PLANTING LOCATIONS WITHIN CRZS WITH THE CONTRACT ARBORIST TO AVOID UNNECESSARY ROOT DAMAGE. PLANTING PITS WITHIN CRZS SHOULD BE DUG BY HAND. ROOTS GREATER THAN 1.5" SHOULD NOT BE CUT.
10. SOIL CARE/ FERTILIZATION
 10.1. INITIAL SOIL TESTING WITHIN TREE PROTECTION AREAS IS REQUIRED. CONDUCT INDIVIDUAL SOIL TESTS FOR SEPARATE TREE PROTECTION AREAS (SMALL ADJACENT AREAS MAY BE TESTED TOGETHER). SOIL TEST SHALL BE A REPRESENTATIVE SAMPLE FROM EACH AREA.
 10.2. TREATMENTS TO THE TREE PROTECTION AREAS FOR SPECIFIED TREES (SEE TPAK) SHALL BE BASED ON THE RESULTS OF THE SOIL ANALYSIS. FERTILIZATION SHALL BE CONSISTENT WITH THE RECOMMENDATIONS OF THE ANSI A-300 (PART 2) TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE - STANDARD PRACTICES (FERTILIZATION) 2004.
 10.3. APPLICATION RATES SHALL NOT EXCEED A RATE OF 1 POUND OF ACTUAL NITROGEN PER 1,000 SQUARE FEET ANNUALLY. FERTILIZER USED SHOULD INCLUDE HUMIC ACIDS, SOLUBLE SEAWEED EXTRACTS AND SOIL BIOLOGICAL INOCULANTS.
11. TREE CONDITION MONITORING INSPECTIONS
 11.1. CONTRACT ARBORIST SHALL PROVIDE MONITORING OF THE CONDITION OF RETAINED TREES IN TREE PROTECTION AREAS, AND TREATMENT OF DETRIMENTAL CONDITIONS (INSECTS, DISEASES, NUTRIENT DEFICIENCIES, SOIL MOISTURE, ETC.), AS THEY OCCUR, OR AS APPROPRIATE FOR EFFECTIVE MANAGEMENT.
 11.2. INSPECTIONS SHALL BE PERFORMED AT LEAST MONTHLY DURING THE GROWING SEASON, BEGINNING PRIOR TO CONSTRUCTION AND CONTINUING THROUGHOUT CONSTRUCTION AND FOR AT LEAST ONE YEAR SUBSEQUENT TO COMPLETION OF CONSTRUCTION ACTIVITIES.
 11.3. A WRITTEN SUMMARY REPORT INCLUDING SPECIFIC TREATMENTS MADE AND RECOMMENDATIONS FOR ADDITIONAL TREATMENTS SHALL BE PROVIDED TO THE OWNER AND PROJECT ARBORIST SUBSEQUENT TO EACH INSPECTION.

TREE PROTECTION ACTION KEY

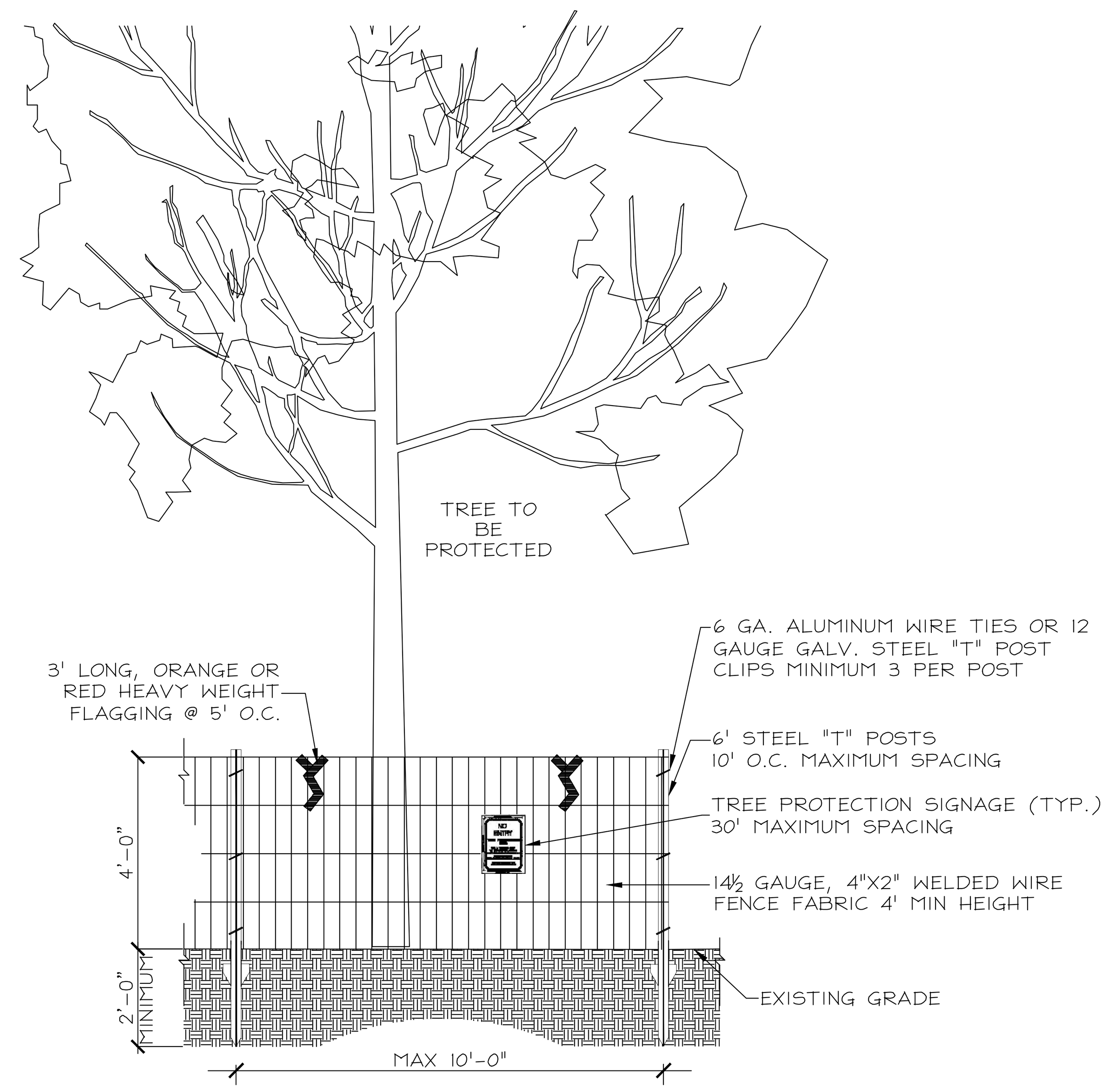
Tree #	DBH (Diameter at 4.5 feet above grade)	Common Name	Condition Rating %	Condition Rating	Approx Canopy Radius (FT)	Approx Height (FT)	CRZ Critical Root Zone Radius in Feet	Removal	Removal By Arborist	Recommended Preservation Measures: Root Prune	Tree Protection Fence	Mulch	Soil Care	Tree Growth Regulator	Tree Condition Inspections	Temp Root Protection Matt	Construction Oversight/Monitoring	Support Cable	Canopy Prune	Additional Notes	Condition Notes
1	20	Monterey Cypress	47	Poor	6	25	30		X											1st tree on north end of property. 50% root exposed over 50' drop, lower limb failure, sparse, unhealed old cut, leans away from #2	Narrow Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Root Dam/Decay, Trunk Decay, Broken Limbs, Weak Union, Suppressed, Stressed, Trunk Scar,
2	17	Monterey Cypress	53	Fair	5	25	26		X											6' from tree #1, 30% root exposed over cliff, poor top structure, lean towards cliff	One Sided, Large DW (3"+), Small DW (1-2"), Compacted Soils, Root Dam/Decay, Trunk Decay, Broken Limbs, Suppressed, Stressed,
3	20	Monterey Cypress	72	Good	10	35	30			X	X	X	X		X		X			7' from tree #2, poor top structure, dense deadwood in canopy	Full Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Broken Limbs, Suppressed,
4	16	Monterey Cypress	44	Poor	5	25	24		X											12' from tree #3, 10" dead stub with weak crotch, poor top	Narrow Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Trunk Decay, Branch Decay, Broken Limbs, Weak Union, Suppressed, Stressed,
5	30	Monterey Cypress	63	Fair	10	35	45		X											17' from tree #4, 7' from H2O tower, hangers, poor top, large gird roots on house side, large limb over tower	Full Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Broken Limbs, Suppressed,
6	41	Monterey Cypress	56	Fair	15	45	62	X												34' from tree #5, 11' from house, codom@10', lifting sidewalk, dense deadwood, leaders/limbs over house	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Branch Decay, Broken Limbs, Included Bark, Weak Union, Suppressed, Stressed,
7	15	Monterey Cypress	47	Poor	5	30	23	X												12' from tree #6, 10' from house, service drop attached to trunk, lean towards house, very overcrowded with sparse canopy	Narrow Crown, Large DW (3"+), Small DW (1-2"), Broken Limbs, Suppressed, Stressed, Overhead Utility,
8	31	Monterey Cypress	66	Fair	15	35	47	X												13' from tree #7, 9' from house, lean towards house, large lower limb over house is < 5' from roof, dense deadwood/broken limbs, poor top	Full Crown, Large DW (3"+), Small DW (1-2"), Broken Limbs, Suppressed,
9	16	Monterey Cypress	44	Poor	5	30	24	X												12' from tree # 8, 10' from house, completely crowded by tree #8 & 10, only 4 sparsly foliaged limbs.	Narrow Crown, Large DW (3"+), Small DW (1-2"), Suppressed, Stressed,
10	31	Monterey Cypress	66	Fair	13	40	47	X												13' from tree #9, 8' from house, large 10" limbs over house, main leader leans over house, lower limbs touch roof, dense deadwood in canopy, old unhealed stubs on trunk	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Broken Limbs, Suppressed,
11	19	Monterey Cypress	59	Fair	5	40	29	X												6' from tree #10, close to shed, severe lean towards tree #12, some lower foliage, crowded dense deadwood canopy, poor top.	Narrow Crown, Large DW (3"+), Small DW (1-2"), Broken Limbs, Suppressed, Stressed,
12	40	Monterey Cypress	63	Fair	15	40	60	X												23' from tree #11, dense deadwood canopy, lean towards house, large lower limb 7' off ground, poor top structure	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Branch Decay, Broken Limbs, Suppressed,
13	49	Monterey Cypress	63	Fair	15	45	74	X												12' from tree #12, dense deadwood canopy (combined w/12), downward (heavy end weight) limbs, cracked branches, unhealed stubs on trunk, unhealed cracked/cavity at base	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Branch Decay, Broken Limbs,

ADDITIONAL NOTES:

1. *OWNER SHALL VERIFY ALL TREE LOCATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND/OR TREATMENT OR REMOVAL.*
2. *PRE-CONSTRUCTION MEETING SHALL BE HELD PRIOR TO COMMENCEMENT OF DEMOLITION/CONSTRUCTION ACTIVITY. TOWN URBAN FORESTER, OWNER, DESIGN TEAM MEMBERS (PROJECT ARBORIST, LANDSCAPE ARCHITECT, ENGINEER AND ARCHITECT), CONTRACT ARBORIST, SITE AND LANDSCAPE CONTRACTORS SHALL ATTEND.*
3. *THE INSPECTION OF THESE TREES CONSISTED SOLELY OF A VISUAL INSPECTION FROM THE GROUND. WHILE MORE THOROUGH TECHNIQUES ARE AVAILABLE FOR INSPECTION AND EVALUATION, THEY WERE NEITHER REQUESTED NOR CONSIDERED NECESSARY OR APPROPRIATE AT THIS TIME.*
4. *TREES RATED "POOR" OR "DEAD" THAT ARE NOT RECOMMENDED FOR REMOVAL DUE TO CONSTRUCTION IMPACT MAY WARRANT FURTHER EVALUATION AND/OR TREATMENT OR REMOVAL.*

Definitions

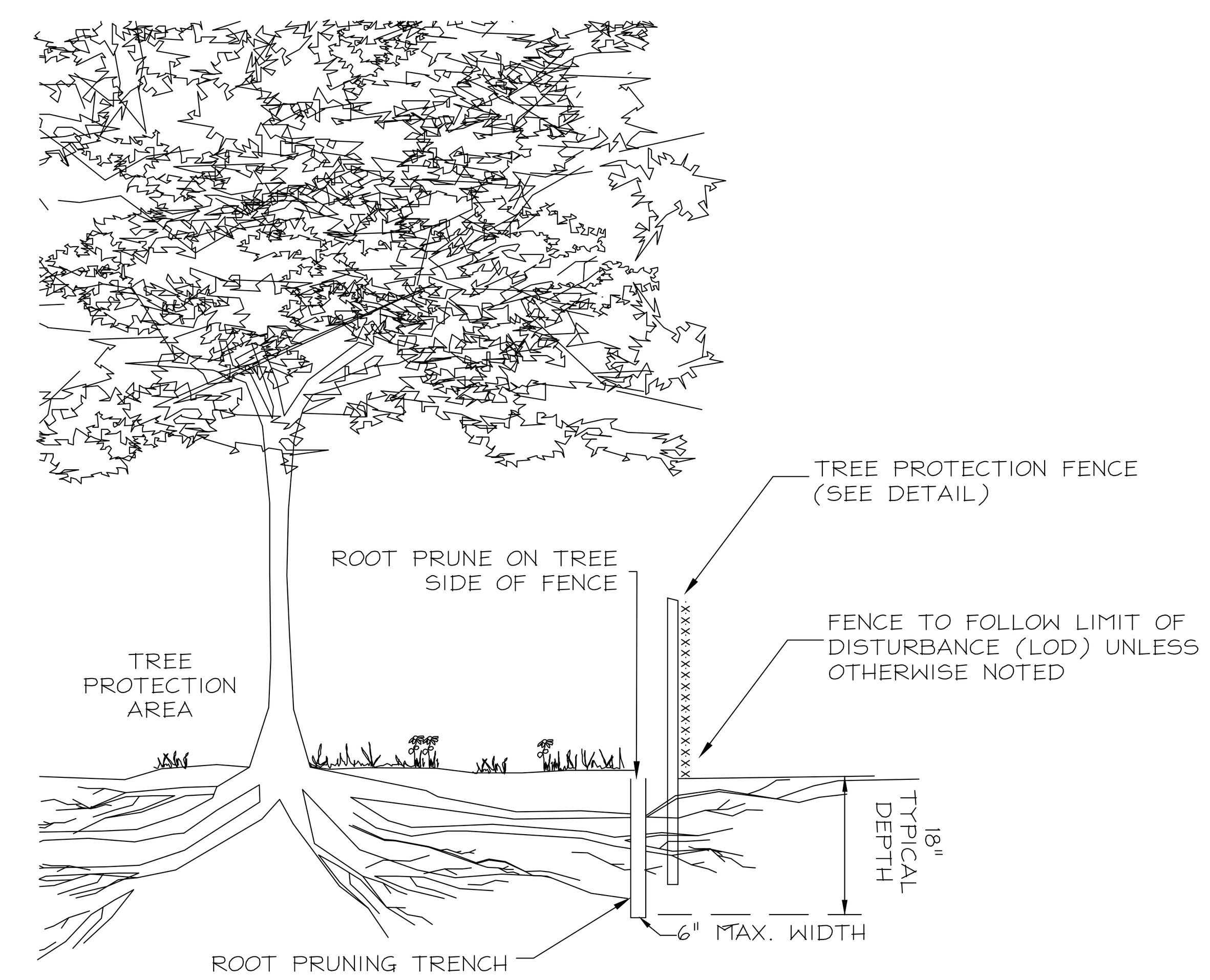
- Certified Arborist: Credential of an individual arborist issued and administered by the International Society of Arboriculture. This credential must be current and valid to qualify to use the copyrighted designation of "Certified Arborist". Refer to www.isa-arbor.com for additional information.
- Project Arborist: Arboricultural firm contracted to provide site investigation and documentation (tree inventories, assessments, forest stand delineations, etc.) and develop tree preservation plans, methods, details and specifications in collaboration with the project design team.
- Contract Arborist: Arboricultural firm contracted to implement the approved tree preservation plans on site. All crews conducting arboricultural operations on site shall consist of at least one Certified Arborist who directly oversees all work by that crew. Arboricultural operations include, but are not limited to, pruning, tree protection device installation and maintenance (fence, matting, etc.), root pruning, air tool root excavation/exploration, soil care activities, soil testing, mulch application, tree inspections, pesticide/chemical applications and tree removal.



NOTES:

1. TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION.
2. WHERE REQUIRED, SUPER SILT FENCE MAY BE USED IN LIEU OF WELDED WIRE FOR TREE PROTECTION PROVIDED IT IS INSTALLED AND MAINTAINED AS A TREE PROTECTION MEASURE AND IS POSTED WITH TREE PROTECTION SIGNS.
3. TREE PROTECTION FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. REMOVE FENCE ONLY WITH APPROVAL AND AFTER ALL SITE WORK HAS BEEN COMPLETED.

1/2 WELDED WIRE TREE PROTECTION FENCE (TYPICAL)
SCALE: NTS



NOTE:

1. TREE PROTECTION AREA WILL BE DETERMINED AS PART OF THE PLAN REVIEW PROCESS. EXACT LOCATION, DEPTH AND METHODS OF ROOT PRUNING TO BE DETERMINED IN THE FIELD BY PROJECT ARBORIST.
2. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING.
3. TRENCH SHOULD BE BACKFILLED IMMEDIATELY OR INCORPORATED WITH SILT FENCE INSTALLATION.
4. ROOTS SHOULD BE SEVERED BY TRENCHER, VIBRATORY PLOW OR APPROVED EQUIVALENT. ROOTS OVER 1.5" DIAMETER SHOULD BE CLEANLY CUT BY HAND. ROOT PRUNING ADJACENT TO SPECIMEN TREES MAY REQUIRE SOIL REMOVAL BY SUPERSONIC AIR TOOL TO MINIMIZE TREE AND ROOT IMPACTS.

2/2 ROOT PRUNING (TYPICAL)
SCALE: NTS

DRAWN: C.J.H. | DESIGN: C.J.H. | CHECKED: M.B. | REV. NO. 0

BASED ON PLANS PROVIDED BY EDA, SAN LOUIS OBISPO, CA

REV.	DATE	COMMENT	BY

INTERNATIONAL SOCIETY OF ARBORICULTURE · CARY HULSE · ISA No PD-1080A · CERTIFIED ARBORIST

thecareoftrees
tree preservation & land restoration division
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National 877.818.7337

709 LUCERNE ROAD
CAYUCOS, CALIFORNIA

TREE PRESERVATION PLAN

SCALE: 1" = 20'
DATE: 08/18/2010
SHEET NO: 2 OF 2

CONSTRUCTION SITE TREE INVENTORY AND TREE PROTECTION PLAN

709 Lucerne Road
Cayucos, CA

August 2010

Construction Site Tree Inventory and Tree Protection Plan
709 Lucerne Road, Cayucos, CA 93430

Prepared for:

Dr. Marshall S. Lewis
Pacific Orthopedic Medical Group
2619 F Street
Bakersfield, CA 93301

Prepared by:

Davey Resource Group
A Division of The Davey Tree Expert Company
1500 North Mantua Street
Kent, OH 44240

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Western Region Office
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Phone: (661) 964-7158

www.daveyresourcegroup.com

August 2010

Table of Contents

Summary

In August 2010, Davey Resource Group (DRG), a division of The Davey Tree Expert Company, was contracted by Marshall Lewis, Architect, to conduct a site inventory and assessment of thirteen (13) Monterey Cypress trees (*Cupressus macrocarpa*) at 709 Lucerne Road in Cayucos, California. The request was made in conjunction with a permit requirement for a proposed residential construction project on the site in accordance with the County of San Luis Obispo Coastal Land Use Ordinance Section 23.00.030-033 (ix). In addition, site trees requiring removal/replacement were requested to be identified consistent with the San Luis Obispo County Coastal Land Use Ordinance Sections 23.05.060 and 23.05.064.

An International Society of Arboriculture (ISA) Certified Arborist from Davey Resource Group conducted the site survey of the trees on August 13, 2010. The trees were assessed by their location, size, current condition, and overall health. The data was then used to determine any potential impacts from construction to the trees by overlaying the proposed project plans over the existing site conditions. The current edition of the ISA *Best Management Practices for Managing Trees During Construction* and other industry standards were also used to determine the potential impact on the trees of the proposed project.

The results of the analysis determined that, based on the proposed construction plans and the health of the existing trees, twelve (12) of the thirteen (13) Monterey Cypress would require removal and 1 Cypress tree should have specific tree preservation measures implemented before any construction activities begin. Although the specific construction plans for this project would cause fatal consequences to at least 9 of the 13 trees, it is likely that *any* new construction in the limited area available would have the same detrimental effects on the trees. Therefore, any significant development on this site would ultimately result in the removal of the identified trees.

Monterey Cypress trees add unique character and value to the skyline of the Central Coast. As a native tree to the area, many volunteer trees can be seen nearby. However, as these trees mature, their compatibility with existing buildings or new development located too close to the trees can cause significant conflicts with these structures. Because of this, DRG has also recommended some alternative species as potential replacements for the removed Monterey Cypress. These recommended trees will complement the new building and add to the value of the property, while maintaining the unique character of the local landscape.

Introduction

Background

As part of proposed construction projects, the County of San Luis Obispo requires site plans that include tree surveys that identify all significant trees greater than 8" in diameter measured at four feet above grade (DBH) that are within 50 feet of any proposed development per Land Use Ordinance 23.00.030-033 (ix). Tree surveys shall include the size, species, and condition of existing trees as well as the size and species of any replacement trees for trees identified for removal (23.05.062-064). Compliance with these ordinances was required for the project at 709 Lucerne Road in Cayucos, California.

Assignment

DRG was contracted to conduct the site survey of all thirteen (13) Monterey Cypress trees, as well as to identify which of the existing trees may be impacted by the proposed construction project to the extent that would require removal. In addition, DRG was to determine which trees, if any, could be retained. Recommendations for replacement trees for those proposed to be removed were also requested as part of this project. As part of this assignment, providing representation and support during hearings and other public presentations are expected.

Limits of Assignment

There are many factors that can limit specific and accurate data when performing evaluations of trees, their conditions, and response to site disturbances. Planting dates and maintenance records were not available to help determine tree age and care history. History of limb failures or other tree conflicts were also not available to assist in conclusive evaluations. The determinations and recommendations presented here are based on current data and conditions that existed at the time of the evaluations and cannot be a predictor of the ultimate outcomes for each tree during or after construction

How Trees are Impacted by Construction

Construction can affect trees in many ways. Often, the extent of the damage does not become apparent for several months or years after the construction is complete. Proper tree protection will not only benefit trees by reducing stress during construction, but will also benefit the developer or property owner by reducing the long-term costs associated with tree maintenance. The cost of removing a tree damaged or killed by construction is often far greater than the cost of protecting the tree during construction. Recognizing some of the more common hazards to trees in construction zones can benefit both the tree and the developer.

Figure 1. Improper storage of materials.

Injuries that often occur to trees in construction zones include:

- Mechanical injury to roots, trunk, or branches.
- Soil compaction from stored materials and equipment (Figure 1), which degrades root function, inhibits root growth, and restricts drainage.
- Damage, cuts, or suffocation of roots through changes in existing grade.
- Drought or flooding of the root zone through alteration of the water table or drainage.
- Loss or accumulation of soil in the root zone caused by a change in drainage patterns that promotes erosion or excessive accumulation of runoff.
- Sterile soil conditions associated with stripping off organic-rich topsoil.
- Chemical damage to roots from dumping or spilling liquids, or rinsing construction equipment.

Not all tree damage occurs during the actual construction of buildings and structures. Trees can also be damaged during the landscaping phase, after the heavy equipment and main work force has gone. Irrigation construction, topsoil applications, and turf installations can also cause damage to trees. Site monitoring after the construction phase is an important part of a successful Tree Protection Plan (TPP).

Purpose and Use of Report

The purpose of this report is to provide a site inventory of all Monterey Cypress trees located at 709 Lucerne in Cayucos, California, assess their condition and health, and to identify trees which may be impacted by the proposed construction on the site. The findings in this report can be used to make informed decisions on which trees should be removed, identify trees that can be retained, and which tree protection measures should be used to reduce the stress of retained trees. In addition, replacement tree species are also suggested in this report.

Observations

Methods

A combination of site tree data collection and project construction plan analysis were used to develop the findings, conclusions, and recommendations found in this report. Site data collection included measuring tree diameter at approximately 48 inches above grade (DBH, ISA Standards are 54 inches) and visual assessment of tree condition, structure, and health, as well as height estimation and distance from existing structures. Numerical values were given to each tree's attributes such as structure and canopy health to obtain an overall condition rating. Project plan evaluations consisted of reviewing proposed site changes with current conditions and how the new structure "footprint" would affect site trees.

Site Observations

A total of thirteen (13) live Monterey Cypress trees were surveyed at 709 Lucerne Road in Cayucos, CA. The 13 trees, which range in height from 25 to 45 feet, are located on level ground, and situated in a row along the east side of the property. Other than pruning for clearance over the street and above the old structure, there is no evidence of any significant pruning events within at least the previous five-year period. Significant deadwood, poor structure, and crowded canopies contribute to 12 of the 13 trees being in poor to fair condition. A brief description of each tree can be found below. A complete Tree Inventory and Condition Assessment can be found in Appendix D.

#1 – Monterey Cypress

Location: North end

DBH (Diameter at Breast Height): 20 inches

Canopy Radius (measured from trunk): 6 feet

Tree Characteristics: 1st tree on north end of property, 50% root exposed over 50' drop, lower limb failure, sparse, unhealed old cut, leans away from tree #2

Condition Rating: 47%

#2 – Monterey Cypress

Location: 6' from tree #1,

DBH: 17 inches

Canopy Radius: 5 feet

Tree Characteristics: 30% root exposed over cliff, poor top structure, leans toward cliff

Condition Rating: 53%

#3 – Monterey Cypress

Location: 7’ from tree #2

DBH: 20 inches

Canopy Radius: 10

Tree Characteristics: poor top structure, dense deadwood in canopy, best tree on north end

Condition Rating: 72%

#4 – Monterey Cypress

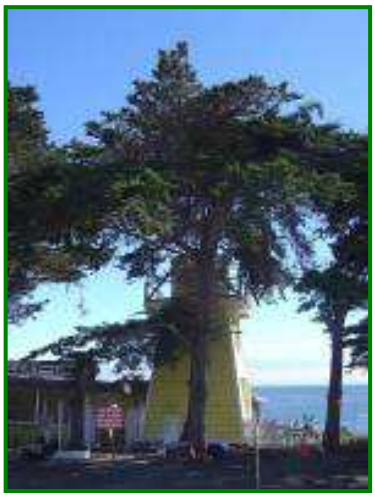
Location: 12’ from tree #3

DBH: 16 inches

Canopy Radius: 5 feet

Tree Characteristics: 10" dead stub with weak crotch, poor top

Condition Rating: 44%



#5 – Monterey Cypress

Location: 17’ from tree #4

DBH: 30 inches

Canopy Radius: 10 feet

Tree Characteristics: 7' from water tower, hangers, poor top, large gird roots on house side, large limb over tower

Condition Rating: 63%

#6 – Monterey Cypress

Location: 34’ from tree #5

DBH: 31 inches

Canopy Radius: 15 feet

Tree Characteristics: 11' from house, codom@10', lifting sidewalk, dense deadwood, leaders/limbs over house

Condition Rating: 56%

#7 – Monterey Cypress

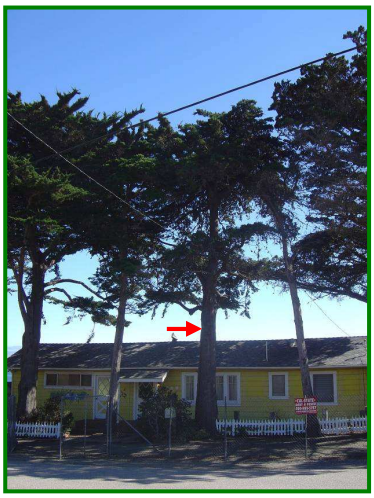
Location: 12’ from tree #6

DBH: 15 inches

Canopy Radius: 5 feet

Tree Characteristics: 10' from house, service drop attached to trunk, lean towards house, very overcrowded with sparse canopy

Condition Rating: 47%



#8 – Monterey Cypress

Location: 13’ from tree #7

DBH: 31 inches

Canopy Radius: 15 feet

Tree Characteristics: 9' from house, lean towards house, large lower limb over house is < 5' from roof, dense deadwood/broken limbs, poor top

Condition Rating: 66%

#9 – Monterey Cypress

Location: 12’ from tree #8

DBH: 16 inches

Canopy Radius: 5 feet

Tree Characteristics: 10' from house and completely crowded by tree #8 and 10, only 4 sparsely foliaged limbs

Condition Rating: 44%

#10 – Monterey Cypress

Location: 13’ from tree #9

DBH: 31 inches

Canopy Radius: 15 feet

Tree Characteristics: 8' from house, large 10" limbs over house, main leader leans over house, lower limbs touch roof, dense deadwood in canopy, old unhealed stubs on trunk

Condition Rating: 66%

#11 – Monterey Cypress
Location: 6’ from tree #10
DBH: 19 inches
Canopy Radius: 5 feet
Tree Characteristics: close to shed, severe lean towards tree #12, some lower foliage, crowded dense deadwood canopy, poor top
Condition Rating: 59%

#12 – Monterey Cypress
Location: 23’ from tree #11
DBH: 40 inches
Canopy Radius: 15 feet
Tree Characteristics: dense deadwood canopy, lean towards house, large lower limb 7' off ground, poor top structure
Condition Rating: 63%

#13 – Monterey Cypress
Location: 12’ from tree #12
DBH: 49 inches
Canopy Radius: 15 feet
Tree Characteristics: dense deadwood canopy (combined w/12), heavy end weight, cracked branches, unhealed stubs on trunk, unhealed cracked/cavity at base
Condition Rating: 63%

Analysis and Discussion

Evaluations of the site data indicated that 12 of the 13 trees at 709 Lucerne Road were in fair to poor condition and that seven (7) of the trees had a condition rating of less than 60%. Only tree #3 had a condition rating over 70%, indicating the trees have had limited maintenance and overall poor development. Many of the trees had been allowed to mature close to the existing structure and presented large limbs with heavy end weight growing over the building. Moreover, the close proximity of the trees to one another created dense canopies, which has suppressed leaf growth and increased deadwood in the upper scaffolding branches.

Proposed construction plans have been designed to utilize the entire existing building footprint as well as add a lower level parking garage and a second story above ground. In addition, grading plans suggest significant changes in grade (*swale*) as part of the project specifications. The resulting project will create new drainage patterns as well as additional paved areas.

Critical Root Zones (CRZ) are areas where feeder and structural roots are located under and around a tree. The CRZ can extend far beyond the tree canopy (*drip line*) and can increase in size as the diameter of the tree increases. As a general rule, up to 20% of the CRZ can be disrupted before a tree shows signs of distress or begins to decline.[1] Other factors also can influence the extent to which a tree can tolerate injury to their roots. Age, health, and vigor will play a major role in how a tree reacts to construction activities. Significant root pruning and grade changes can not only cause a tree to decline or die, but also affect the stability of a tree and how they may withstand wind and storms.

Construction activities also can harm the above ground parts of a tree. Removing large limbs for clearance can cause stress to the tree by reducing a tree's food generating capabilities. Excessive pruning also creates large wounds that may be slow to heal and open avenues of decay that can further weaken a tree's structure and stability. Improper pruning can also generate undesirable growth such as epicormic shoots (*suckers*).

The proposed construction plans would cause root pruning in excess of 50% on the western side of trees 6 through 13 and grade changes on the eastern side of trees 5 through 13. In addition, trees 6 through 13 will require significant limb removal to accommodate the second story of the new building. The extent of these activities will most certainly result in the death and/or instability of trees 5 through 13. Because of site size restrictions, even a single story structure would necessarily include these impacts. Finally, trees 1, 2, and 4 have very low condition ratings and are contributing to the decline of tree #3.

[1] http://www.treesaregood.com/treecare/avoiding_construction.aspx

Conclusion and Recommendations

Due to the proximity and type of the major construction activities, the overall health and structure of the surveyed trees, trees 5 through 13 should be entirely removed prior to demolition of the existing structure and changes to the grade on the site. Trees 1, 2, and 4 should also be carefully removed in order to allow tree #3 to be retained and to permit it to become the dominate tree on the north end of the property. The proper tree protection measures for tree #3 can be found in Appendix A. These tree protection measures should also be reviewed prior to post-construction activities such as landscaping and walkway/sidewalk installation. Additional measures may need to be established to ensure this tree can adapt to the new landscaping plans.

The unique growth habit and character of the Monterey Cypress trees help define coastal habitats and the skyline for the area. However, the limited growing space at 709 Lucerne Road makes this species a poor choice as replacement trees. DRG does not recommend replacing trees 5 through 13 with the same species. Many of the problems the trees currently have will return as the new Monterey Cypress mature. There are numerous seaside tree species that will not only tolerate salt air and high winds, but will add character and complement the new structure for years to come. Both Red Flowering Gum (*Eucalyptus ficifolia*) and New Zealand Christmas Tree (*Metrosideros excelsus*) would make excellent replacement trees and are highly rated for coastal climates.[2] Planting larger caliper trees in 36-inch boxes will result in minimal time before they achieve the desired effects. There are also many palms that will grow well under coastal conditions.

Removing trees is a difficult decision when developing property. Saving every tree is not always possible, but preserving trees that have the best chance for survival is a vital part of a new project. A properly designed Tree Protection Plan (TPP) balances the requirements of construction and development with appropriate tree and natural resource protection. The TPP should complement the legal framework of local tree ordinances and ensure that tree management during construction is conducted in a manner that is beneficial for both the general welfare of the public and the urban forest. The objective of the TPP is to strike a balance between the enhancement and protection of the entire community forest and the advancement of growth and economic development. Identifying strategies for protecting significant and heritage trees during construction activities ensures that the aesthetic and environmental benefits provided by these trees are also preserved.

Red Flowering Gum

[2] http://selectree.calpoly.edu/

Appendix A – Site Tree Protection Plan (Tree #3)

To ensure the protection of retained trees in construction areas, tree protection measures must be fully integrated into the development process. Tree protection must be a consideration during the planning and design stages of a project, as well as during all construction phases and post-construction activities. To be successful, a Tree Protection Plan (TPP) must have support and involvement from all stakeholders. After construction, it is critical that tree protection measures continue to ensure that all trees are recovering well and that stressed trees will not pose a risk in the months or years to follow. A successful TPP involves all phases of the development process, including pre-construction, construction, and post-construction.

Tree Preservation Specifications for Tree #3

1. General

1.1. All measures will be reviewed after installation and approved by owner and project arborist.

1.2. Refer to arborist report for additional information.

1.3. Substitutions or alternative methods or materials shall be reviewed and approved by project arborist.

1.4. All tree protection measures must be in place prior to commencement of demolition, site clearing, or construction and maintained throughout construction.

1.5. Refer to the Tree Protection Action Key (TPAK) in Appendix E for specific recommendations for each tree.

2. Removal by arborist

2.1. Trees designated as "removal by arborist" shall be removed by a qualified arborist "by hand," to minimize potential for damage to remaining trees and roots.

2.2. Crews shall be directly supervised by a certified arborist.

2.3. Trucks and mechanized equipment shall not enter the fenced tree protection areas.

2.4. Stumps shall be ground out. Roots shall remain to minimize erosion potential.

2.5. Stump grinding shall be with small machines specifically designed for that purpose. No stumps shall be excavated except as described herein. Stumps shall be ground not more than 6" below grade and care must be taken to minimize damage to roots of retained trees.

3. Tree protection fence

3.1. Typically, install after root pruning and prior to clearing and grading.

3.2. Fence shall be 4' high, 14-gauge welded wire fence mounted on 6' steel "t" posts spaced not more than 10' apart. Fence shall be attached to posts using galvanized steel clips or aluminum ties. Plastic "zip" ties shall not be used. (See detail below and Appendix C)

3.3. Tree protection area signs shall be affixed to all tree protection fencing at 50' spacing average. Signs shall not be affixed directly to trees. (See Appendix C and Appendix F) .

3.4. Silt fence shall be coordinated for installation to enhance protection and avoid unnecessary root cuts by silt fence installation.

3.5. Fence may be removed only after all construction and final landscaping is complete and with project arborist approval.

4. Root prune

4.1. The exact location and depth will be determined by project arborist during the pre-construction meeting. (See detail in Appendix C).

4.2. Hand prune roots over 1" diameter within CRZ' of significant trees. Steep slopes, deep excavations, and pavement/curb removal will be reviewed when open for hand root pruning during construction.

4.3. Coordinate with silt fence installation to minimize unnecessary root damage.

4.4. Root pruning shall be performed by a certified arborist.

5. Wood chip mulch

5.1. Install mulch bed rings for designated significant trees or provide continuous mulch strip 10' to 15' wide drip line and within preserved CRZ areas.

5.2. Mulch shall be installed to a depth of 4".

5.3. Mulch shall be double ground shredded hardwood, aged for at least 6 months from an approved source. Insufficiently or improperly aged mulch containing high bacterial counts or high levels of bark or other materials resistant to decomposition shall not be used. Mulch shall not contact trunk of trees.

5.4. Edging is neither necessary nor desirable for this operation.

6. Construction monitoring/inspections

6.1. A certified arborist shall make regular weekly inspections during active construction and demolition and provide reports to the owner and project arborist. Reports shall document condition of tree protection devices and provide recommendations for maintenance and/or additional care.

7. Miscellaneous tree protection requirements

7.1. No toxic materials shall be stored within 100' of tree protection areas.

7.2. All work in or near tree protection areas shall be performed in a manner to minimize damage to trees, shrubs, ground cover, soil, and root systems.

7.3. Mechanized equipment shall not be permitted to enter any tree protection areas.

8. Canopy pruning and support cables

8.1. Canopy pruning shall be cleaning pruning and/or restoration pruning and shall be in conformance with current ANSI A300 standards and ISA Best Management Practices.

8.2. Pruning shall remove only dead, dying, damaged, or broken branches greater than 1" in diameter. Pruning of small trees may include removal of limbs to improve structure.

8.3. Foliage removal shall not be more than 25% of the total live canopy volume of any tree in any one season. Pruning shall not remove interior branching except as otherwise stated.

8.4. Pruning for specific clearance (for construction access or proposed improvements) shall be reviewed and approved by the owner and project arborist.

8.5. Support cables (if required) shall be installed in conformance with current ANSI A300 standards and ISA Best Management Practices.

9. Construction strategies for tree protection

9.1. Construction staging, stockpiling equipment storage, etc. Shall be limited to areas of existing pavement and areas within the dripline except as otherwise noted.

9.2. Proposed landscape plantings inside tree protection areas shall be installed by hand. Mechanized equipment shall not be used within tree protection areas to excavate for plantings or for staging plant material.

9.3. Coordinate planting locations within CRZ' with the contract arborist to avoid unnecessary root damage. Planting pits within CRZ' should be dug by hand. Roots greater than 1.5" should not be cut.

10. Soil care/fertilization

10.1. Initial soil testing within tree protection areas is recommended. Conduct individual soil tests for separate tree protection areas (small adjacent areas may be tested together). Soil test shall be a representative sample from each area.

10.2. Treatments to the tree protection areas for specified trees (see TPAK) shall be based on the results of the soil analysis. Fertilization shall be consistent with the recommendations of the ANSI A300 (part 2) tree, shrub, and other woody plant maintenance – standard practices (fertilization) 2004.

10.3. Application rates shall not exceed a rate of 1 pound of actual slow released nitrogen per 1,000 square feet annually. Fertilizer used should include humic acids, soluble seaweed extracts, and soil biological inoculants.

11. Tree condition monitoring inspections

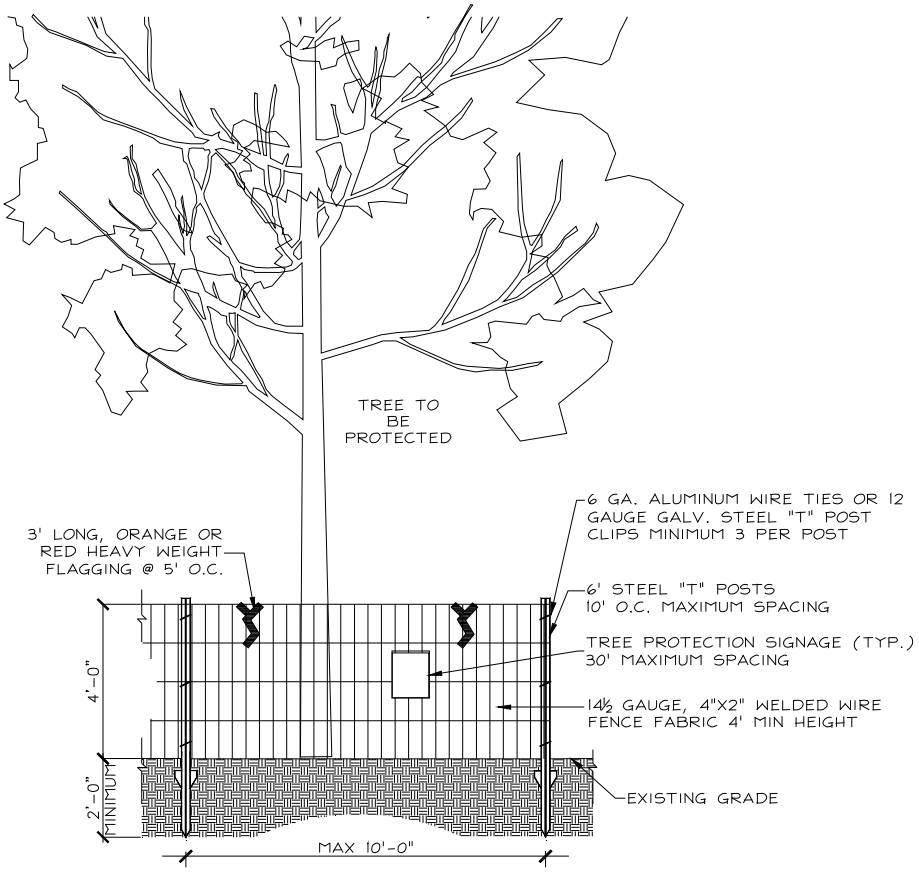
11.1. Contract arborist shall provide monitoring of the condition of retained trees in tree protection areas, and treatment of detrimental conditions (insects, diseases, nutrient deficiencies, soil moisture, etc.), as they occur, or as appropriate for effective management.

11.2. Inspections shall be performed at least monthly during the growing season, beginning prior to construction and continuing throughout construction and for at least one year subsequent to completion of construction activities.

11.3. A written summary report including specific treatments made and recommendations for additional treatments should be provided to the owner and project arborist subsequent to each inspection.

Additional Notes

1. Owner shall verify all tree locations and conditions prior to construction and/or treatment or removal.
2. Pre-construction meeting shall be held prior to commencement of demolition/ construction activity. Town urban forester, owner, design team members (project arborist, landscape architect, engineer, and architect), contract arborist, site, and landscape contractors shall attend.
3. The inspection of these trees consisted solely of a visual inspection from the ground. While more thorough techniques are available for inspection and evaluation, they were neither requested nor considered necessary or appropriate at this time.
4. Trees rated "poor" or "dead" that are not recommended for removal due to construction impact may warrant further evaluation and/or treatment or removal.



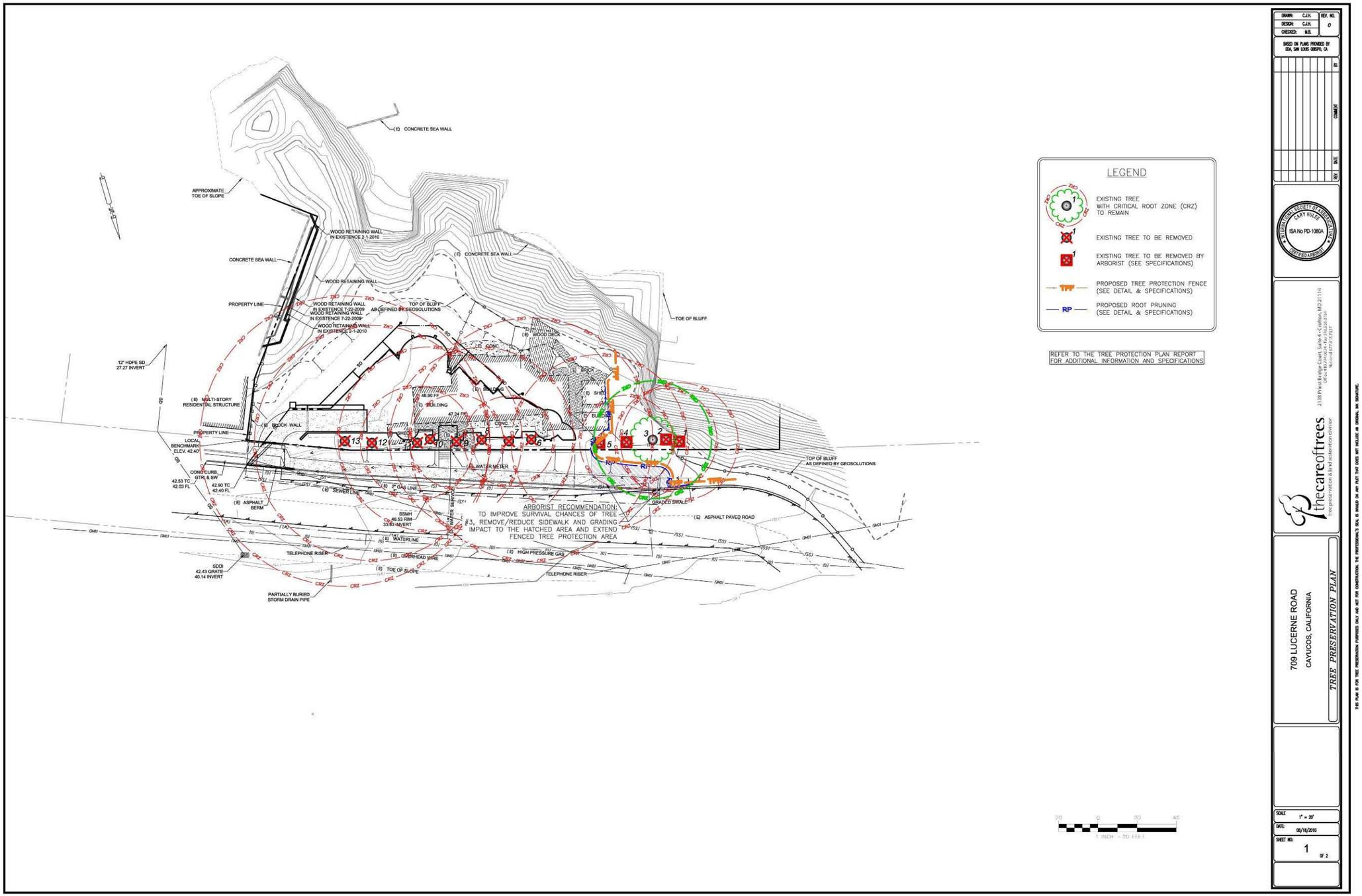
NOTES:

1. TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION.
2. WHERE REQUIRED, SUPER SILT FENCE MAY BE USED IN LIEU OF WELDED WIRE FOR TREE PROTECTION PROVIDED IT IS INSTALLED AND MAINTAINED AS A TREE PROTECTION MEASURE AND IS POSTED WITH TREE PROTECTION SIGNS.
3. TREE PROTECTION FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. REMOVE FENCE ONLY WITH APPROVAL AND AFTER ALL SITE WORK HAS BEEN COMPLETED.

1/2 WELDED WIRE TREE PROTECTION FENCE (TYPICAL)
SCALE: NTS

See Appendix C for Details.

Appendix B – Site Map Showing Significant Trees



TREE PRESERVATION SPECIFICATIONS

1. GENERAL
   - 1.1. ALL MEASURES WILL BE REVIEWED AFTER INSTALLATION AND APPROVED BY OWNER AND PROJECT ARBORIST.
   - 1.2. REFER TO ARBORIST REPORT FOR ADDITIONAL INFORMATION.
   - 1.3. SUBSTITUTIONS OR ALTERNATIVE METHODS OR MATERIALS SHALL BE REVIEWED AND APPROVED BY PROJECT ARBORIST.
   - 1.4. ALL TREE PROTECTION MEASURES MUST BE IN PLACE PRIOR TO COMMENCEMENT OF DEMOLITION, SITE CLEARING OR CONSTRUCTION AND MAINTAINED THROUGHOUT CONSTRUCTION.
   - 1.5. REFER TO THE TREE PROTECTION ACTION KEY (TPAK) FOR SPECIFIC RECOMMENDATIONS FOR EACH TREE.
2. REMOVAL BY ARBORIST
   - 2.1. TREES DESIGNATED AS "REMOVAL BY ARBORIST" SHALL BE REMOVED BY A QUALIFIED ARBORIST "BY HAND", TO MINIMIZE POTENTIAL FOR DAMAGE TO REMAINING TREES AND ROOTS.
   - 2.2. CREWS SHALL BE DIRECTLY SUPERVISED BY A CERTIFIED ARBORIST.
   - 2.3. TRUCKS AND MECHANIZED EQUIPMENT SHALL NOT ENTER THE FENCED TREE PROTECTION AREAS.
   - 2.4. STUMPS SHALL BE GROUND OUT. ROOTS SHALL REMAIN TO MINIMIZE EROSION POTENTIAL.
   - 2.5. STUMP GRINDING SHALL BE WITH SMALL MACHINES SPECIFICALLY DESIGNED FOR THAT PURPOSE. NO STUMPS SHALL BE EXCAVATED EXCEPT AS DESCRIBED HEREIN. STUMPS SHALL BE GROUND NOT MORE THAN 6" BELOW GRADE AND CARE MUST BE TAKEN TO MINIMIZE DAMAGE TO ROOTS OF RETAINED TREES.
3. TREE PROTECTION FENCE
   - 3.1. TYPICALLY, INSTALL AFTER ROOT PRUNING AND PRIOR TO CLEARING & GRADING.
   - 3.2. FENCE SHALL BE 4' HIGH, 14 GAUGE WELDED WIRE FENCE MOUNTED ON 6' STEEL "T" POSTS SPACED NOT MORE THAN 10' APART. FENCE SHALL BE ATTACHED TO POSTS USING GALVANIZED STEEL CLIPS OR ALUMINUM TIES. PLASTIC "ZIP" TIES SHALL NOT BE USED. (SEE DETAIL)
   - 3.3. TREE PROTECTION AREA SIGNS SHALL BE AFFIXED TO ALL TREE PROTECTION FENCE AT 50' SPACING AVERAGE. SIGNS SHALL BE BILINGUAL (ENGLISH AND SPANISH). SIGNS SHALL NOT BE AFFIXED DIRECTLY TO TREES. SEE DETAIL.
   - 3.4. SILT FENCE SHALL BE COORDINATED FOR INSTALLATION TO ENHANCE PROTECTION AND AVOID UNNECESSARY ROOT CUTS BY SILT FENCE INSTALLATION.
   - 3.5. FENCE MAY BE REMOVED ONLY AFTER ALL CONSTRUCTION AND FINAL LANDSCAPING IS COMPLETE AND WITH PROJECT ARBORIST APPROVAL.
4. ROOT PRUNE
   - 4.1. THE EXACT LOCATION AND DEPTH WILL BE DETERMINED BY PROJECT ARBORIST DURING THE PRE-CONSTRUCTION MEETING. (SEE DETAIL)
   - 4.2. HAND PRUNE ROOTS OVER 1" DIAMETER WITHIN CRZS OF SIGNIFICANT TREES. STEEP SLOPES, DEEP EXCAVATIONS AND PAVEMENT/CURB REMOVAL WILL BE REVIEWED WHEN OPEN FOR HAND ROOT PRUNING DURING CONSTRUCTION.
   - 4.3. COORDINATE WITH SILT FENCE INSTALLATION TO MINIMIZE UNNECESSARY ROOT DAMAGE.
   - 4.4. ROOT PRUNING SHALL BE PERFORMED BY A CERTIFIED ARBORIST.
5. WOOD CHIP MULCH
   - 5.1. INSTALL MULCH BED RINGS FOR DESIGNATED SIGNIFICANT TREES OR PROVIDE CONTINUOUS MULCH STRIP 10' TO 15' WIDE ALONG LOD WITHIN PRESERVED CRZ AREAS.
   - 5.2. MULCH SHALL BE INSTALLED TO A DEPTH OF 4".
   - 5.3. MULCH SHALL BE DOUBLE GROUND SHREDDED HARDWOOD, AGED FOR AT LEAST 6 MONTHS FROM AN APPROVED SOURCE. INSUFFICIENTLY OR IMPROPERLY AGED MULCH CONTAINING HIGH BACTERIAL COUNTS OR HIGH LEVELS OF BARK OR OTHER MATERIALS RESISTANT TO DECOMPOSITION SHALL NOT BE USED. MULCH SHALL NOT CONTACT TRUNK OF TREES.
   - 5.4. EDGING IS NEITHER NECESSARY NOR DESIRABLE FOR THIS OPERATION.
6. CONSTRUCTION MONITORING/INSPECTIONS
   - 6.1. A CERTIFIED ARBORIST SHALL MAKE REGULAR WEEKLY INSPECTIONS DURING ACTIVE CONSTRUCTION AND DEMOLITION AND PROVIDE REPORTS TO THE OWNER AND PROJECT ARBORIST. REPORTS SHALL DOCUMENT CONDITION OF TREE PROTECTION DEVICES AND PROVIDE RECOMMENDATIONS FOR MAINTENANCE AND/OR ADDITIONAL CARE.
7. MISCELLANEOUS TREE PROTECTION REQUIREMENTS
   - 7.1. NO TOXIC MATERIALS SHALL BE STORED WITHIN 100' OF TREE PROTECTION AREAS.
   - 7.2. ALL WORK IN OR NEAR TREE PROTECTION AREAS SHALL BE PERFORMED IN A MANNER TO MINIMIZE DAMAGE TO TREES, SHRUBS, GROUND COVER, SOIL AND ROOT SYSTEMS.
   - 7.3. MECHANIZED EQUIPMENT SHALL NOT BE PERMITTED TO ENTER ANY TREE PROTECTION AREAS.
8. CANOPY PRUNING & SUPPORT CABLES
   - 8.1. CANOPY PRUNING SHALL BE CLEANING PRUNING AND/OR RESTORATION PRUNING AND SHALL BE IN CONFORMANCE WITH CURRENT ANSI A300 STANDARDS AND ISA BEST MANAGEMENT PRACTICES.
   - 8.2. PRUNING SHALL REMOVE ONLY DEAD, DYING, DAMAGED OR BROKEN BRANCHES GREATER THAN 1" IN DIAMETER. PRUNING OF SMALL TREES MAY INCLUDE REMOVAL OF LIMBS TO IMPROVE STRUCTURE.
   - 8.3. FOLIAGE REMOVAL SHALL NOT BE MORE THAN 25% OF THE TOTAL LIVE CANOPY VOLUME OF ANY TREE IN ANY ONE SEASON. PRUNING SHALL NOT REMOVE INTERIOR BRANCHING EXCEPT AS OTHERWISE STATED.
   - 8.4. PRUNING FOR SPECIFIC CLEARANCE (FOR CONSTRUCTION ACCESS OR PROPOSED IMPROVEMENTS) SHALL BE REVIEWED AND APPROVED BY THE OWNER AND PROJECT ARBORIST.
   - 8.5. SUPPORT CABLES (IF REQUIRED) SHALL BE INSTALLED IN CONFORMANCE WITH CURRENT ANSI A300 STANDARDS AND ISA BEST MANAGEMENT PRACTICES.
9. CONSTRUCTION STRATEGIES FOR TREE PROTECTION
   - 9.1. CONSTRUCTION STAGING, STOCKPILING EQUIPMENT STORAGE, ETC. SHALL BE LIMITED TO AREAS OF EXISTING PAVEMENT AND AREAS WITHIN THE LOD EXCEPT AS OTHERWISE NOTED.
   - 9.2. PROPOSED LANDSCAPE PLANTINGS INSIDE TREE PROTECTION AREAS SHALL BE INSTALLED BY HAND. MECHANIZED EQUIPMENT SHALL NOT BE USED WITHIN TREE PROTECTION AREAS TO EXCAVATE FOR PLANTINGS OR FOR STAGING PLANT MATERIAL.
   - 9.3. COORDINATE PLANTING LOCATIONS WITHIN CRZS WITH THE CONTRACT ARBORIST TO AVOID UNNECESSARY ROOT DAMAGE. PLANTING PITS WITHIN CRZS SHOULD BE DUG BY HAND. ROOTS GREATER THAN 1.5" SHOULD NOT BE CUT.
10. SOIL CARE/ FERTILIZATION
   - 10.1. INITIAL SOIL TESTING WITHIN TREE PROTECTION AREAS IS REQUIRED. CONDUCT INDIVIDUAL SOIL TESTS FOR SEPARATE TREE PROTECTION AREAS (SMALL ADJACENT AREAS MAY BE TESTED TOGETHER). SOIL TEST SHALL BE A REPRESENTATIVE SAMPLE FROM EACH AREA.
   - 10.2. TREATMENTS TO THE TREE PROTECTION AREAS FOR SPECIFIED TREES (SEE TPAK) SHALL BE BASED ON THE RESULTS OF THE SOIL ANALYSIS. FERTILIZATION SHALL BE CONSISTENT WITH THE RECOMMENDATIONS OF THE ANSI A-300 (PART 2) TREE, SHRUB, AND OTHER WOODY PLANT MAINTENANCE –STANDARD PRACTICES (FERTILIZATION) 2004.
   - 10.3. APPLICATION RATES SHALL NOT EXCEED A RATE OF 1 POUND OF ACTUAL NITROGEN PER 1,000 SQUARE FEET ANNUALLY. FERTILIZER USED SHOULD INCLUDE HUMIC ACIDS, SOLUBLE SEAWEED EXTRACTS AND SOIL BIOLOGICAL INOCULANTS.
11. TREE CONDITION MONITORING INSPECTIONS
   - 11.1. CONTRACT ARBORIST SHALL PROVIDE MONITORING OF THE CONDITION OF RETAINED TREES IN TREE PROTECTION AREAS, AND TREATMENT OF DETRIMENTAL CONDITIONS (INSECTS, DISEASES, NUTRIENT DEFICIENCIES, SOIL MOISTURE, ETC.), AS THEY OCCUR, OR AS APPROPRIATE FOR EFFECTIVE MANAGEMENT.
   - 11.2. INSPECTIONS SHALL BE PERFORMED AT LEAST MONTHLY DURING THE GROWING SEASON, BEGINNING PRIOR TO CONSTRUCTION AND CONTINUING THROUGHOUT CONSTRUCTION AND FOR AT LEAST ONE YEAR SUBSEQUENT TO COMPLETION OF CONSTRUCTION ACTIVITIES.
   - 11.3. A WRITTEN SUMMARY REPORT INCLUDING SPECIFIC TREATMENTS MADE AND RECOMMENDATIONS FOR ADDITIONAL TREATMENTS SHALL BE PROVIDED TO THE OWNER AND PROJECT ARBORIST SUBSEQUENT TO EACH INSPECTION.

TREE PROTECTION ACTION KEY

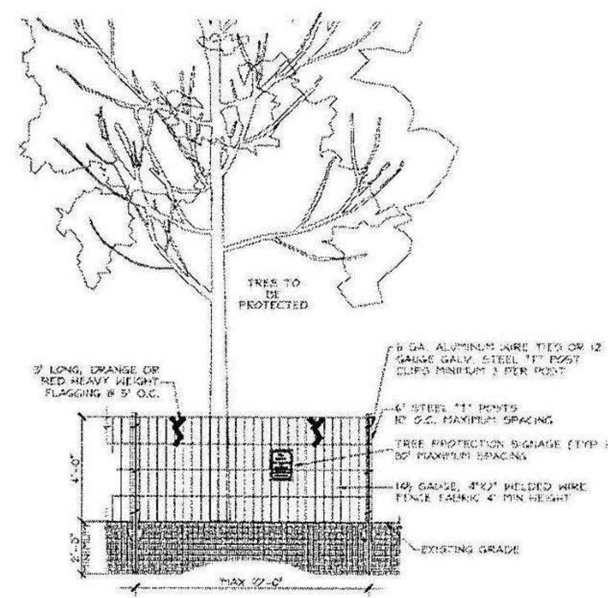
Tree #	DBH (Diameter at 4.5 feet above grade)	Common Name	Condition Rating %	Condition Rating	Approx Canopy Radius (FT)	Approx Height (FT)	CRZ Critical Root Zone Radius in Feet	Removal	Removal By Arborist	Root Prune	Tree Protection Fence	Mulch	Soil Care	Tree Growth Regulator	Tree Condition Inspections	Temp. Root Protection Matt	Construction Oversight/Monitoring	Support Cable	Canopy Prune	Additional Notes	Condition Notes
1	20	Monterey Cypress	47	Poor	6	25	30		X											1st tree on north end of property, 50% root exposed over 50' drop, lower limb failure, sparse, unhealed old cut, leans away from #2	Narrow Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Root Dam/Decay, Trunk Decay, Broken Limbs, Weak Union, Suppressed, Stressed, Trunk Scar,
2	17	Monterey Cypress	53	Fair	5	25	26		X											6' from tree #1, 30% root exposed over cliff, poor top structure, lean towards cliff	One Sided, Large DW (3"+), Small DW (1-2"), Compacted Soils, Root Dam/Decay, Trunk Decay, Broken Limbs, Suppressed, Stressed,
3	20	Monterey Cypress	72	Good	10	35	30			X	X	X	X		X		X			7' from tree #2, poor top structure, dense deadwood in canopy	Full Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Broken Limbs, Suppressed,
4	16	Monterey Cypress	44	Poor	5	25	24		X											12' from tree #3, 10" dead stub with weak crotch, poor top	Narrow Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Trunk Decay, Branch Decay, Broken Limbs, Weak Union, Suppressed, Stressed,
5	30	Monterey Cypress	63	Fair	10	35	45		X											17' from tree #4, 7' from H2O tower, hangers, poor top, large gird roots on house side, large limb over tower	Full Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Broken Limbs, Suppressed,
6	41	Monterey Cypress	56	Fair	15	45	62	X												34' from tree #5, 11' from house, codom@10', lifting sidewalk, dense deadwood, leaders/limbs over house	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Branch Decay, Broken Limbs, Included Bark, Weak Union, Suppressed, Stressed,
7	15	Monterey Cypress	47	Poor	5	30	23	X												12' from tree #6, 10' from house, service drop attached to trunk, lean towards house, very overcrowded with sparse canopy	Narrow Crown, Large DW (3"+), Small DW (1-2"), Broken Limbs, Suppressed, Stressed, Overhead Utility,
8	31	Monterey Cypress	66	Fair	13	35	47	X												13' from tree #7, 9' from house, lean towards house, large lower limb over house is < 5' from roof, dense deadwood/broken limbs, poor top	Full Crown, Large DW (3"+), Small DW (1-2"), Broken Limbs, Suppressed,
9	16	Monterey Cypress	44	Poor	5	30	24	X												12' from tree # 8, 10' from house, completely crowded by tree #8 & 10, only 4 sparsely foliaged limbs	Narrow Crown, Large DW (3"+), Small DW (1-2"), Suppressed, Stressed,
10	31	Monterey Cypress	66	Fair	13	40	47	X												13' from tree #9, 8' from house, large 10" limbs over house, main leader leans over house, lower limbs touch roof, dense deadwood in canopy, old unhealed stubs on trunk	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Broken Limbs, Suppressed,
11	19	Monterey Cypress	59	Fair	5	40	29	X												6' from tree #10, close to shed, severe lean towards tree #12, some lawn foliage, crowded dense deadwood canopy, poor top.	Narrow Crown, Large DW (3"+), Small DW (1-2"), Broken Limbs, Suppressed, Stressed,
12	40	Monterey Cypress	63	Fair	15	40	60	X												23' from tree #11, dense deadwood canopy, lean towards house, large lower limb 7' off ground, poor top structure	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Branch Decay, Broken Limbs, Suppressed,
13	49	Monterey Cypress	63	Fair	15	45	74	X												12' from tree #12, dense deadwood canopy (combined w/12), downward (heavy end weight) limbs, cracked branches, unhealed stubs on trunk, unhealed cracked/cavity at base	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Branch Decay, Broken Limbs,

ADDITIONAL NOTES:

1. *OWNER SHALL VERIFY ALL TREE LOCATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND/OR TREATMENT OR REMOVAL.*
2. *PRE-CONSTRUCTION MEETING SHALL BE HELD PRIOR TO COMMENCEMENT OF DEMOLITION/CONSTRUCTION ACTIVITY. TOWN URBAN FORESTER, OWNER, DESIGN TEAM MEMBERS (PROJECT ARBORIST, LANDSCAPE ARCHITECT, ENGINEER AND ARCHITECT), CONTRACT ARBORIST, SITE AND LANDSCAPE CONTRACTORS SHALL ATTEND.*
3. *THE INSPECTION OF THESE TREES CONSISTED SOLELY OF A VISUAL INSPECTION FROM THE GROUND. WHILE MORE THOROUGH TECHNIQUES ARE AVAILABLE FOR INSPECTION AND EVALUATION, THEY WERE NEITHER REQUESTED NOR CONSIDERED NECESSARY OR APPROPRIATE AT THIS TIME.*
4. *TREES RATED "POOR" OR "DEAD" THAT ARE NOT RECOMMENDED FOR REMOVAL DUE TO CONSTRUCTION IMPACT MAY WARRANT FURTHER EVALUATION AND/OR TREATMENT OR REMOVAL.*

Definitions:

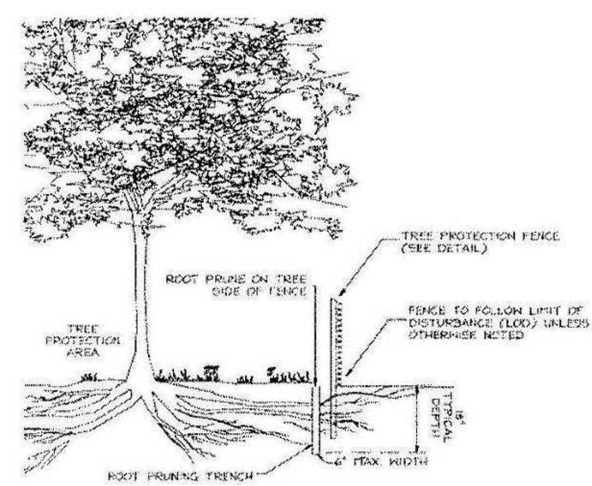
- Certified Arborist: Credential of an individual arborist issued and administered by the International Society of Arboriculture. This credential must be current and valid to qualify to use the copyrighted designation of "Certified Arborist". Refer to www.isa-arbor.com for additional information.
- Project Arborist: Arboricultural firm contracted to provide site investigation and documentation (tree inventories, assessments, forest stand delineations, etc.) and develop tree preservation plans, methods, details and specifications in collaboration with the project design team.
- Contract Arborist: Arboricultural firm contracted to implement the approved tree preservation plans on site. All crews conducting arboricultural operations on site shall consist of at least one Certified Arborist who directly oversees all work by that crew. Arboricultural operations include, but are not limited to, pruning, tree protection device installation and maintenance (fence, matting, etc.), root pruning, air tool root excavation/exploration, soil care activities, soil testing, mulch application, tree inspections, pesticide/chemical applications and tree removal.



NOTES:

1. TREE PROTECTION FENCE SHALL BE INSTALLED PRIOR TO ANY SITE WORK, CLEARING OR DEMOLITION.
2. WHERE REQUIRED, SUPER SILT FENCE MAY BE USED IN LIEU OF WELDED WIRE FOR TREE PROTECTION PROVIDED IT IS INSTALLED AND MAINTAINED AS A TREE PROTECTION MEASURE AND IS POSTED WITH TREE PROTECTION SIGNS.
3. TREE PROTECTION FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. REMOVE FENCE ONLY WITH APPROVAL AND AFTER ALL SITE WORK HAS BEEN COMPLETED.

1/2 WELDED WIRE TREE PROTECTION FENCE (TYPICAL)
SCALE: NTS



NOTE:

1. TREE PROTECTION AREA WILL BE DETERMINED AS PART OF THE PLAN REVIEW PROCESS. EXACT LOCATION, DEPTH AND METHODS OF ROOT PRUNING TO BE DETERMINED IN THE FIELD BY PROJECT ARBORIST.
2. EXACT LOCATION OF TREE PROTECTION AREAS SHALL BE STAKED OR FLAGGED PRIOR TO TRENCHING.
3. TRENCH SHOULD BE BACKFILLED IMMEDIATELY OR INCORPORATED WITH SILT FENCE INSTALLATION.
4. ROOTS SHOULD BE SEVERED BY TRENCHER, VIBRATORY PLOW OR APPROVED EQUIVALENT. ROOTS OVER 1.5" DIAMETER SHOULD BE CLEANLY CUT BY HAND. ROOT PRUNING ADJACENT TO SPECIMEN TREES MAY REQUIRE SOIL REMOVAL BY SUPERSONIC AIR TOOL TO MINIMIZE TREE AND ROOT IMPACTS.

2/2 ROOT PRUNING (TYPICAL)
SCALE: NTS

DRAWN:	C.J.K.
DESIGN:	C.J.K.
CHECKED:	N.B.
REV. NO.	0

BASED ON PLANS PROVIDED BY ... SAN LUIS OBISPO, CA

ISA No PD-1080A

thecareoftrees.

709 LUCERNE ROAD
CAYUCOS, CALIFORNIA

TREE PRESERVATION PLAN

SCALE: 1" = 30'
DATE: 06/16/2010
SHEET NO: 2 OF 2

Exhibit 4
Page 24 of 39

Appendix D – Tree Inventory and Condition Assessment

Tree #	Dbh (in.)	Species	Roots*		Trunk*		Scaffold Branches*		Twigs	Foliage**	Total	Condition Rating (%)	Condition	Critical Root Zone Radius (feet)	Canopy Radius (feet)	Height (feet)	Comments	Full Crown,	Narrow Crown,	One Sided,	Large DW (3"+),	Small DW (1-2"),	Compacted Soils,	Root Dam/Decay,	Trunk Decay,	Basal Decay,	Branch Decay,	Broken Limbs,	Included Bark,	Weak Union,	Suppressed,	Stressed,	Hardware,	Vines,	Trunk Scar,	Overhead Utility,
			H	S	H	S	H	S	H	H																										
1	20	Monterey Cypress	2	3	2	2	2	1	1	2	15	47%	Poor	30	6	25	1st tree on north end of property. 50% root exposed over 50' drop, lower limb failure, sparse, unhealed old cut, leans away from #2		x		x	x	x	x	x			x		x	x	x			x	
2	17	Monterey Cypress	2	3	2	2	2	2	2	2	17	53%	Fair	26	5	25	6' from tree #1, 30% root exposed over cliff, poor top structure, lean towards cliff			x	x	x	x	x	x			x			x	x				
3	20	Monterey Cypress	3	3	3	3	2	3	3	3	23	72%	Good	30	10	35	7' from tree #2, poor top structure, dense deadwood in canopy	x			x	x	x					x			x					
4	16	Monterey Cypress	3	3	2	1	1	1	2	1	14	44%	Poor	24	5	25	12' from tree #3, 10" dead stub with weak crotch, poor top		x		x	x	x		x		x	x		x	x	x				
5	30	Monterey Cypress	3	2	3	2	3	2	2	3	20	63%	Fair	45	10	35	17' from tree #4, 7' from H2O tower, hangers, poor top, large gird roots on house side, large limb over tower	x			x	x	x					x			x					
6	41	Monterey Cypress	3	2	3	2	3	2	2	1	18	56%	Fair	62	15	45	34' from tree #5, 11' from house, codom@10', lifting sidewalk, dense deadwood, leaders/limbs over house	x			x	x			x		x	x	x	x	x	x				
7	15	Monterey Cypress	3	3	2	2	2	1	1	1	15	47%	Poor	23	5	30	12' from tree #6, 10' from house, service drop attached to trunk, lean towards house, very overcrowded with sparse canopy		x		x	x						x			x	x				x
8	31	Monterey Cypress	3	3	3	3	2	2	2	3	21	66%	Fair	47	15	35	13' from tree #7, 9' from house, lean towards house, large lower limb over house is < 5' from roof, dense deadwood/broken limbs, poor top	x			x	x						x			x					
9	16	Monterey Cypress	3	3	2	2	1	1	1	1	14	44%	Poor	24	5	30	12' from tree # 8, 10' from house, completely crowded by tree #8 & 10, only 4 sparsely foliaged limbs.		x		x	x									x	x				
10	31	Monterey Cypress	3	3	3	2	3	2	2	3	21	66%	Fair	47	13	40	13' from tree #9, 8' from house, large 10" limbs over house, main leader leans over house, lower limbs touch roof, dense deadwood in canopy, old unhealed stubs on trunk	x			x	x			x			x			x					
11	19	Monterey Cypress	3	3	3	2	2	2	2	2	19	59%	Fair	29	5	40	6' from tree #10, close to shed, severe lean towards tree #12, some lower foliage, crowded dense deadwood canopy, poor top.		x		x	x						x			x	x				
12	40	Monterey Cypress	3	2	3	2	2	2	3	3	20	63%	Fair	60	15	40	23' from tree #11, dense deadwood canopy, lean towards house, large lower limb 7' off ground, poor top structure	x			x	x			x		x	x			x					
13	49	Monterey Cypress	3	2	2	2	3	2	3	3	20	63%	Fair	74	15	45	12' from tree #12, dense deadwood canopy (combined w/12), downward (heavy end weight) limbs, cracked branches, unhealed stubs on trunk, unhealed cracked/cavity at base	x			x	x			x		x	x								

Appendix E – Tree Protection Action Key

Tree #	DBH (Diameter at 4' above grade)	Common Name	Condition Rating %	Condition Rating	Approx Canopy Radius (FT)	Approx Height (FT)	CRZ Critical Root Zone Radius in Feet	Removal	Removal By Arborist	Recommended Preservation Measures										Additional Notes	Condition Notes
										Root Prune	Tree Protection Fence	Mulch	Soil Care	Tree Growth Regulator	Tree Condition Inspections	Temp Root Protection Matt	Construction Oversight/Monitoring	Support Cable	Canopy Prune	
1	20	Monterey Cypress	47	Poor	6	25	0		**X**												1st tree on north end of property. 50% root exposed over 50' drop, lower limb failure, sparse, unhealed old cut, leans away from #2	Narrow Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Root Dam/Decay, Trunk Decay, Broken Limbs, Weak Union, Suppressed, Stressed, Trunk Scar,
2	17	Monterey Cypress	53	Fair	5	25	0		**X**												6' from tree #1, 30% root exposed over cliff, poor top structure, lean towards cliff	One Sided, Large DW (3"+), Small DW (1-2"), Compacted Soils, Root Dam/Decay, Trunk Decay, Broken Limbs, Suppressed, Stressed,
3	20	Monterey Cypress	72	Good	10	35	0			X	X	X	X		X		X				7' from tree #2, poor top structure, dense deadwood in canopy	Full Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Broken Limbs, Suppressed,
4	16	Monterey Cypress	44	Poor	5	25	0		**X**												12' from tree #3, 10" dead stub with weak crotch, poor top	Narrow Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Trunk Decay, Branch Decay, Broken Limbs, Weak Union, Suppressed, Stressed,
5	30	Monterey Cypress	63	Fair	10	35	0		**X**												17' from tree #4, 7' from H2O tower, hangers, poor top, large gird roots on house side, large limb over tower	Full Crown, Large DW (3"+), Small DW (1-2"), Compacted Soils, Broken Limbs, Suppressed,
6	41	Monterey Cypress	56	Fair	15	45	0	**X**													34' from tree #5, 11' from house, codom@10', lifting sidewalk, dense deadwood, leaders/limbs over house	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Branch Decay, Broken Limbs, Included Bark, Weak Union, Suppressed, Stressed,
7	15	Monterey Cypress	47	Poor	5	30	0	**X**													12' from tree #6, 10' from house, service drop attached to trunk, lean towards house, very overcrowded with sparse canopy	Narrow Crown, Large DW (3"+), Small DW (1-2"), Broken Limbs, Suppressed, Stressed, Overhead Utility,
8	31	Monterey Cypress	66	Fair	15	35	0	**X**													13' from tree #7, 9' from house, lean towards house, large lower limb over house is < 5' from roof, dense deadwood/broken limbs, poor top	Full Crown, Large DW (3"+), Small DW (1-2"), Broken Limbs, Suppressed,
9	16	Monterey Cypress	44	Poor	5	30	0	**X**													12' from tree # 8, 10' from house, completely crowded by tree #8 & 10, only 4 sparsly foliaged limbs.	Narrow Crown, Large DW (3"+), Small DW (1-2"), Suppressed, Stressed,
10	31	Monterey Cypress	66	Fair	13	40	0	**X**													13' from tree #9, 8' from house, large 10" limbs over house, main leader leans over house, lower limbs touch roof, dense deadwood in canopy, old unhealed stubs on trunk	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Broken Limbs, Suppressed,
11	19	Monterey Cypress	59	Fair	5	40	0	**X**													6' from tree #10, close to shed, severe lean towards tree #12, some lower foliage, crowded dense deadwood canopy, poor top.	Narrow Crown, Large DW (3"+), Small DW (1-2"), Broken Limbs, Suppressed, Stressed,
12	40	Monterey Cypress	63	Fair	15	40	0	**X**													23' from tree #11, dense deadwood canopy, lean towards house, large lower limb 7' off ground, poor top structure	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Branch Decay, Broken Limbs, Suppressed,
13	49	Monterey Cypress	63	Fair	15	45	0	**X**													12' from tree #12, dense deadwood canopy (combined w/12), downward (heavy end weight) limbs, cracked branches, unhealed stubs on trunk, unhealed cracked/cavity at base	Full Crown, Large DW (3"+), Small DW (1-2"), Trunk Decay, Branch Decay, Broken Limbs,

WARNING

TREE PROTECTION ZONE (TPZ)

- No grade change, storage of materials, vehicles or equipment is permitted within this TPZ
- No cleaning of equipment near this TPZ
- No unauthorized entry
- This tree protection barrier must not be removed without the written authorization of the County of San Luis Obispo and Supervision by the Project Arborist

Appendix G – Definitions

For the purpose of the guidelines set forth in the Tree Protection Plan and interpretation of the standards and specifications therein, the following definitions shall apply:

Construction Site Management – refers to management of construction activities during three phases of site development: pre-construction, construction, and post-construction. These activities include BMPs for soils, shrubs, trees, drainage patterns, and irrigation systems. Tree preservation is a special concern during construction because tree roots can often extend throughout an entire site, and preservation of mature trees can increase property value.

Critical Root Zone (CRZ) – the circular area around the base of a tree calculated as at least half the distance to the trees drip line.

Development Project – means any construction activity including demolition, grading, drainage improvements, new construction of main house or accessory structures, added square footage to existing main house or accessory structures, site preparation and landscaping.

Diameter at Breast Height (DBH) – the diameter of the tree trunk at four feet (or 48 inches) above natural grade level. The diameter may be calculated by using the following formula: DBH= circumference at 4-feet/3.14.

Disturbance – refers to any construction or development activities that may damage trees.

Drip line – means the width of the tree, as measured by the lateral extent of the foliage.

Excessive Pruning – means removing in excess of 25 percent of the functioning branch and/or leaf surface. Pruning in excess of 25 percent is injurious to the tree and is prohibited.

Injury – means bruising, scarring, tearing or breaking of roots, bark, trunk, branches or foliage; chemical poisoning, including herbicide; and/or any other action, which is likely to cause death or permanent damage to a tree.

Mechanical Injury – means a noninfectious injury, which can disrupt vascular flow, introduce pathogens, and often leads to poor growth, a damaged appearance, or death of the tree. Common causes of mechanical injury are contact by landscape maintenance equipment, staking damage, vehicles, vandalism, weather, insects, and animals.

Monthly Inspection Report – means a monthly written report prepared by the Project Arborist.

Project Arborist – means a tree care professional retained by the owner for overseeing on-site activity involving the welfare of the trees to be retained.

Project Manage – refers to either the person assigned to the construction project by the department or the contractor who is responsible for managing the overall project. Project management duties include schedule, budget, and related logistics, including construction site management.

Protective Tree Fencing – means a temporary enclosure erected around a tree to be protected at the boundary of the **Tree Protection Zone (TPZ).**

Root Buffer – a temporary layer of material to protect the soil texture and roots. The buffer shall consist of a base course of tree chips spread over the root area to a minimum of 6-inch (6") depth, geotextile matting and capped by a layer of three-quarter-inch (¾") quarry gravel (as directed).

Site Plan (Base Map) – means a set of drawings (e.g. preliminary drawings, grading, demolition, building, utilities, landscape, irrigation, tree survey, etc.) that show existing site conditions and proposed landscape improvements, including trees to be removed, relocated

or to be retained. Site plans shall include the following minimum information that may affect trees:

A. Surveyed location, species, size, and drip line area of *significant* (including trees located on neighboring property that overhang the project site) and Street Trees within 30 feet of the project site.
B. Paving, concrete, trenching, or grade change located within the **Tree Protection Zone (TPZ).**
C. Existing and proposed utility pathways.
D. Surface and subsurface drainage and aeration systems to be used.
E. Walls, tree wells, retaining walls, and grade change barriers, both temporary and permanent.
F. Landscaping, irrigation, and lighting within TPZ of trees.
G. All of the final approved site plan sheets shall reference tree protection instructions.

Soil Compaction – the compression of soil particles that may result from the movement of heavy machinery and trucks, storage of construction materials, structures, paving, etc., within the tree protection zone. Soil compaction can result in atrophy of roots and potential death of the tree, with symptoms often taking three to ten (3 to 10) years to manifest.

Soil Fracturing – means the loosening of hard or compacted soil around a tree.

Street Tree – means any tree growing within the street right of way, outside of private property.

Tree Appraisal – means a method of determining the monetary value of a tree as it relates to the real estate value of the property, neighborhood, or community.

Tree Protection Plan (TPP) – means a plan prepared by a Certified Arborist that outlines measures to protect and preserve trees.

Tree Protection Zone, (TPZ) – means, unless otherwise specified by a Project Arborist and City Staff, the area of tree protection with fenced enclosure.

Tree Protection Fencing – a temporary enclosure erected around a tree to be protected at the boundary of the tree protection zone. Tree protection fencing should consist of, unless otherwise indicated, six-foot (6') high chain link fence, mounted on 2-inch diameter galvanized iron posts, driven into the ground to a depth of at least two (2) spaced no more than ten (10) feet apart. The fence serves three primary functions: 1) to keep the crown, branch structure and trunk clear from direct contact and damage by equipment, materials or disturbances; 2) to preserve roots and soil in an intact and non-compacted state; and 3) to identify the tree protection zone in which no soil disturbance is permitted and activities are restricted.

Trenching – means any excavation to provide irrigation, install foundations, utility lines, services, pipe, drainage, or other property improvements below grade.

Verification of Tree Protection – means the Project Arborist shall verify, in writing, that all pre-construction requirements have been met.

Vertical Mulching – means auguring, hydraulic or air excavation of vertical holes within a tree's root zone to loosen and aerate the soil, typically to mitigate **Soil Compaction.**

Volunteer – seedlings or saplings of native or assimilated tree species that establish themselves outside a parent tree canopy

Warning Sign – a warning sign shall be prominently displayed on each fence. The sign shall be a minimum of 8.5 x 11 inches and clearly state: "WARNING – Tree Protection Zone – This fence shall not be removed and any injury to this or these trees is subject to penalty."

DAVEY RESOURCE GROUP
A Division of The Davey Tree Expert Company

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1500 North Mantua Street
P.O. Box 5193
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Direct 805-286-0181
Michael.bova@davey.com

September 1, 2010

Dr. Marshall Lewis
Pacific Orthopedic Medical Group
2619 F Street
Bakersfield, CA 93301

RE: Supplemental Information on the Arborist Report for 709 Lucerne, Cayucos, CA

Dear Dr. Lewis:

Per your request, Davey Resource Group is providing supplemental and supporting information for the project at 709 Lucerne in Cayucos, CA. The clarifications and summarizations in this letter *do not* replace any information provided in the comprehensive Arborist Report provided to you on August 23, 2010, but serves to address the specific questions you had following the San Luis Obispo County Planning Meeting that was held on August 26, 2010.

Of specific concern to you was whether landowners, who were seeking building permits, are ***required*** to preserve any trees located on the development site. According to the County of San Luis Obispo Coastal Land Use Ordinance Section (applicable sections with emphasis added):

> **23.05.064 Tree Removal Standards**
> **b. Removal criteria.** *A tree may be removed only when the tree is <u>any</u> of the following:*
>
> (4) *Obstructing existing or proposed improvements that cannot be <u>reasonably designed</u> to avoid the need for tree removal <u>or</u>*
>
> (7) *To be replaced by a tree that will provide equal or better shade, screening, solar efficiency or visual amenity within a 10-year period, as verified in writing by a registered landscape architect, licensed landscaping contractor or certified nurseryman.*
>
> **e. Preservation of trees and natural vegetation.** *New development shall incorporate design techniques and methods that minimize the need for tree removal.*

These sections indicate that you are not required to save all the trees on the site. The restrictions placed on the development lot size are in conflict with the tree ordinances making it difficult to avoid removing the trees. By denying the setback variance, the Commission is attempting to save the trees. Any new development on the site would require the variance so that there would be adequate building space. Therefore, the trees will eventually need to be removed if development is to take place on the property.

In addition, you expressed concern regarding the extent of tree roots and the success of tree preservation measures when developing the property with the existing trees. Tree roots can extend up to three times the diameter of a tree's drip line or up to two times the trunk diameter measured at 54" above grade (DBH).[1] DRG used an acceptable International Society of Arboriculture standard of 1.5 times a tree's DBH to determine a safe critical root zone (CRZ) as defined in the original Arborist Report submitted.

Of greater importance is the potential damage to the root plate, the area around the base of the tree that contains the major structural or anchor roots (Figure 1).[2] The smallest tree on the site had a DBH of 15 inches, giving it a CRZ of over 22 feet and a root plate of approximately 7.5 feet. Based on this assessment and the proximity to the new structure, ten of the 13 trees on the site would suffer significant damage to the root zone, resulting in irreparable damage to the trees stability and their ability to survive the damage from construction.

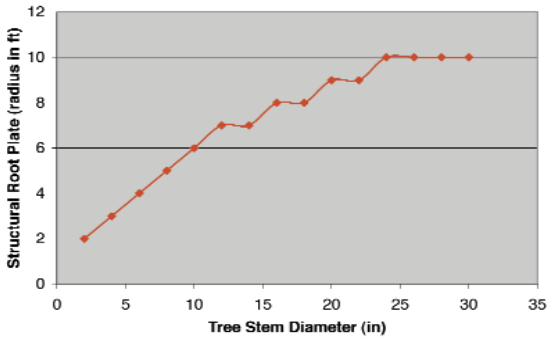


Figure 1 *Size of the structural root plate in relation to tree stem diameter. Trenching should stay outside this radial distance to protect the root plate (Coder 1996).*

Conclusions and Recommendations

San Luis Obispo County regulations require tree preservation *only* if design modifications can be made and when sound arboricultural practices are acceptable or applicable to preserve the trees. DRG's original report demonstrated that only one tree, #3, should be preserved, and that the remaining trees either were compromised by the proposed construction, or will inhibit the growth of the remaining tree.

In addition, it may be helpful to research the neighboring properties and their development permits, to determine if the removal of Monterey Cypress trees were included in their permit applications. The fact that your property contains a few remaining Cypress trees in the immediate area may indicate previous rulings by the Planning Commission that authorized the removal of such trees.

Thank you once again and please feel free to contact me at 805-286-0181 or michael.bova@davey.com if you would like more information or have any questions.

Sincerely,

Michael J. Bova

Michael J. Bova
Project Coordinator
Davey Resource Group
Certified Arborist WE3372A

[1] 2004 Mississippi State University Extension Service.
[2] Coder,K. 1996.Construction damage assessments: trees and sites. University of Georgia Cooperative Extension Service Forest Resources Bulletin FOR96-39. Athens: University of Georgia: 23.

Carolyn B. Leach Consulting, L.L.C.
444 Blume Street, Nipomo, CA 93444
(805)929-9020
W.C.I.S.A. Certified Arborist #727

August 3, 2012

Dr. Marshall S. Lewis
2619 F Street
Bakersfield, CA 93301

RE: 709 Lucerne Avenue, Cayucos, California

Dear Dr. Lewis:

I have completed my review of the project proposed for your property on Lucerne Avenue and visited the site to view the existing trees. In addition, I have read the two previous Arborist's reports. I would now like to provide you with my opinions regarding the trees.

My expertise with Monterey cypress trees spans over 30 years as a horticulturist and arborist, including at Cypress Ridge Golf Course and Development as landscape manager. My work includes growing, planting, and caring for over 1,000 Monterey cypress ranging in size from seedlings to mature specimens over 80 feet tall.

The plan that I reviewed is the Preliminary Grading Plan, sheets 1 and 2, were drawn by EDA, dated June 24, 2010. The arborist's reports were by Davey Resource Group (DRG), dated August 24, 2010, and by Robert Schreiber, dated August 23, 2010.

My visit to the property took place on August 1, 2012.

Project Proposal

The project involves removal and rebuilding of the existing residence. The new structure will include a below ground parking garage directly below the new home. Significant excavation will occur to construct the structural foundation and all other below ground portions of the home.

Current Tree Condition

Thirteen Monterey cypress (*Cupressus macrocarpa*) trees exist on the site, located in a row along the street frontage. In this report, I will refer to the trees by the numbering system in the DRG report. I have also attached a sketch (Exhibit A) with this report indication the tree numbers. The trees appear to have been planted approximately 30-50 years ago as part of the landscaping for the existing residence. They vary is trunk diameter from 15 – 49 inches (as measured by DRG), but at ground level their trunks flare out to up to seven feet wide (tree #13).

I found the trees to be in similar conditions as was reported and photographed by DRG two years previously. In addition, I found a fair amount of cracked, twisted, and broken branches within the canopies of the trees, especially in trees #12 and 13. All of the trees showed moderate vigor, with the exception of tree #9, which was poor, and tree #7, which was very poor.

Trees #1 and 2 are undermined by cliff erosion. Tree #2 is leaning slightly over the cliff and holds all of its canopy weight over the cliff.

Impact of Project

As indicated by both previous Arborists reports, the project will have significant impacts to the site trees. Trees #1-4 appear to be away from significant construction activity. Tree #5 is closer to the construction area, as well as closer to the existing structure, but may be preserved by slightly altering the work close to its trunk (see Exhibit B for additional mitigation). Trees #6-13 will have a large amount (50%) of their root system removed during excavation work, including important structural buttress roots. In addition, part of the above ground buttress and lower trunk areas will be removed at trees #6, 8, 9, 10, and 13.

The removal of roots and buttresses at these trees will result in immediate severe structural compromise to the trees. Entire tree failure could occur at any time, including during construction work while work crews are present beneath the trees. The trees could fall in any direction, including onto the roadway.

Should trees #6-13 remain in place and the project built, the trees will be dehydrated from the loss of roots, and become attractive to cypress bark borers. This ubiquitous insect is a frequent cause of death in dry cypress trees in our area. The borers can kill a cypress tree within a few months of initial attack.

Trees #1-5 can be preserved if protected during construction. This protection must begin before any work on the project begins, including demolition of the existing structure. See Exhibit B for additional mitigation measures to implement.

Trees to remain can be improved by pruning, which will reduce branching defects and remove deadwood. In addition, their vigor and longevity can be improved by providing irrigation, especially during dry summer months. Heavy branch weight can be reduced at trees #1 and 2, which will reduce the "pull" of the trees over the cliff edge. This will not, however, diminish the affect of further cliff erosion beneath the trees due to wave or rainfall action on the soil. See Exhibit B for further pruning recommendations.

Review of DRG and Schreiber Reports

The DRG report provides detailed information on the condition of each individual tree. I agree with their findings of tree characteristics, such as poor structure and crowded canopies. Several of the trees they classed as "fair" I showed as "moderate". Their conclusion that the removal of 50% of the roots will cause death and / or instability is correct. They state that tree #5 should be removed, but this may not be the case if the northwest corner of the house (specifically the landscape wall extension) has an altered foundation that reduces the amount of grading. They also state that trees #1, 2, and 4 are contributing to the decline of tree #3 – which I disagree with. DRG also recommends replacing the removed trees with other species, while I believe Monterey cypress are a good replacement species. The DRG protection plan is very good.

The report that Robert Schreiber provides is more general in nature, and it provides no individual assessment of the trees. His characterization of the property as being in a "wind corridor" lacks foundation. In the 4th paragraph of page one, he states that if you remove any trees at this property, the remaining will be subject to wind-throw, and he provides a quote from Methany & Clark's Trees and Development (1998) as his basis. I believe the quote has been taken out of context, as the authors are discussing suppressed trees in large stands. I have provided the entire paragraph in Exhibit C at the end of this report.

I agree with Schreiber that it appears there is no reasonable site alternative for this project that will not have a high impact on the trees. He believes that Monterey cypress is more intolerant of construction disturbance than other species – in my experience that has not been the case.

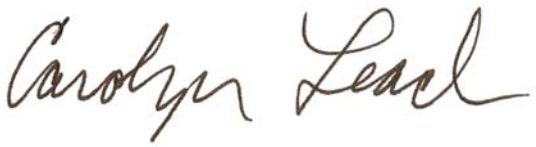
Conclusions

All three arborists agree that, at least for trees #6-13, that the trees will not survive the impacts of the project. Where we differ is in our conclusions. I agree with the DRG report that trees #6-13 should be removed and mitigated. I believe that trees #1-5 can remain. Schreiber believes the project should be re-designed with "removal of the basement and excavation portions" - yet he admits that there is no reasonable site alternative. He also believes the root protection zone should be 1.25 feet for every inch of trunk diameter – which is up to 61 feet away from the trees. That would put the new house or other improvements on the cliff face, cantilevered over the ocean.

Should the project go forward, and replacement trees be planted for mitigation, I am providing information on the growth rates on Monterey cypress on Exhibit D within this report.

Please let me know if you have any further questions.

Sincerely,



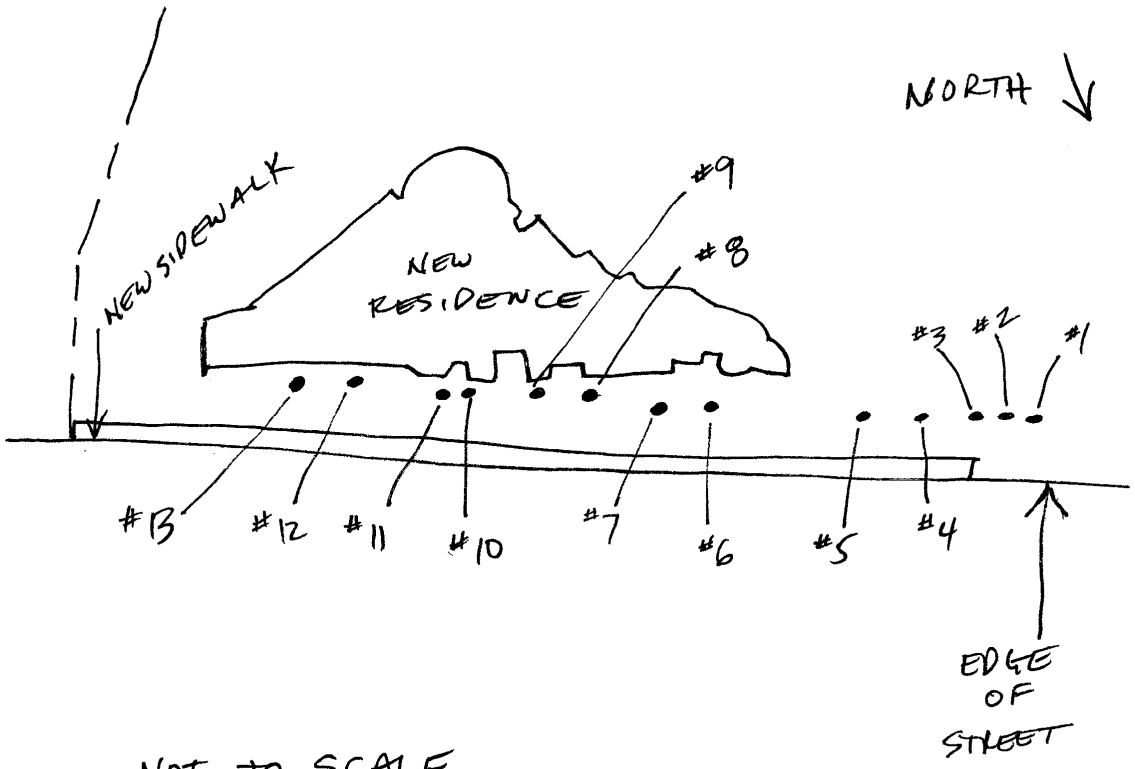
Carolyn B. Leach
Consulting Arborist

Limiting Conditions

Information in this report covers only the trees examined and reflects the conditions of the trees at the time of inspection. There is no warranty, either express or implied, that the subject trees will not develop problems or deficiencies in the future. Sources of information used in this report are accepted as standard resources; however, the author cannot guarantee the accuracy of information provided by others. Possession of this report or a copy thereof does not imply the right of publication or use for any purpose by any other than the person to whom it is addressed, without the prior written consent of the consultant. Loss or alteration of this report invalidates the entire report. The inspection is limited to visual examination of tree location, as viewed from the ground, without dissection, excavation, probing, or coring. No review of tree structural conditions or hazard potential has been provided.

No part of this report is to be viewed as engineering, surveying, or any other trade other than arboriculture. All recommended design changes are to be reviewed by the appropriate professional prior to implementing.

EXHIBIT A – Tree Locations



NOT TO SCALE

8/3/12

BY CAROLYN LEACH

EXHIBIT B – Additional mitigation for trees #1 – 5:

1. No grading shall occur within 12 feet of trees #1-4. Support new sidewalk using alternative methods. Should retaining walls be installed in this area, they shall be the type requiring no footing.
2. Tree Protection shall be as shown in the DRG report of August 24, 2010, and shall be with the approval of the Project Arborist.
3. Demolition of the existing structure shall occur in such a manner as to provide continual protection of the roots and soil areas beneath tree #1 – 5. Contractor shall exercise caution to fell all materials away from the trees to remain. Contractor shall work with Project Arborist to develop an effective strategy for the demolition phase of the work. This may include using smaller equipment, such as a backhoe positioned on the south side of tree #5, which can more carefully pull the existing foundation material away from the tree trunk. Project Arborist shall provide continual monitoring of the demolition and excavation work directly adjacent to tree #5.
4. Site grading at Tree #5 shall be with the approval of the Project Arborist, and shall be limited to grading for foundation construction only. No additional site grading or soil contouring shall occur closer than eight feet from the trunk of Tree #5, and be further limited to more than 20% impact to the entire root area. Any required site drainage shall be accomplished using alternative methods.
5. Pruning shall occur as shown in the DRG report of August 24, 2010, and shall occur in winter months only. Pruning for trees #1 and 2 shall remove approximately 50% of the branch weight to reduce the pull of the tree over the cliff edge. Do not rope climb trees #1 and 2 or any portion of any tree overhanging the cliff. Tree workers shall utilize a bucket truck to perform work. Pruning for trees #3, 4, and 5 shall remove no more than 25% of the living canopy of these trees.

EXHIBIT C

Trees and Development, 1998, Matheny and Clark, published by International Society of Arboriculture, pg 71, second paragraph

"The best candidates for retention as single trees are those that have developed as individual specimens because they typically have uniform canopies and well-tapered trunks. In some cases, dominant trees that have developed in stands also can be retained alone. For the most part, trees that have developed in stands, particularly intermediate and suppressed trees, will not function well as individuals. They have tall, poorly tapered trunks, high, irregularly shaped crowns, and are prone to failure and decline when their neighbors are removed. Not only are the trees unstable, but they contribute little to the appearance or landscape quality of the new project. They quickly become liabilities to the project rather than assets."

EXHIBIT D

Monterey Cypress Growth Rates

Size at planting - 24” or 36” box containers: 8’ tall and 6’ wide.

At 2 years: 12’ tall and 10’ wide

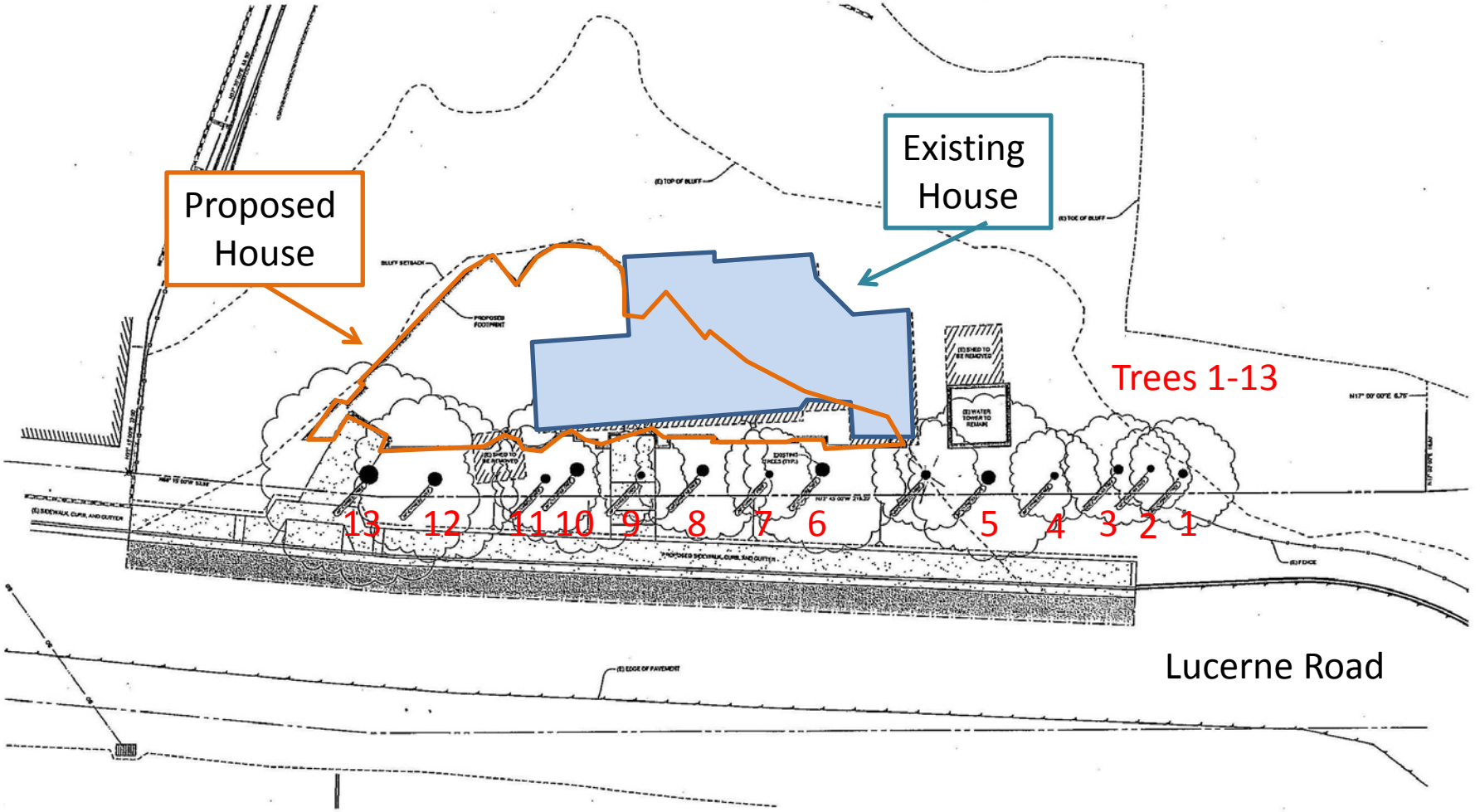
At 5 years: 15 – 18’ tall and 15’ wide

At 10 years: 24-26’ tall and 24’ wide

Note: this assumes proper planting, irrigation, and maintenance are provided

Growth results from Cypress Ridge Golf Course and Development, Arroyo Grande, California, consisting of:

- On-site nursery production from seedling to 36” boxed containers
- 200 mature cypress - to 80 feet tall
- Total tree management area – 210 acres
- Total cypress population – over 1,000 trees



	Existing Residence	Proposed Residence	Difference
Footprint	2,810 square feet	2,845 square feet	+ 1%

FOOTPRINT COMPARISON

FOR

LEWIS RESIDENCE

709 LUCERNE

CAYUCOS, CALIFORNIA

PREPARED FOR:
Owners/Applicant:
MARSHALL LEWIS, MD
2619 F STREET
BAKERSFIELD, CA 93301

Contact Person:
Marshall Lewis, AIA

eda Project Manager:
Paul Relchardt

PREPARED BY:

eda

TREE MITIGATION PLAN

TREE MITIGATION NOTES

SAN LUIS OBISPO CERTIFIED LOCAL COASTAL PLAN TREE REMOVAL STANDARDS:

23.05.064 - Tree Removal Standards.

Removal criteria. *A tree may be removed only when the tree is any of the following:*
(1) *Dead, diseased beyond reclamation, or hazardous;*
(2) *Crowded, with good horticultural practices dictating thinning;*
(3) *Interfering with existing utilities, structures or right-of-way improvements;*
(4) *Obstructing existing or proposed improvements that cannot be reasonably designed to avoid the need for tree removal;*
(5) *Inhibiting sunlight needed for either active or passive solar heating or cooling, and the building or solar collectors cannot be oriented to collect sufficient sunlight without total removal of the tree;*
(6) *In conflict with an approved fire safety plan where required by Section 23.05.080;*
(7) *To be replaced by a tree that will provide equal or better shade, screening, solar efficiency or visual amenity within a 10-year period, as verified in writing by a registered landscape architect, licensed landscaping contractor or certified nurseryman.*

BACKGROUND:

The existing Monterey Cypress trees located along the front of the property, originally planted as street trees many decades ago, have been evaluated by arborists, biologists and cultural resource experts. These trees were not identified in either the Cogstone Cultural Report (March 2010), the Mitigated Negative Declaration for the project, or the Estero Area Plan as a significant historic resource or community feature.

The cypress trees along the project street frontage have been deemed to be in various states of declining health, are not identified as ESHA or as a sensitive resource according to the LCP, and are not identified in the Estero Area Plan as a significant historic resource or community feature. All three arborists contributing written evaluations have noted their crowded condition. Both the applicants' and appellants' arborists agree that any construction within the building envelope and outside of the required bluff setbacks will negatively impact these trees.

The multiple Arborist Reports prepared for the project indicated that the root zone of the trees encroach the entire length and width of the building envelope. Therefore, any project proposed within the buildable area of the site (outside of bluff setbacks) would impact the trees. Carolyn Leach, an arborist specializing in Monterey Cypress Tree management, concluded in her report: "there is no reasonable site alternative for this project that will not have a high impact on the trees".

The County determined that any development on the site would negatively impact the root zones of the trees and ultimately result in the death of some trees over time because the root zones stretch across almost the entire parcel.

MONTEREY CYPRESS TREE MITIGATION PROGRAM:

In order to mitigate these impacts and enhance the visual and habitat value of the site, all removed trees will be replaced at a 2:1 ratio with healthy Monterey Cypress trees, both at the site (where such replacement plantings can also help to screen the development) and in other appropriate locations in Cayucos where they will become a community visual amenity.

Every attempt to limit tree removals and impacts will be made. However, in order to fully mitigate the potential impact of the project, the following mitigation strategy shall be implemented:

- Trees 1 through 5 will be protected in place to the greatest extent feasible during construction, and will be replaced at a 2:1 ratio when they eventually expire.
- An arborist will monitor all trees on the site throughout construction.
- Trees will be pruned and removed only at the direction of the project arborist, based upon a thorough evaluation of each tree's health and hazard.
- All replacement Monterey Cypress trees will be generously sized to achieve significant screening immediately and are anticipated to reach 24' to 26' height within ten years.
- All replacement trees shall be monitored by the project arborist for a period of not less than five (5) years.

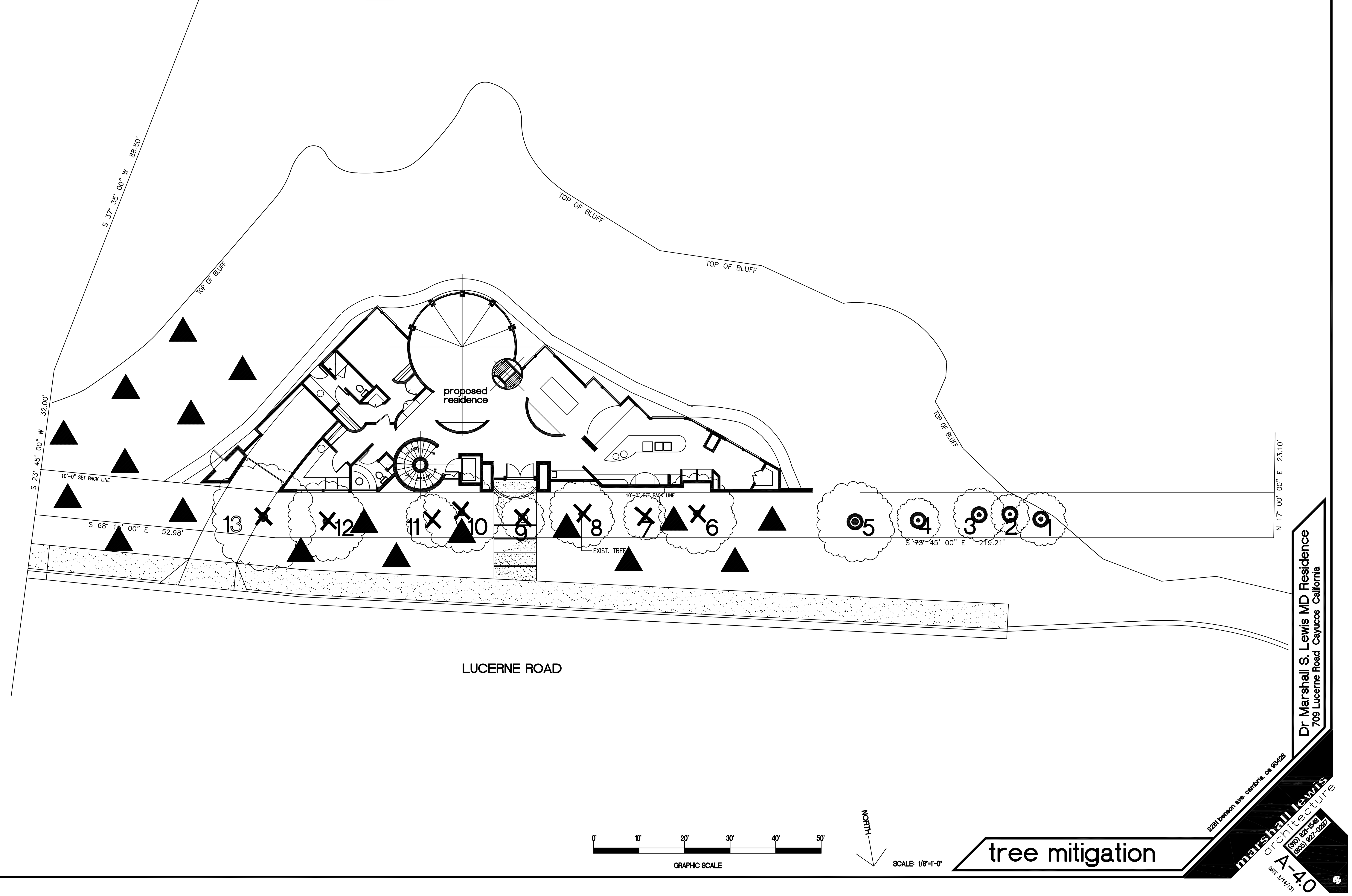
LEGEND

1 TREE NUMBERS

× TREE PROPOSED FOR REMOVAL

o TREE PROPOSED FOR PROTECTION

▲ REPLACEMENT CYPRESS TREE LOCATION



GeoSolutions, INC.

2370 Skyway Drive, Suite 104, Santa Maria, CA 93455
(805)614-6333, (805)614-6322 fax
SBinfo@geosolutions.net

220 High Street, San Luis Obispo, CA 93401
(805)543-8539, (805)543-2171 fax
info@geosolutions.net

January 18, 2012
Project No. SL07201-3

Dr. Marshall Lewis
c/o Marshall Lewis, Architect
2271 Benson Avenue
Cambria, California 93428

Subject: Discussion of Groundwater
709 Lucerne Road, APN: 064-281-009
Cayucos Area of San Luis Obispo County, California

Dear Dr. Lewis:

1.0 INTRODUCTION

This letter presents a discussion of groundwater at 709 Lucerne Road, APN: 064-281-009, Cayucos area of San Luis Obispo County, California. This letter acknowledges a "Water Sources" letter prepared by Cleath-Harris Geologists, Inc. (CHG).

2.0 DISCUSSION OF GROUNDWATER

A Geologic Coastal Bluff Evaluation has been performed for the parcel and geologic conditions have been described in documents cited in the attached reference list. Additionally, two piezometers have been installed at the subject property to verify groundwater levels as stated by CHG. Franciscan Complex formational units were encountered approximately 22 to 25.5 feet below ground surface as identified during sub-surface investigations at the property. Overlying the formational unit are Marine Terrace Deposits. Plate 1A is a Geologic Map of the property and Plate 1B is a cross section through the property.

2.1 Discussion of Letter from Cleath-Harris Geologists

GeoSolutions, Inc. is in receipt of a June 16, 2011 letter by Cleath-Harris Geologists (CHG) that describes water sources at Cayucos Point, San Luis Obispo. The letter states that a concrete spring cistern is located at 707 Lucerne Road which adjoins the subject parcel to the southeast. The CHG letter states "The spring cistern receives flow from a pipe that extends into the bluff. The origin of the spring water is most likely from the basal sands and shell hash in the terrace deposits that are at an approximate elevation of 20-25 feet above mean sea level. These terrace deposits rest on a bedrock of Cretaceous Franciscan Complex metamorphic rock. This bedrock is a dense rock that is typically impermeable but, in places, has been faulted and can store groundwater within fractures and joints".

GeoSolutions, Inc. is in agreement with the statement that spring water is from the basal portion of the terrace deposits and within Franciscan Complex rock; this is verified by the measured depth to water encountered in PZ-2 at a depth of approximately 24.5 feet below land surface. The CHG letter states "the overflow from the spring collection box was measured at 0.42 gallons per minute. The mineral quality of the water is typical of groundwater from marine terrace deposits and from the underlying Franciscan Complex rock."

2.2 General Discussion

Plate 1A is a geologic map of the subject property depicting approximate piezometer locations and boring logs drilled during a site investigation for a soils engineering report (MidCoast Geotechnical, Inc., July 30, 2009). Plate 1B presents a cross section (A-A') depicting proposed basement for the proposed residence. Groundwater depth is depicted at a depth of approximately 24.5 feet below land surface as encountered within PZ-2. The separation between the bottom of the basement and groundwater is approximately 13 feet.

During completion of referenced documents by GeoSolutions, Inc., slope stability analysis was conducted for the bluff at the subject property. The Slope stability analysis utilized groundwater levels that are 2 to 4 feet above the Franciscan bedrock – Terrace Deposit interface; the addition of groundwater at a height that is higher than that observed at the site allowed for a conservative element to be incorporated into the stability modeling.

2.3 Piezometer Installation

On December 28, 2011 two piezometers were installed at the subject property to measure groundwater levels as stated by CHG. Plate 1 depicts the approximate location of the piezometers PZ-1 and PZ-2 and piezometer logs are presented at the end of this letter. Piezometer PZ-1 was drilled to a depth of 14 feet below land surface (bls). PZ-1 was constructed with 3-inch casing with 10 feet of screen casing at the bottom and 3.5 feet of blank casing at the top; PZ-1 is set at 13.5 feet bls. Piezometer PZ-2 was drilled to a depth of 25.8 feet bls. PZ-2 was constructed with 3-inch casing with 20 feet of screen casing at the bottom and 5.6 feet of blank casing at the top; PZ-2 is set at 25.65 feet bls. Groundwater levels within the piezometers are provided in Table 1.

TABLE 1 – GROUND WATER LEVELS

Date of Reading	Groundwater Level PZ-1 (depth of PZ-1 is 13.5 feet bls)	Groundwater Level PZ-2 (depth of PZ-2 is 25.65 feet bls)
December 28, 2011 (drill date)	No water	24.5 feet bls
January 5, 2012	No water	24.35 feet bls

2.4 Conclusion

It is recognized that groundwater at the subject property at 709 Lucerne Road is at a depth of approximately 24.5 feet bls as verified by PZ-2. CHG has stated that spring water is most likely from basal sands and shell hash in the terrace deposits and the bedrock can store groundwater within fractures and joints. GeoSolutions, Inc. agrees with CHG's assessment of groundwater with the measurement of groundwater within the piezometers. Proposed basement depth for the residence at 709 Lucerne Road is to be approximately 11 feet below land surface. As an added conservative measure, GeoSolutions, Inc. has recommended that engineering of the proposed residence incorporate drainage for the basement. However, there appears to be an approximate 13 foot separation between the bottom of the basement and the depth to groundwater; the affect of the basement on the groundwater appears very low.

Thank you for the opportunity to have been of service. If you have any questions, please contact the undersigned at (805) 543-8539.

Sincerely,
GeoSolutions, Inc.

John Kammer, C.E.G. #2118
Senior Engineering Geologist

S:\jobs\SL07000-SL07499\SL07201-3 - 709 Lucerne Piez\Geology\SL07201-2 Response to Cleath letter.doc

REFERENCE DOCUMENTS

Brian Papurello, Landset Engineers, Inc., dated December 3, 2009, Review of Geologic Coastal Bluff Evaluation, Lewis Residence, 709 Lucerne Avenue (APN 064-281-009), Cayucos Area of San Luis Obispo County, California.

Brian Papurello, Landset Engineers, Inc., dated June 20, 2011, Review of Supplemental Bluff Stability Analysis, Lewis Residence, 709 Lucerne Avenue (APN 064-281-009), Cayucos Area of San Luis Obispo County, California.

Cleath-Harris Geologists, Inc., June 16, 2011, Water Sources, Cayucos Point, San Luis Obispo County, Letter to Mr. John Black.

GeoSolutions, Inc., Geologic Coastal Bluff Evaluation, 709 Lucerne Road, APN: 064-281-009, a, San Luis Obispo, California, Project No. SL07201-1, dated August 14, 2009.

GeoSolutions, Inc., Geologic Coastal Bluff Evaluation, 709 Lucerne Road, APN: 064-281-009, a, San Luis Obispo, California, Project No. SL07201-1, dated September 9, 2009.

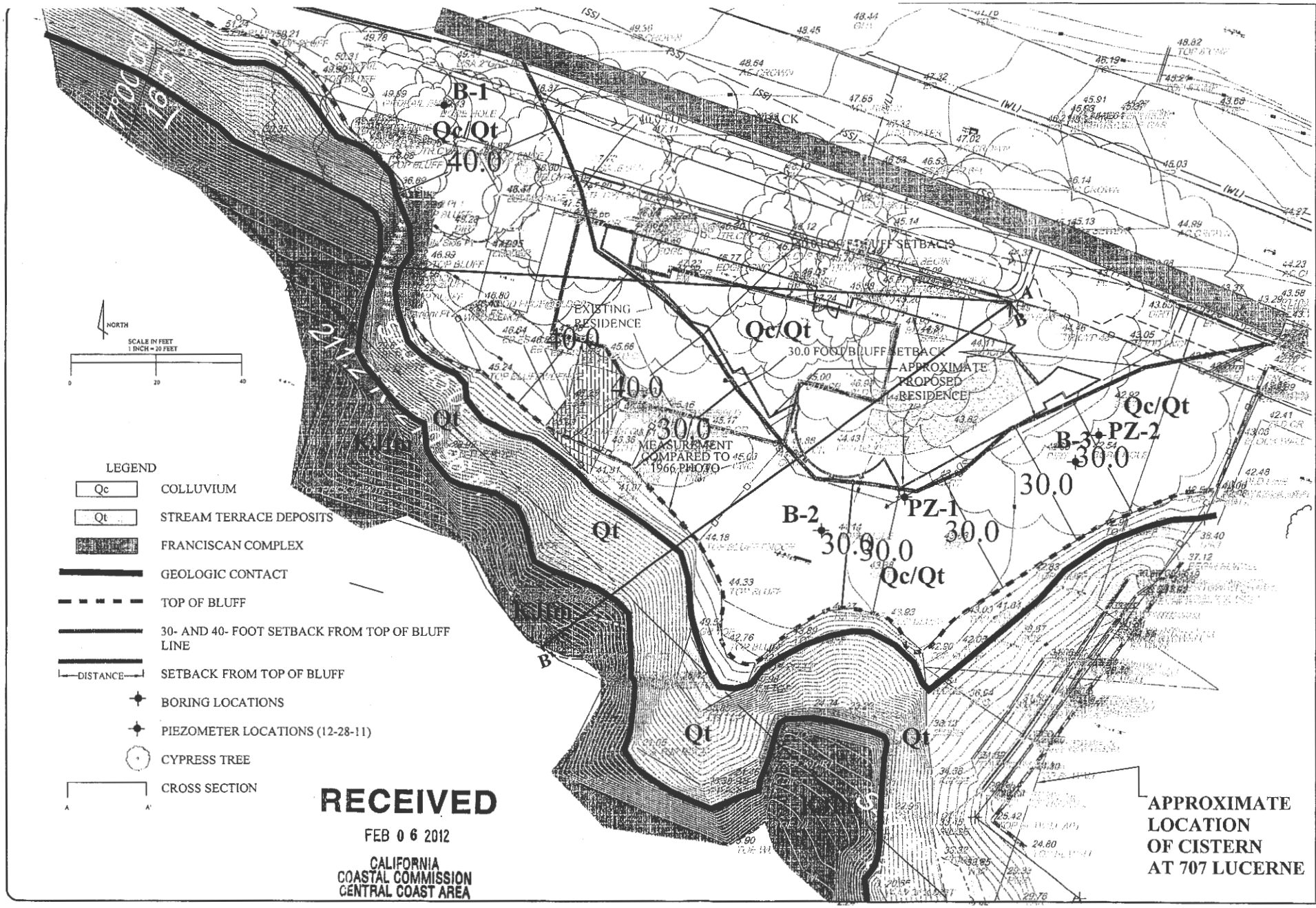
GeoSolutions, Inc., January 15, 2010, Response to Comments: Geologic Coastal Bluff Evaluation, 709 Lucerne Road, APN: 064-281-009, Cayucos Area of San Luis Obispo County, California.

GeoSolutions, Inc., January 26, 2011, Review of Bluff Stability and Seepage, 709 Lucerne Road, APN: 064-281-009, Cayucos Area of San Luis Obispo County, California.

MidCoast Geotechnical, Inc., Geotechnical Engineering Report, Proposed Replacement Residence, 709 Lucerne Road, Cayucos vicinity of San Luis Obispo County, July 30, 2009.

San Luis Obispo County Department of Planning and Building, Environmental and Resource Management Division, Guidelines for Engineering Geology Reports, January, 2005.

San Luis Obispo County Department of Planning, October 13, 2009, letter stating requirements for the proposed development located at 709 Lucerne Avenue, Cayucos, California.



RECEIVED
FEB 0 6 2012
CALIFORNIA
COASTAL COMMISSION
CENTRAL COAST AREA

PLATE 1A

PROJECT

ENGINEERING GEOLOGIC MAP

709 LUCERNE ROAD, CAYUCOS AREA
SAN LUIS OBISPO COUNTY, CALIFORNIA

GeoSolutions, Inc.
220 High Street
San Luis Obispo, CA 93401
(805) 543-8539 Fax (805) 543-7171

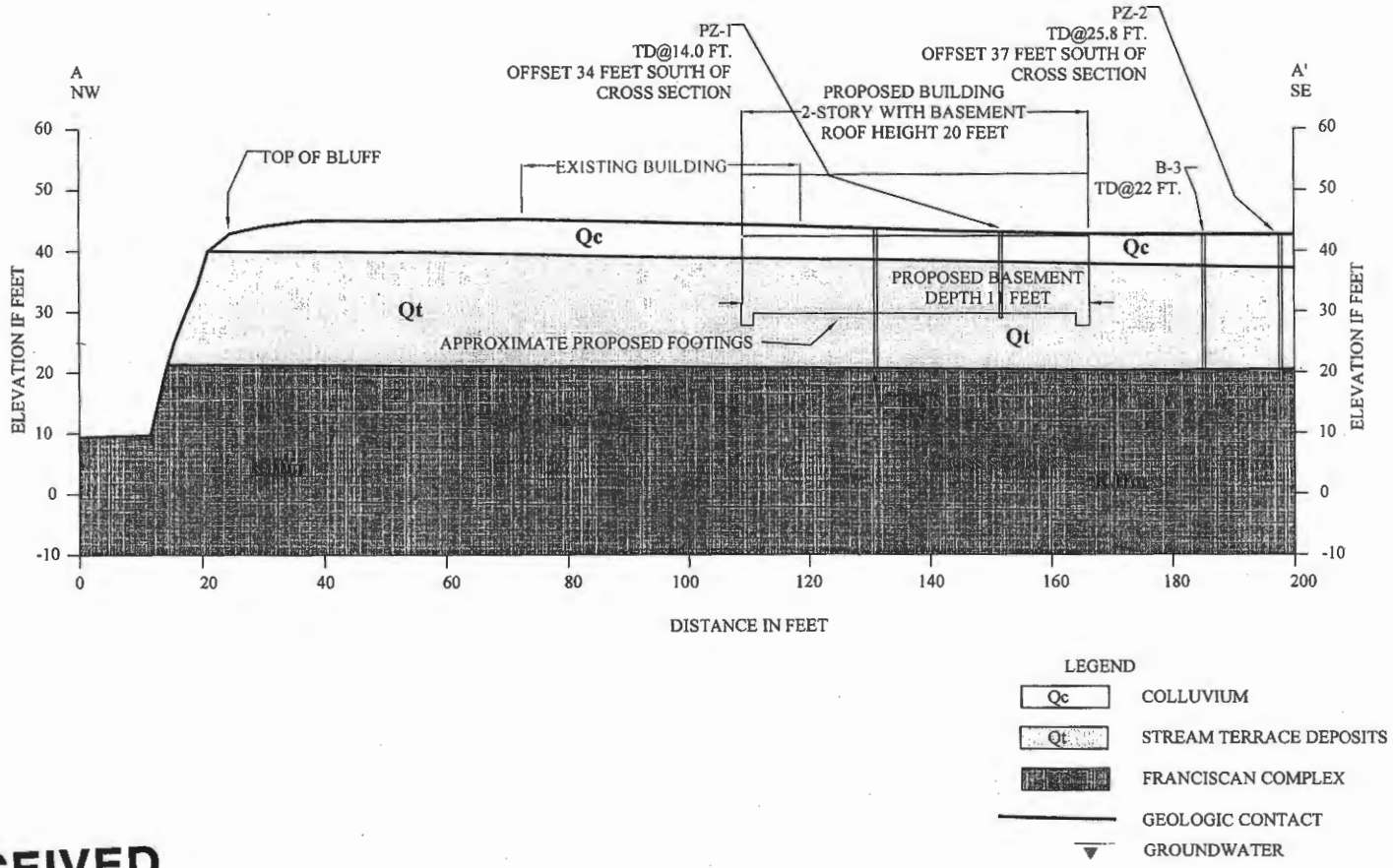


PLATE 1β

PROJECT ST07701-3

GEOLOGIC CROSS SECTION

709 LUCERNE ROAD, CAYUCOS AREA
SAN LUIS OBISPO COUNTY, CALIFORNIA

GeoSolutions, Inc.
220 High Street
San Luis Obispo, CA 93401

GeoSolutions, Inc.

220 High Street

San Luis Obispo, CA 93401

PIEZOMETER LOG

BORING NO. **PZ-1**

JOB NO. **SL07201-3**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**709 Lucerne**	DRILL RIG:	**Mobile B24**
DRILLING LOCATION:	**See Figure 2: Site Plan**	HOLE DIAMETER	**8 Inches**
DATE DRILLED:	**December 28, 2011**	SAMPLING METHOD	**None**
LOGGED BY:	**JK**	HOLE ELEVATION:	**Not Recorded**

▼ Depth of Groundwater: **Not Encountered** Boring Terminated At: **14.0 Feet**

DEPTH	SOIL DESCRIPTION	USCS	LITHOLOGY	ANNULAR MATERIAL DESCRIPTION	WELL CASING MATERIAL DESCRIPTION	WELL CROSS-SECTION
0 to -5	SILTY CLAY: dark brown, very slightly moist, minor shells, Colluvium	ML		BENTONITE	PVC SOLID	
-5 to -10	SANDY CLAY: brown, with minor gravel, gravel 1/8 to 1/2 inches in diameter, Qt, Terrace Deposits	SC		GRAVEL	PVC SCREEN	
-10 to -14	CLAY: reddish brown, very slightly moist, Qt, Terrace Deposits	CL			CAP	

GeoSolutions, Inc.

220 High Street

San Luis Obispo, CA 93401

PERCOLATION LOG

BORING NO. **PZ-2**

JOB NO. **SL07201-3**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**709 Lucerne**	DRILL RIG:	**Mobile B24**
DRILLING LOCATION:	**See Figure 2: Site Plan**	HOLE DIAMETER	**8 Inches**
DATE DRILLED:	**December 28, 2011**	SAMPLING METHOD	**None**
LOGGED BY:	**JK**	HOLE ELEVATION:	**Not Recorded**

▼ Depth of Groundwater: **24.5 Feet** Boring Terminated At: **25.8 Feet** Page 2 of 2

DEPTH	SOIL DESCRIPTION	USCS	LITHOLOGY	ANNULAR MATERIAL DESCRIPTION	WELL CASING MATERIAL DESCRIPTION	WELL CROSS-SECTION
0 to -5	SILTY CLAY: dark brown, very slightly moist, minor shells, Colluvium	ML		BENTONITE	PVC SOLID	
-5 to -10	SANDY CLAY: brown, with minor gravel, gravel 1/8 to 1/2 inches in diameter, Qt, Terrace Deposits	SC		GRAVEL	PVC SCREEN	
-10 to -19	CLAY: reddish brown, very slightly moist, Qt, Terrace Deposits	CL				
-19 to -25	CLAY: reddish brown, moist, gravels, shells and minor cobbles, Qt, Terrace Deposits	CL				
-25 to -30	FRANCISCAN COMPLEX: greywacke sandstone, wet, dense				CAP	

LOG OF BORING B1

MID-COAST GEOTECHNICAL, INC.
3124 El Camino Real Atascadero, CA 93422
Telephone: 805-461-0965 Fax: 805-461-0161

CLIENT: Marshall Lewis MD
PROJECT: Proposed Replacement Residence
LOCATION: 709 Lucerne Road, Cayucos, CA
NUMBER: 09-6350
DATE(S) DRILLED: 7/23/2009

DRILLING METHOD(S):
Mobile B24 Auger Drill Rig

GROUNDWATER INFORMATION:
No groundwater was encountered at time of drilling

SURFACE ELEVATION:

DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT T: TONS/SQ FT PERCENT RECOVERY/ ROCK QUALITY DESIGNATION	MOISTURE CONTENT (%)	DRY DENSITY POUNDS/CU.FT	RELATIVE COMPACTION (%)	ATTERBERG LIMITS LIQUID LIMIT LL	ATTERBERG LIMITS PLASTIC LIMIT PL	ATTERBERG LIMITS PLASTICITY INDEX PI	EXPANSION INDEX	MINUS NO. 200 SIEVE (%)	USCS	SOIL SYMBOL	SOIL TYPE	DESCRIPTION OF STRATUM
													F1	Aggregate base
		N = 27	15	111	94	51	16	35	97		CH		C1	Dark grey sandy fat CLAY (colluvium), stiff, damp
5		N = 23	15	114	94								C2	Brown sandy lean CLAY (terrace deposits), stiff, damp
10		N = 25	15	115	94	39	12	27			CL		C3	Reddish brown sandy CLAY (terrace deposits), stiff, damp Caliche observed at 10 to 12 feet below grade.
15		N = 25	16											
													S1	Brown shells with some sand (terrace deposits), medium dense, damp
20		N = 20	11											
25		N = 50+	6											Refusal at 25.5 feet below grade on grey SANDSTONE.

N - STANDARD PENETRATION TEST RESISTANCE
P - POCKET PENETROMETER RESISTANCE
T - POCKET TORVANE SHEAR STRENGTH

REMARKS:
Boring was backfilled with auger clippings

LOG OF BORING 09-6350.SOILS.GPJ MIDCOAST.GDT 8/5/09

LOG OF BORING B2

MID-COAST GEOTECHNICAL, INC.
3124 El Camino Real Atascadero, CA 93422
Telephone: 805-461-0965 Fax: 805-461-0161

CLIENT: Marshall Lewis MD
PROJECT: Proposed Replacement Residence
LOCATION: 709 Lucerne Road, Cayucos, CA
NUMBER: 09-6350
DATE(S) DRILLED: 7/23/2009

DRILLING METHOD(S):
Mobile B24 Auger Drill Rig

GROUNDWATER INFORMATION:
No groundwater was encountered at time of drilling

SURFACE ELEVATION:

DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT T: TONS/SQ FT PERCENT RECOVERY/ ROCK QUALITY DESIGNATION	MOISTURE CONTENT (%)	DRY DENSITY POUNDS/CU.FT	RELATIVE COMPACTION (%)	ATTERBERG LIMITS LIQUID LIMIT LL	ATTERBERG LIMITS PLASTIC LIMIT PL	ATTERBERG LIMITS PLASTICITY INDEX PI	EXPANSION INDEX	MINUS NO. 200 SIEVE (%)	USCS	SOIL SYMBOL	SOIL TYPE	DESCRIPTION OF STRATUM
													S2	Dark brown silty SAND, loose, humid
		N = 18	14	111	92				88				C1	Dark grey sandy fat CLAY (colluvium), stiff, damp
5		N = 23	13	116	95	48	14	34			CL		C2	Brown sandy lean CLAY (terrace deposits), stiff, damp
10		N = 34	14	115	94								C3	Reddish brown sandy CLAY (terrace deposits), stiff, damp
15		N = 39	14										S1	Brown shells with some sand (terrace deposits), medium dense, damp
20		N = 25	4											Refusal at 23 feet below grade on grey SANDSTONE.

N - STANDARD PENETRATION TEST RESISTANCE
P - POCKET PENETROMETER RESISTANCE
T - POCKET TORVANE SHEAR STRENGTH

REMARKS:
Boring was backfilled with auger clippings

LOG OF BORING 09-6350.SOILS.GPJ MIDCOAST.GDT 8/5/09

LOG OF BORING B3

MID-COAST GEOTECHNICAL, INC.
3124 El Camino Real Atascadero, CA 93422
Telephone: 805-461-0965 Fax: 805-461-0161

CLIENT: Marshall Lewis MD
PROJECT: Proposed Replacement Residence
LOCATION: 709 Lucerne Road, Cayucos, CA
NUMBER: 09-6350
DATE(S) DRILLED: 7/25/2009

DRILLING METHOD(S):
Moble B24 Auger Drill Rig

GROUNDWATER INFORMATION:
No groundwater was encountered at time of drilling

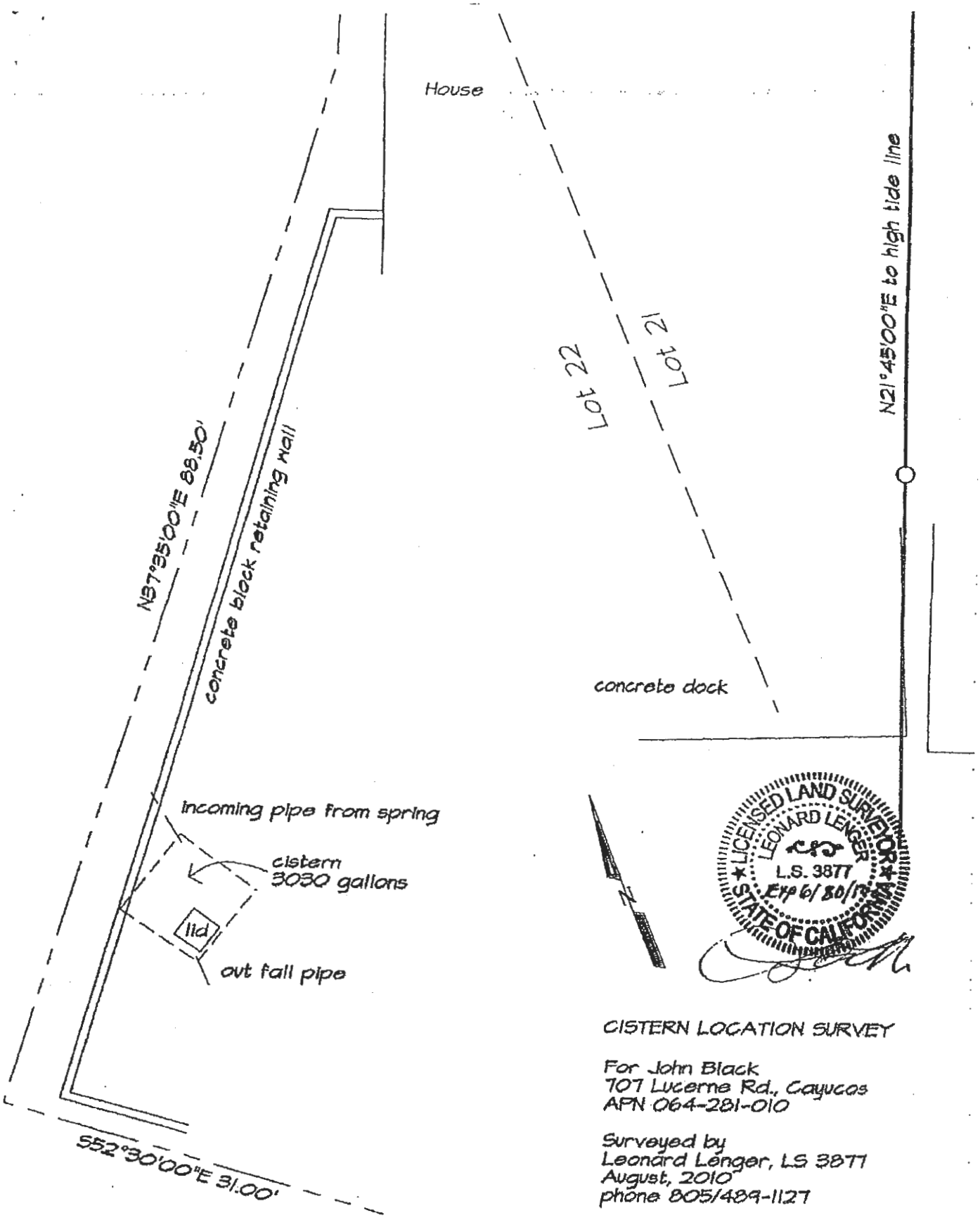
SURFACE ELEVATION:

FIELD DATA			LABORATORY DATA							CLASS.			
DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT T: TONS/SQ FT PERCENT RECOVERY/ ROCK QUALITY DESIGNATION	MOISTURE CONTENT (%)	DRY DENSITY POUNDS/CU.FT	RELATIVE COMPACTION (%)	ATTERBERG LIMITS LIQUID LIMIT LL	ATTERBERG LIMITS PLASTIC LIMIT PL	ATTERBERG LIMITS PLASTICITY INDEX PI	EXPANSION INDEX	MINUS NO. 200 SIEVE (%)	USCS	SOIL SYMBOL	SOIL TYPE	DESCRIPTION OF STRATUM
0														Dark grey sandy fat CLAY (colluvium), stiff, damp
		N = 15	13	114	95								C1	
5		N = 24	12	118	96									Brown sandy lean CLAY (terrace deposits), stiff, damp
10		N = 24	16										C2	
15		N = 35	15											
														Reddish brown sandy CLAY (terrace deposits), stiff, damp
													C3	Increasing shell content at 19 feet below grade.
20			14											
														Refusal at 22 feet below grade on grey SANDSTONE.

N - STANDARD PENETRATION TEST RESISTANCE
P - POCKET PENETROMETER RESISTANCE
T - POCKET TORVANE SHEAR STRENGTH

REMARKS:
Boring was backfilled with auger clippings

LOG OF BORING 09-6350.SOILS.GPJ MIDCOAST.GDT 8/5/09



CISTERN LOCATION SURVEY

For John Black
707 Lucerne Rd., Cayucos
APN 064-281-010

Surveyed by
Leonard Lenger, LS 3877
August, 2010
phone 805/489-1127

Figure 2
Cistern Survey
707 Lucerne Avenue

Proposed Residence: Tree Height Shown At Installation

Proposed Planting Design: Tree Height Shown At 10 Year Growth (24'-26' tall)

firma landscape architects

Lewis Residence Visual Simulation
Cayucos, CA

Viewing Position 1
View Southwest from Hwy. 1, Approx. 325'

Figure 1.1

Elevation Proposed by Applicant

Height = 20' max
Footprint = 2,845 sf

Re-Life Example of
Natural Stone / Copper Materials

LEWIS REPLACEMENT RESIDENCE
COASTAL DEVELOPMENT PERMIT

A-3-SLO-11-064

709 Lucerne Road

Cayucos

Proposed Project

- Request to Construct a **Replacement Single Family** Dwelling on a 24,480 Sq.Ft parcel

- **3 Bedrooms / 3.5 Bathrooms**
  - Two Stories - **4,555 Sq.Ft (2,845 Sq.Ft. Footprint)**
  - Subterranean Garage

- Property is **currently developed** with an older residence (1930's)
  - **Existing** residence **does not comply** with **LCP** setback requirements
    - Located within the Bluff Setback and the Front Setback
  - **Existing** residence **does not comply** with **Building Code** requirements
    - No Structural Foundation, Seismic Standards, Energy Requirements, Fire Sprinklers, etc
  - **Modifications** to bring the **residence** into **compliance** with Building Codes would be **cost prohibitive**
  - **Impossible** to modify existing house **to comply with Certified LCP**

Location Map – Cayucos, CA

Overview of SLO County Regulatory Environment

- San Luis Obispo County has an **LCP** that has been **certified by your Commission**
- The project is **not requesting modifications** to standards
- The project is **not requesting Variances**
- **The proposed replacement residence complies with ALL provisions of the Certified LCP**

Project Site

- 24,480 Sq.Ft. Parcel
- The parcel is located on the bluff side of Lucerne Road
- Irregularly Shaped Parcel
- The site is developed with an existing SFD
  - +/- 2,810 Sq.Ft. Footprint

Project Site Constraints

- **Irregularly Shaped Lot**
  - Triangular shape with base on the triangle aligned with Lucerne Road frontage

- **Bluff Setbacks**
  - Setbacks range between 30-40 feet and are applied to three of the four sides of the parcel
  - Bluff Setback significantly restricts the development envelope on the site
  - Bluff Setback shifts development closer to Lucerne Drive
  - **Mandates Uniquely Shaped Building Envelope**
  - Bluff Setbacks reviewed and approved by Coastal Geologist Mark Johnsson

- **Cypress Tress**
  - Street trees planted along the Lucerne Drive property frontage
  - Critical root zone of the trees encroach into the entire development envelope of the lot

Many Changes were made to the Project through the County Process

- Original project originally included a Variance for front setback modification and encroachment into the bluff setback
- **Approved project** is significantly **different** than the project denied by the Planning Commission
  - **Variance** Request **Removed**
  - **Elevations Revised** to Reduce Mass
    - Decreased Lineal Frontage
    - Removed Cornerstone Features
    - Increased Articulation
  - Size of the **House Reduced**
    - Footprint Reduced by 19%
  - Lot **Coverage Similar** to **Existing** Residence on the Site
    - 1% Increase

Project Revised to be Fully LCP Compliant

Summary Table for Project Revisions

	ORIGINAL	NEW	DECREASED BY:
Footprint	3505sq.ft.	2845sq.ft.	19%
House Area	5300sq.ft.	4555sq.ft.	14%
1st Floor	3300sq.ft.	2595sq.ft.	22%
Length	136.5 ft	127.5 ft	7%
2nd Floor	2000sq.ft.	1995sq.ft.	<1%
Garage	2812sq.ft.	2377sq.ft.	15%
Lot Coverage (21,668sq.ft.)	3505sq.ft. (16%)	2845sq.ft. (13%)	3%

Overall Property Boundary for Context

Detailed Site Plan

Extensive Analysis of Issues Raised by the Coastal Commissioners and the Appellants

- Visual Impacts
- Cypress Trees
- Groundwater / Spring
- Bluff Stability

Issues raised by Commissioners and Appellants have been **fully analyzed** by **Local Agency** and **Coastal Commission Staff**

Compatibility / Visual Impacts

- The project site is within the Cayucos Urban Reserve Line
  - **Area does not have** specific design standards in the adopted Area Plan
  - Area is **not designated** as a Special Community or a **Small Scale Neighborhood**
  - Other Neighborhoods and Streets in Cayucos have those designations
- **Eclectic** Neighborhood – Wide **Range** of Sizes and S**tyles**
- **Mix** of **Multi-Family** and **Single Family** Residences
  - SFD sizes range between 1,400 sf – 5,700 sf
  - MF sizes range between 3,000 sf- 8,500 sf

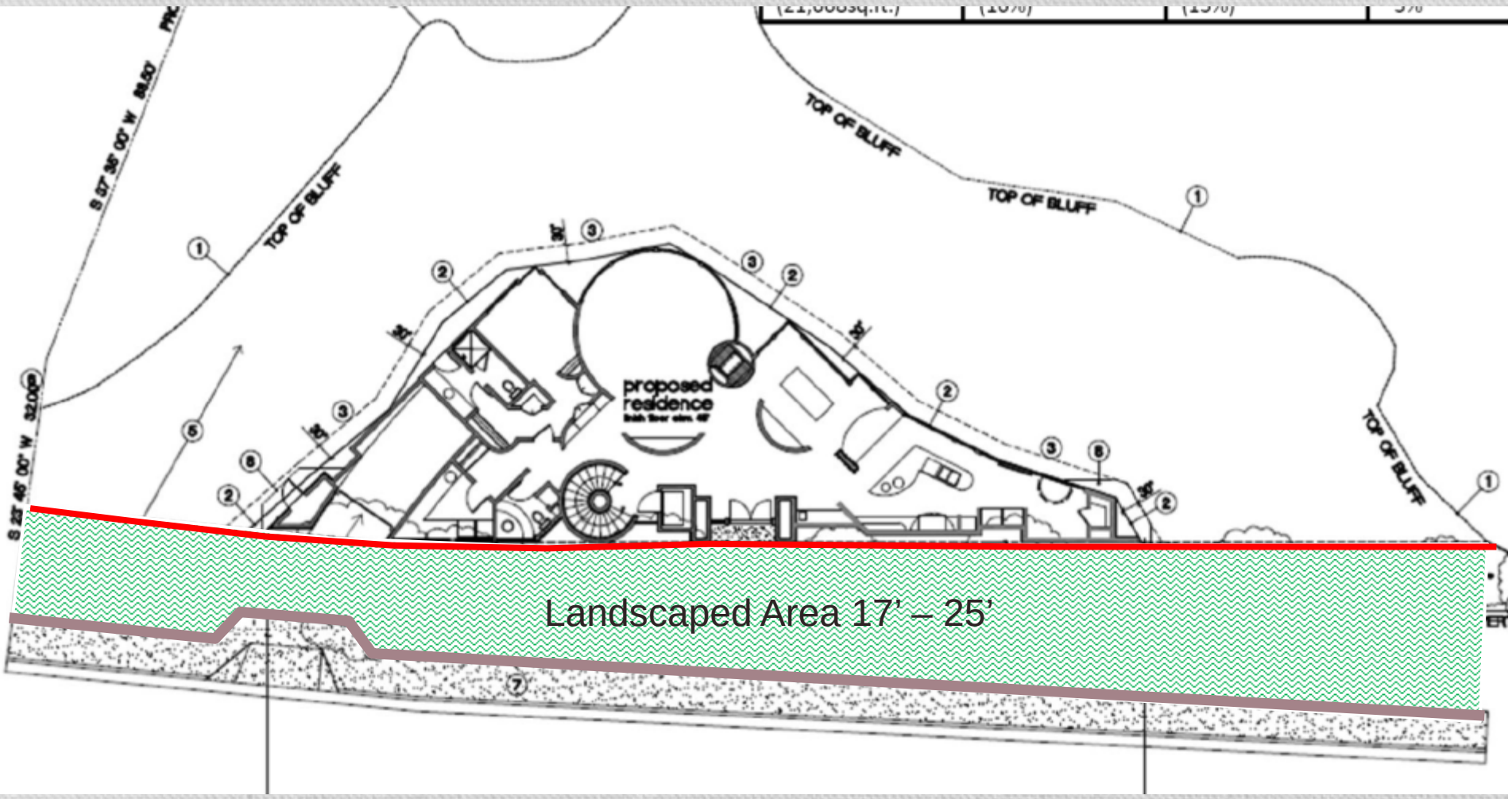
Project as Designed **Complies** with **ALL LCP Standards / Policies**

Size Consistent with Size of Other Homes in the Neighborhood

Lot Coverage and Structure Frontage is Consistent with Existing Development on the Site

Lot Coverage is Much Less than Adjacent Lots

17’ to 25’ Deep Landscaped Front Yard



10 foot setback from Property Line

Back of Sidewalk

Existing Residence and Street View

Elevation Proposed by Applicant

Height = 20’ max
Footprint = 2,845 sf

Re-Life Example of
Natural Stone / Copper Materials

Proposed Residence: Tree Height Shown At Installation

Proposed Planting Design: Tree Height Shown At 10 Year Growth (24'-26' tall)

View from above North Ocean Avenue Illustrates Trees at 20 Year Growth

SITE IS NOT VISIBLE FROM HIGHWAY 1

Highway 1 Northwest of Site

Site As Seen From Highway 1 (1 of 2)

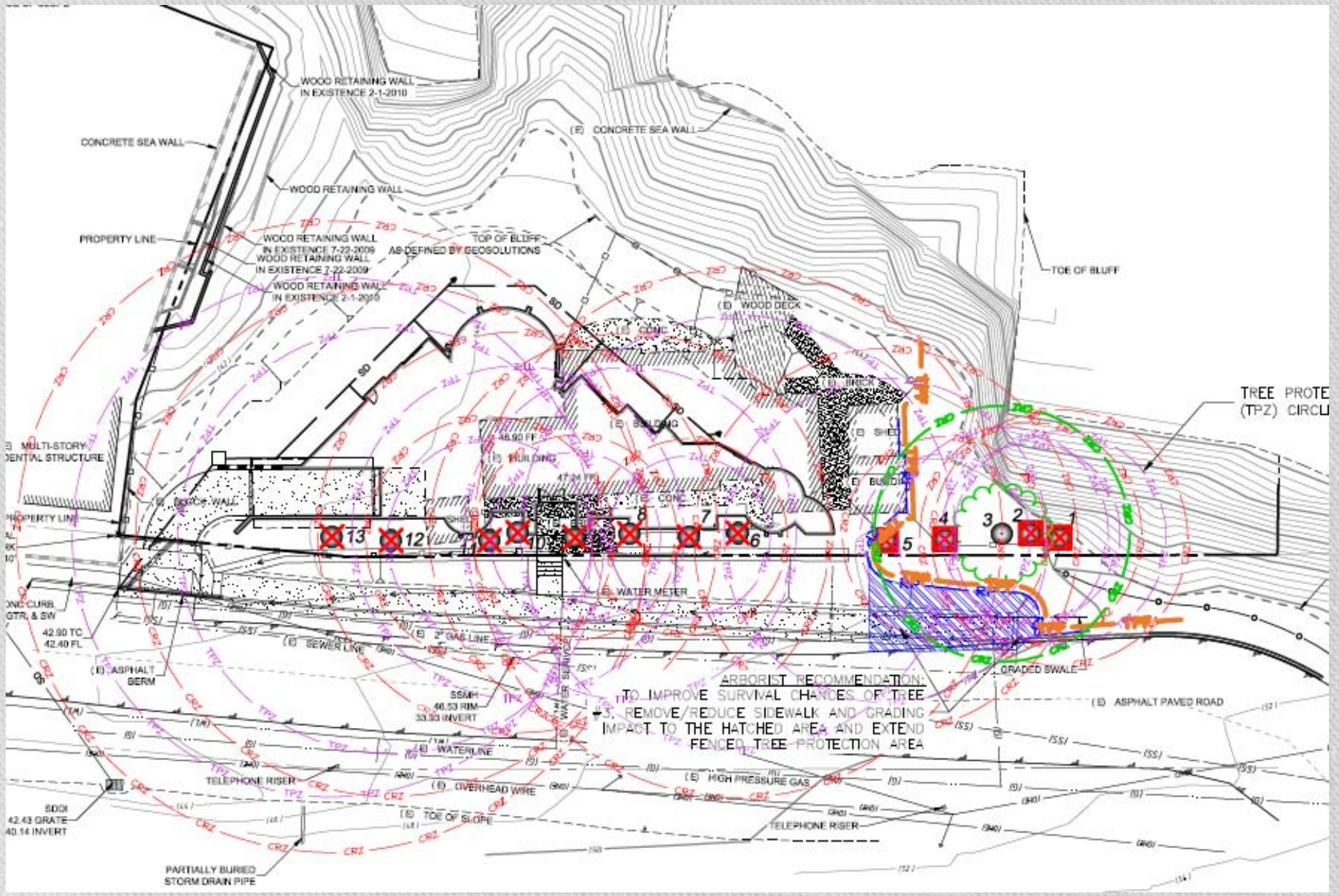
Site As Seen From Highway 1 (2 of 2)

Monterey Cypress Trees

- Ornamental **street trees** planted decades ago
- **Health** of the trees range between **poor – fair**
- **Currently** pose a **hazard** and have **dropped limbs** during recent storm events
- Trees do not support habitat (confirmed by Coastal Staff, Biologist, Arborist (s))
- The Critical Root Zones and Tree Protection Zones extend **into and beyond** the designated **building envelope**

Any proposed development on this site, including demolition and/or structural remodel of the existing house and construction of the sidewalk, would ultimately result in the demise of the trees.

Critical Root Zone



Proximity of Street Trees to Existing Development

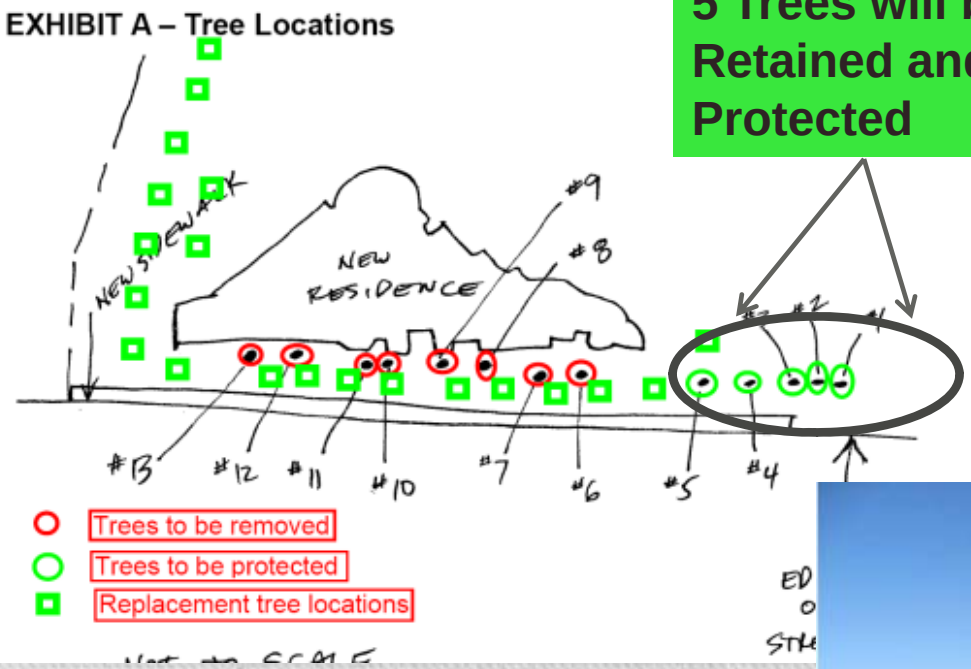
DAVEY
RESOURCE GROUP
A Division of The Davey Tree Expert Company

April 26, 2011

Foundation Design:
Architectural design and construction techniques go beyond the expertise of the Davey Resource Group. As stated above, any construction on this site will cause extreme stress to the majority of the trees and is likely to result in their decline and death. Given their poor condition and the confines of the site, we do not anticipate any construction techniques that would increase their survival. In addition, the required sidewalk construction, in itself, will have severe impact on the tree roots.

Arborist Reports

- Peer Review of the First Two Arborist Reports
- Recommended **Retaining Five Trees North of the House**
- Recommended Cypress Trees for Replacement Trees



5 Trees will be Retained and Protected

Proposed Planting Design: Tree Height Shown At 10 Year Growth (24'-26' tall)

View from above North Ocean Avenue Illustrates Trees at 20 Year Growth

Certified LCP Allows for Tree Removals

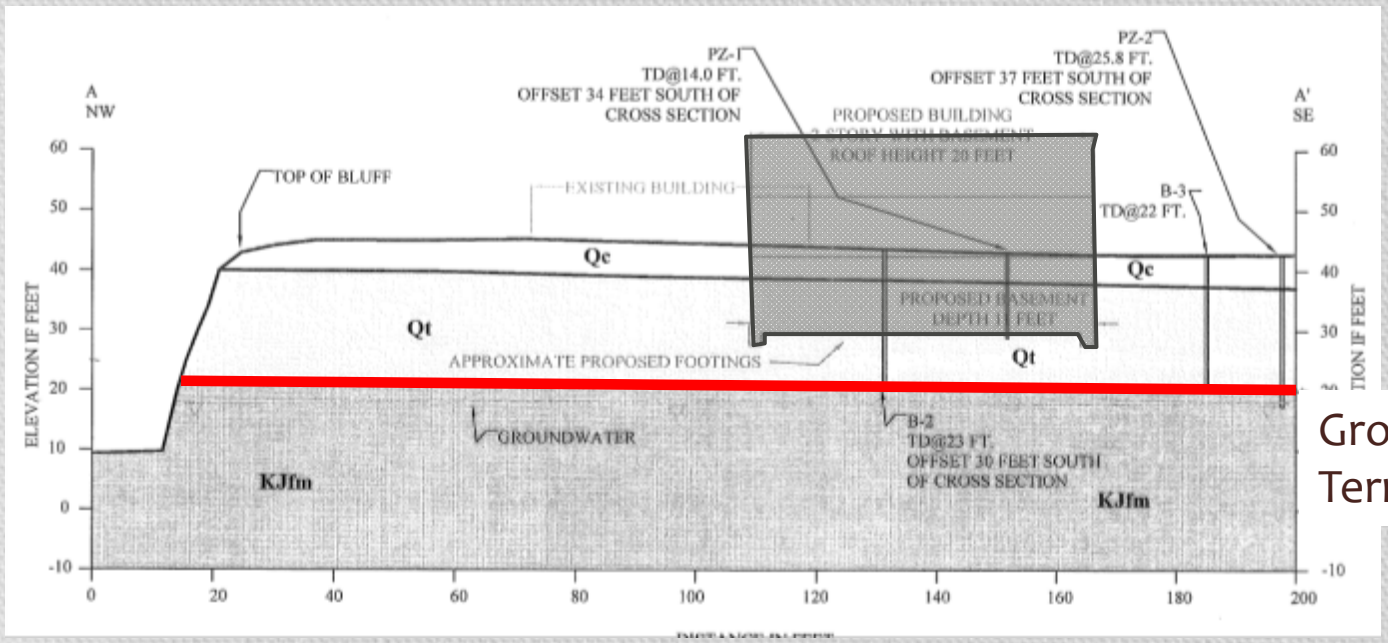
Policy 7: Preservation of Trees and Native Vegetation

The location and design of new development shall minimize the need for tree removal. When trees must be removed to accommodate new development or because they are determined to be a safety hazard, the site is to be replanted with similar species or other species which are reflective of the community character. [THIS POLICY SHALL BE IMPLEMENTED PURSUANT TO SECTION 23.05.064 OF THE CZLUO.]

Removed Trees Replanted at a 2:1 ratio

Spring – Impact of Basement on Groundwater

- **Piezometers** were **installed** to determine presence of groundwater
  - Groundwater encountered at 24.5 feet bls
  - **13 feet below bottom of the garage**
- Slope Stability **Analysis** and **Construction Recommendations ASSUMED** presence of **Groundwater**



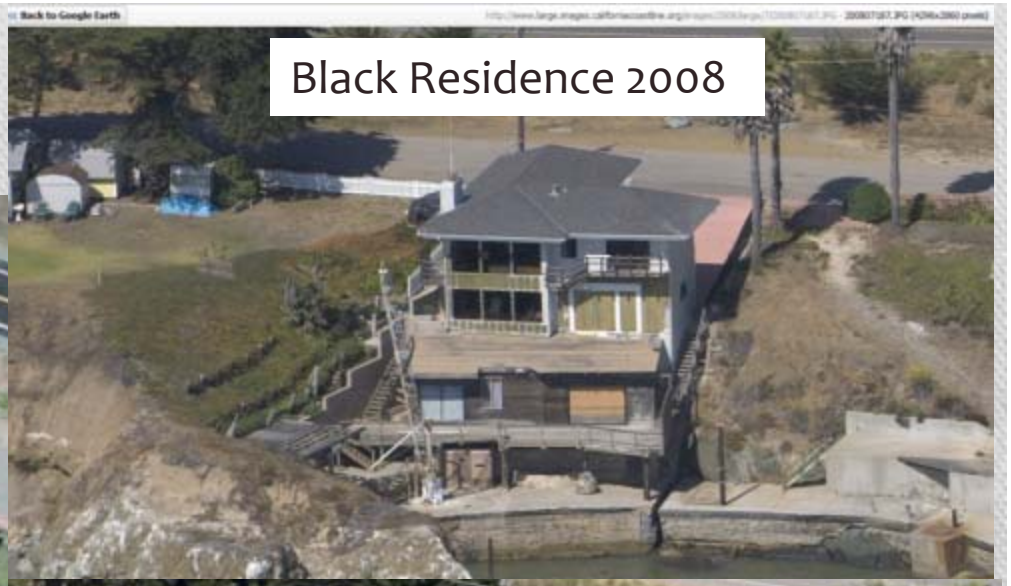
GeoSolutions, INC.
220 High Street, San Luis Obispo, CA 93401
(805)543-8539, (805)543-2171 fax
info@geosolutions.net
January 26, 2011
Project No. SL07201-2

Groundwater is in Terrace Deposits

Lewis Property

Black Property

● = Spring Located on the Black Property



2.4 Conclusion

It is recognized that groundwater at the subject property at 709 Lucerne Road is at a depth of approximately 24.5 feet bls as verified by PZ-2. CHG has stated that spring water is most likely from basal sands and shell hash in the terrace deposits and the bedrock can store groundwater within fractures and joints. GeoSolutions, Inc. agrees with CHG's assessment of groundwater with the measurement of groundwater within the piezometers. Proposed basement depth for the residence at 709 Lucerne Road is to be approximately 11 feet below land surface. As an added conservative measure, GeoSolutions, Inc. has recommended that engineering of the proposed residence incorporate drainage for the basement. However, there appears to be an approximate 13 foot separation between the bottom of the basement and the depth to groundwater; the affect of the basement on the groundwater appears very low.

Thank you for the opportunity to have been of service. If you have any questions, please contact the undersigned at (805) 543-8539.

Sincerely,
GeoSolutions, Inc.

John Kammer, C.E.G. #2118
Senior Engineering Geologist

S:\jobs\SL07000-SL07499\SL07201-3 - 709 Lucerne Piez\Geology\SL07201-2 Response to Cleaths letter.doc

Basement – Bluff Stability

- The subterranean basement **will not affect** the **stability** of the bluff. (Geosolutions)

- With recommendations developed by Geosolutions (1-26-2011) and approved by Dr. Mark Johnsson implemented during construction, the **project will IMPROVE AND PROMOTE** stability of the coastal bluff.

GeoSolutions, INC.

220 High Street, San Luis Obispo, CA 93401
(805)543-8539, (805)543-2171 fax
info@geosolutions.net

January 26, 2011
Project No. SL07201-2

In summary, the results of this revised numerical slope stability analysis (with addition of a basement excavation) show similar results to the peered reviewed conclusions in GeoSolutions, Inc. January 15, 2010 report. The slope stability analysis indicates that the addition of a basement does not appear to affect instability of the bluff. Regarding seepage, groundwater seepage was observed approximately 65 feet west of the proposed residence. It is

house design includes a basement that extends to an approximate depth of 15 feet below land surface, the basement will be founded into Terrace Deposit material. Hard rock excavation or blasting for the basement is not anticipated. Generally, site development usually contributes to a decrease in top of bluff erosion by decreasing the amount of uncontrolled surface water runoff. General recommendations regarding proposed development are provided in the Geologic Coastal Bluff Evaluation (August 14, 2009) and Response to Comments (January 15, 2010) and should improve and promote stability of the coastal bluff.

If you have any questions regarding this letter, please call the undersigned at (805) 543-8539.

Sincerely,
GeoSolutions, Inc.

PROFESSIONAL GEOLOGIST
JOHN M.D. KAMMER
NO. 2118
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

John M.D. Kammer, C.E.G. #2118
Principal Engineering Geologist

Extensive Geological Analysis for Site/Project

1. August 14, 2009 GeoSolutions - Geological Coastal Bluff Evaluation
2. September 9, 2009 GeoSolutions – Updated Geological Coastal Bluff Evaluation
3. January 15, 2010 GeoSolutions - Response to County Comments
4. April 23, 2010 GeoSolutions - Geologic Site Conditions
5. January 26, 2011 GeoSolutions – Review of Bluff Stability and Seepage
6. January 18, 2012 GeoSolutions – Discussion of Groundwater

Coastal Staff Geologist Dr. Mark Johnsson and SLO County Geologist Brian Papurello Concur with Findings and Recommendations of Reports

Neighborhood Support

Supporting Neighbors Non-Supporting Neighbors

Louis and Sheryl Barbich
773 North Ocean Ave

Louis and Sheryl Barbich

773 North Ocean Avenue

Cayucos, California

To: Whom it may Concern

Re: Dr. Marshall Lewis' Proposed New Residence

We have owned a home in Cayucos for over 20 years.

We also have a home in Bakersfield and have known Dr. Lewis for many, many years. All of the projects he has been associated with (residences, office building), he has built with quality and long term sustainability.

We have reviewed the proposed new residence in Cayucos. He indicated that he has complied with all of the San Luis Obispo County requirements for approval.

We feel that the residence will visually enhance the neighborhood. Based on our prior experience with the buildings he has built, the residence in Cayucos will be built in a quality manner and with long term sustainability in its design.

We would urge you to approve the proposed new residence.

8-1-10

Louis Barbich

8-1-10

Sheryl Barbich

(805) 995-1705 Home

(661) 332-6862 Mobile

Lee Moss
637 Lucerne Rd

I am writing to support my neighbor Marshall Lewis's request for the variances necessary to build his proposed residence at 709 Lucerne. I have reviewed his plans and and feel that it would be a good addition to our neighborhood. In particular, the underground garage provides for 5 parking places, much more than required for a single family residence. This should ensure that Mr. Marshall and his overnight guests will not need street parking as most of my neighbors do. In addition, it enhances the architectural interest of the building. I have never seen a two car garage door that improved the look of a building.

I have read the Planning Department's Negative Declaration document for this project and fully agree with its conclusions. With regard to the replacement trees, the median strip between Lucerne and Ocean Ave would be an ideal location. When this strip was initially planted by Trees for Cayucos, the area in front of 709 Lucerne was excluded at the specific request of the previous owner to enhance visibility of their Gull Cottage business.

I hope this letter will help counter the negative response given this project by the Cayucos Citizens Advisory Council.

Les Moss
637 Lucerne
Cayucos

805-995-1818

Sam Peck
503 Lucerne Rd.

PLANNING COMMISSION

EXHIBIT: 2

To: SLO Planning Commission

DATE: 7/24/10

From: Sam Peck

DO NOT REMOVE FROM FILE

Re: 709 Lucerne, Cayucos

Date: July 24, 2010

I'd like it to be known that I fully support the project (Dr. M.S. Lewis residence) which is to be built at 709 Lucerne Rd., Cayucos. In my opinion, the home will be a beautiful addition to our neighborhood. It has been sensitively designed, using natural materials of redwood, stone and copper.

Given the zoning of the property, this project is a much better bet, than waiting to see what ghastly thing might end up being build there in the future.

Sam Peck
503 Lucerne Rd.
Cayucos, CA 93430

Steve Rarig
641 Lucerne Rd.

Ramona, please forward this email of my support for the above referenced matter to all members of the Planning Commission. I have read the staff report, seen the preliminary site plan, floor plans and elevations of the proposed residence and am in full support of the project. I have also met with the architect and owner at the property and discussed their plans for the replacement residence.

My family and I have lived at 641 Lucerne Road since 1975 (two homes south of the Marshall Lewis property.) Our property is know to many old fisherman as "Ruth's Landing-The Old Cayucos Boat Launch".Having lived in the neighborhood for over 35 years I have seen many residences built in Cayucos including newer homes along Lucerne Road. The Marshall Lewis property is a very challenging lot to build on because of the unique coastal bluff top set back requiremments, side yard and front yard set back requirements, and height restrictions. The architect has done an admirable job designing the building footprint and underground parking area to try and utilize the buildable lot area. The architectural design is one of the best I have seen in our neighborhood.

I also am in support of the variance for the proposed single-family dwelling to allow the residence to be located within the front setback and to allow the driveway to be located in the bluff setback. In 1989 I applied for a variance and minor use permit for an addition to my residence. I was granted a front setback variance for the same reasons that the staff now supports the Marshall Lewis variance. In fact most of my neighbors along Lucerne Road have also been granted variances over the past 35 years for the same reasons as stated in your staff report.

I plan to attend the Planning Commission Hearing on July 29 to voice my support of the project. I believe your staff has done an excellent job preparing the staff report and that you should support their recommendations and Variance Findings-Exhibit A.

Sincerely,

Steve Rarig
641 Lucerne Road
Cayucos, CA 93430
home (805) 995-1131
office (805)543-9397

Conclusion

- Replacement Single Family Dwelling
- Several revisions made to the project during review by Local Jurisdiction
- Project approved by SLO County Board of Supervisors
- is Fully Consistent with the LCP
- Project was approved by a 4-1 Vote by the SLO County Board of Supervisors
- Request the Coastal Commission approve the Coastal Development Permit for this FULLY LCP COMPLIANT project

EXHIBIT B - CONDITIONS OF APPROVAL

Approved Development

1. This approval authorizes:

   a. the demolition of an existing single family residence,
   b. the relocation of an historic water tank, and
   c. construction of a new 4,555 square foot two-story residence with a 2,377 square-foot underground garage.

Conditions required to be completed at the time of application for construction permits

Site Development

2. **At the time of application for construction permits** plans submitted shall show all development consistent with the approved site plan, floor plan, architectural elevations and landscape plan.

3. **At the time of application for construction permits,** the applicant shall provide details on any proposed exterior lighting, if applicable. The details shall include the height, location, and intensity of all exterior lighting. All lighting fixtures shall be shielded so that neither the lamp or the related reflector interior surface is visible from adjacent properties. Light hoods shall be dark colored.

Fire Safety

4. All plans submitted to the Department of Planning and Building shall meet the fire and life safety requirements of the California Fire Code.

Services

5. The applicant shall provide a letter from Paso Robles Beach Water Company stating they are willing and able to service the property.

6. The applicant shall provide a letter from Cayucos Sanitary District stating they are willing and able to service the property.

Drainage, Erosion, and Sedimentation Plan

7. The applicant shall submit a preliminary drainage, erosion, and sedimentation plan which demonstrates that no stockpiling of dirt or construction materials will occur on the beach; erosion, runoff, and sedimentation measures to be implemented at the end of each day's work; all construction debris will be removed from the beach daily and at the completion of development; and no machinery will be allowed in the intertidal zone. If there is no feasible way to keep machinery out of the intertidal zone, authorization from the Coastal Commission is required.

Demolition of structure

8. The applicant shall either assume the paint is leaded and handle it accordingly or can have a lead inspection performed to determine the location and levels of lead (in the paint and other construction materials), if the structure is pre-1978 construction. Failure to contain lead contaminated materials is subject to nuisance standards set forth in Civil Health and Safety Code.

Conditions to be completed prior to issuance of a construction permit

Cultural Resources

9. The applicant shall choose one:

A. Retain the Water Tank on-site. **Prior to issuance of construction permit for the new residence**, the applicant shall submit a Water Tank Stabilization and Preservation Plan, prepared by a qualified architectural historical consultant, for the review and approval by the Environmental Coordinator. The plan shall include at a minimum:

a. Evaluation of the structural and material condition and stability of the water tank structure. This shall involve the services of a structural engineer if determined to be necessary by the consultant;

b. Description of recommended measures to preserve and stabilize the water tank structure including measures to arrest or reverse structural or material deterioration;

c. Implementation plan for the recommended measures. All measure necessary to preserve and stabilize the structure must be implemented prior to final inspection of construction permits for the proposed new residence;

Or

B. Relocate Water Tank.

1. **Prior to issuance of construction permit**, the applicant shall submit a Water Tank Relocation Plan, prepared by a qualified architectural historical consultant, for the review and approval by the Environmental Coordinator. The relocation plan shall include at a minimum:

d. Evaluation of integrity of the structure and the ability for it to be moved;

e. List of personnel involved in the relocation activities, including

f. Description of where the water tank will be relocated, and evidence of permission to re-locate the structure to this new location. The new location shall be reviewed and approved by the Environmental Coordinator. This location shall be consistent with the historic significance of the water tank and shall be consistent with the setting to which it will be relocated;

g. Description of how the relocation will occur including stabilization or preservation measures necessary to assure the long term preservation of the water tank structure;

2. **Upon completion of relocation activities, and prior to occupancy or final inspection (whichever occurs first),** the architectural historical consultant shall submit a report to the Environmental Coordinator summarizing all of the relocation activities and confirming that all recommended mitigation measures have been met.

Biological Resources

10. The trees shall remain during construction unless a certified arborist recommends removal due to hazardous conditions or degrading health. All impacted or removed

trees shall be replaced at a 2:1 ratio (up to 13 trees for a total replacement of 26 trees). **Prior to construction permit issuance**, construction plans shall clearly delineate all trees within 50 feet of the proposed project, and shall show which trees are to be removed or impacted, and which trees are to remain unharmed. **Prior to any ground disturbing activities**, adequate protection measures (e.g., sturdy fencing) per the approved construction plans, shall be installed to protect those trees identified to remain unharmed as well as to minimize impacts for those trees identified as being impacted.

11. **Prior to commencement of any tree removal**, to avoid conflicts with nesting raptors, construction activities shall not be allowed during to the nesting season (March to July), unless a county-approved, qualified biologist has surveyed the impact zone and determined that no nesting activities will be adversely impacted. At such time, if any evidence of nesting activities are found, the biologist will determine if any construction activities can occur during the nesting period and to what extent. The results of the surveys will be passed immediately to the County, possibly with recommendations for variable buffer zones, as needed, around individual nests. The applicant agrees to incorporate those recommendations approved by the county.

Geologic Resources

12. The retreat rate analysis (20 feet in 100 years, including a 1.2 buffer factor) and addition of the slope stability buffer has calculated a new construction setback line at the western portion of the property of 40 feet. The 10-foot buffer has been added to the calculated retreat at the site (20 feet in 100 years including a 1.2 buffer factor) and the conservative building setback at the eastern portion of the property is 30 feet. It is recommended that proposed new residence construction be setback a minimum of 40 feet on the western portion of the property and 30 feet along the eastern portion of the property. These setbacks have been approximated on Plate 1A, Site Engineering Geologic Map. There is a gradation setback between the two values. **This setback line shall be established in the field (by the Certified Engineering Geologist of record) as a series of stakes prior to initiation of construction.**

13. As a basement is proposed for the development at the property, drainage of subsurface water from basement areas shall discharge at the beach or approved alternate (rocks at base of bluff, sump, or storm drain). Solid piping is recommended to convey the water. If subsurface water cannot be conveyed to the surface, design and construction of waterproofing for the subfloor areas of the residence is critical to the project. A contractor experienced in waterproofing shall be procured for the project. A sump may be necessary in the basement area of the residence that discharges to an approved location. Review of drainage facilities and discharge locations shall be completed during a plan review of construction documents.

14. The use of water-stops/impermeable barriers shall be used for any basement construction, and for building walls that retain earth.

15. The certified engineering geologist shall observe foundation excavations during construction to confirm assumptions of this Site.

16. Since a basement is to be developed, the foundations of the proposed residence shall be based into similar material. The Soils Engineer shall be consulted on the potential for differential settlement caused by the foundation terminating into two different types of material.

17. Concentrated surface water is not allowed to flow uncontrolled over the top of the bluff. Gutters are recommended along eaves of rooflines. Gutter downspouts should not allow concentrated drainage to discharge near the foundations but should convey the water in solid piping that extends at least to the base of the bluff, Lucerne Avenue, or approved alternate (sump or storm drain). Low Impact Development shall be utilized at the site. Separate drain lines shall be used for surface and subsurface water.

18. The proposed residence shall be built to a height above the worst case scenario of a tsunami with a meteorological high tide (storm surge) which is approximately 24 to 39 feet above mean sea level. Mitigation measures could include raising the living space above run-up levels including breakaway utility connections, or well-designed exit routes for persons in the lower level of the structure.

19. The ground floor of all structures shall be constructed at a minimum of one-foot above the 100-year storm flood profile level as per San Luis Obispo County CZLUO section 23.07.066.

20. Maintenance shall be provided to the existing concrete revetment when necessary. A maintenance program may consist of removing loose or degenerated concrete and re-establishing concrete. The engineering geologist shall review the revetment on a periodic basis or after major storm and wave events.

21. The recommendations from the soils engineering report shall be implemented at the property. The Soils Engineer shall test for corrosivity of Site soils.

22. As a basement is proposed for the property, shoring of cut slopes is required. The project Soil Engineer and Structural Engineer shall comment on the type and depth of shoring.

23. The Soil Engineer shall quantify the liquefaction potential at the site.

24. As only conceptual building plans were reviewed for this project, the Engineering Geologist shall review the site grading plan prior to construction. Discrepancies in exact foundation depths or placement of foundations into certain material will be reviewed and commented during a plan review of construction plans. A review of proposed site drainage can be completed during the plan review.

Site Specific and Cumulative Drainage Impacts

25. **Prior to any site disturbance**, the applicant shall submit a Sedimentation and Erosion Control Plan, prepared and signed by a Registered Civil Engineer, and reviewed by a Certified Engineering Geologist that addresses both temporary and long-term sedimentation and erosion control measures. The plan shall include but not be limited to the following measures:

    - Slope surface stabilization: Temporary mulching, seeding or other suitable stabilization measures approved by the County Engineer shall be used to protect exposed erodible areas left in an unfinished state during the period from October 15 through April 15. Earth or paved interceptors and diversions shall be installed at the top of cut or fill slopes where there is a potential for erosive surface runoff.

    - Erosion and sedimentation control devices: In order to prevent sedimentation discharges, erosion and sediment control devices shall be installed as necessary for all grading and filling. Control devices and measures may include, but are not

limited to, energy absorbing structures or devices to reduce the velocity of runoff water.

- Final erosion control measures: During the period from October 15 through April 15, all surfaces disturbed by vegetation removal, grading, or other construction activity are to be revegetated to control erosion within 30 days after completion of grading, unless the graded areas are covered with impervious or other improved surfaces authorized by approved plans.

- Control of off-site effects: All grading activity shall be conducted to prevent damaging effects of erosion, sediment production and dust on the site and on other properties.

26. **Prior to any site disturbance**, the applicant shall submit to the County a Drainage Plan, prepared by a Registered Civil Engineer, that evaluates: 1) the effects of the project's projected runoff on other properties and existing drainage facilities and systems; and 2) estimates of existing and increased runoff resulting from the proposed improvements.

Lateral Access Dedication

27. **Prior to issuance of construction permits**, the applicant shall execute and record an offer of dedication for public access along the shoreline. The offer or dedication shall provide for lateral access of twenty-five (25) feet of dry sandy beach along the shore to be available at all times during the year, or from the mean high tide line to the toe of the bluff where topography limits the dry sandy beach to less than 25 feet as well as room for any improvement requirements required by Coastal Zone Land Use Ordinance Section 23.04.420 - Coastal Access. The offer shall be in a form acceptable to County Counsel, and shall be approved by the Planning Director and the Executive Director the California Coastal Commission.

Seawall Prohibition

28 **Prior to issuance of any grading or construction permits**, the property owner shall record a deed restriction against the property that ensures that no shoreline protection structure shall be proposed or constructed to protect the development, and which expressly waives any future right to construct such devices that may exist pursuant to Public Resources Code Section 30235 and the San Luis Obispo County's certified LCP.

Liability

29. **Prior to issuance of any grading or construction permits,** the property owner shall execute and record a deed restriction which acknowledges and assumes the risks of wave action, erosion, flooding, landslides, or other hazards associated with development on a beach or bluff and waives any future claims of damage or liability against the permitting agency and agrees to indemnify the permitting agency against any liability, claims, damages or expenses arising from any injury or damage due to such hazards.

Fees

30. **Prior to issuance of a construction permit**, the applicant shall pay all applicable school and public facilities fees.

Conditions to be completed during project construction

Biological Resources

31. **Prior to any ground disturbing activities**, adequate protection measures (e.g., sturdy fencing) per the approved construction plans, shall be installed to protect those trees

identified to remain unharmed as well as to minimize impacts for those trees identified as being impacted.

Air Quality

32. Construction vehicle speed at the work site must be limited to fifteen (15) miles per hour or less;

33. Prior to any ground disturbance, sufficient water must be applied to the areas to be disturbed to prevent visible emissions from crossing the property line;

34. Areas to be graded or excavated must be kept adequately wetted to prevent visible emissions from crossing the property line;

35. Storage piles must be kept adequately wetted, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile;

36. Equipment must be washed down before moving from the property onto a paved public road; and

37. Visible track-out on the paved public road must be cleaned using wet sweeping or a HEPA filter equipped vacuum device within twenty-four (24) hours.

Building Height

38. The maximum height of the project is 20 feet as measured from average natural grade.

    a. **Prior to any site disturbance**, a licensed surveyor or civil engineer shall stake the lot corners, building corners, and establish average natural grade and set a reference point (benchmark).

    b. **Prior to approval of the foundation inspection,** the benchmark shall be inspected by a building inspector prior to pouring footings or retaining walls, as an added precaution.

    c. **Prior to approval of the roof nailing inspection**, the applicant shall provide the building inspector with documentation that gives the height reference, the allowable height and the actual height of the structure. This certification shall be prepared by a licensed surveyor or civil engineer.

Conditions to be completed prior to occupancy or final building inspection /establishment of the use

Biological Resources

39. **Prior to occupancy or final inspection, whichever occurs first**, the applicant shall replace, in kind at a 2:1 ratio all Cypress trees removed or impacted as a result of the development of the project. No more than 13 Cypress trees shall be removed as a result of the development of the project with 26 trees replaced. Replanting shall be completed as soon as it is feasible (e.g. irrigation water is available, grading done in replant area). Replant areas shall be either in native topsoil or areas where native topsoil has been reapplied. If the latter, topsoil shall be carefully removed and stockpiled for spreading over graded areas to be replanted (set aside enough for 6-12" layer). Replacement trees shall be planted on-site or at an approved off-site location within the community of Cayucos.

These newly planted trees shall be maintained until successfully established. This shall include protection (e.g. tree shelters, caging) from animals (e.g., deer, rodents), regular weeding (minimum of once early Fall and once early Spring) of at least a three-foot radius out from plant and adequate watering (e.g., drip-irrigation system). Watering should be controlled so only enough is used to initially establish the tree, and reducing to zero over a three-year period. If possible, planting during the warmest, driest months (June through September) shall be avoided. In addition, standard planting procedures (e.g., planting tablets, initial deep watering) shall be used.

Once trees have been planted and **prior to final inspection**, the applicant shall retain a qualified individual (e.g., landscape contractor, arborist, nurseryman, botanist) to prepare a letter stating when the above planting occurred, what was planted and all measures installed to improve the long-term success of these trees. This letter shall be submitted to the Department of Planning and Building.

Cultural Resources

40. Depending on the applicant's choice for condition number 9, one of the following will be required:

A Retain the Water tank on-site.

Implementation of Water Tank Stabilization and Preservation Plan plan for the recommended measures. All measure necessary to preserve and stabilize the structure must be implemented prior to final inspection of construction permits for the proposed new residence;

Or

B. Relocate Water Tank.

Upon completion of relocation activities, and prior to occupancy or final inspection (whichever occurs first), the architectural historical consultant shall submit a report to the Environmental Coordinator summarizing all of the relocation activities and confirming that all recommended mitigation measures have been met.

Geologic Resources

41. **Prior to occupancy or final inspection**, whichever occurs first, the Engineering Geologist shall verify that the report's recommendations have been incorporated into the final design and construction. This verification shall be submitted in writing to the Department of Planning and Building for review and approval.

42. **Prior to occupancy or final inspection**, whichever occurs first, the Geotechnical Engineer shall verify that the Report's recommendations have been incorporated into the final design and construction. This verification shall be submitted in writing to the Department of Planning and Building for review and approval.

43. **Prior to occupancy or final inspection**, whichever occurs first, the certified engineering geologist of record, shall verify, as applicable, that construction is in compliance with the intent of the plan review, geologic reports and information. The soils engineer and certified engineering geologist of record shall provide written verification that the recommendations of the preceding geologic reports and information have been incorporated into the final design and construction, and such verification shall be submitted to the Department of Planning and Building for review and approval

44. **Prior to occupancy or final inspection**, whichever occurs first, the soils engineer of record, shall verify, as applicable, that construction is in compliance with the intent of the plan review, geologic reports and information, and the soils engineering The soils engineer and certified engineering geologist of record shall provide written verification that the recommendations of the preceding geologic reports and information have been incorporated into the final design and construction, and such verification shall be submitted to the Department of Planning and Building for review and approval.

Landscaping

45. Landscaping in accordance with the approved landscaping plan shall be installed or bonded for before ***final building inspection***. If bonded for, landscaping shall be installed within 60 days after final building inspection. All landscaping shall be maintained in a viable condition in perpetuity.

Fire Safety

46. **Prior to occupancy or final inspection**, which ever occurs first, the applicant shall obtain final inspection and approval from CDF of all required fire/life safety measures.

Development Review

47. **Prior to occupancy of any structure associated with this approval**, the applicant shall contact the Department of Planning and Building to have the site inspected for compliance with the conditions of this approval.

Geologic Conditions

48. **Prior to occupancy or final inspection**, whichever occurs first, the Registered Civil Engineer shall verify that the recommendations of the Drainage Plan and the Sedimentation and Erosion Control Plan have been incorporated into the final design and construction. This verification shall be submitted in writing to the Department of Planning and Building and County Engineering for review and approval. If required by the County Engineer, the applicant shall execute a plan check and inspection agreement with the County, so the drainage, sedimentation and erosion control facilities can be inspected and approved before a certificate of occupancy is issued.

Miscellaneous

49. This land use permit is valid for a period of 24 months from its effective date unless time extensions are granted pursuant to Land Use Ordinance Section 23.02.050 or the land use permit is considered vested. This land use permit is considered to be vested once a construction permit has been issued and substantial site work has been completed. Substantial site work is defined by Land Use Ordinance Section 23.02.042 as site work progressed beyond grading and completion of structural foundations; and construction is occurring above grade.

50. All conditions of this approval shall be strictly adhered to, within the time frames specified, and in an on-going manner for the life of the project. Failure to comply with these conditions of approval may result in an immediate enforcement action by the Department of Planning and Building. If it is determined that violation(s) of these conditions of approval have occurred, or are occurring, this approval may be revoked pursuant to Section 23.10.160 of the Land Use Ordinance.

51. The applicant shall as a condition of approval of this minor use permit defend, at his sole expense, any action brought against the County of San Luis Obispo, its present or former officers, agents, or employees, by a third party challenging either its decision to approve this minor use permit or the manner in which the County is interpreting or enforcing the conditions of this minor use permit, or any other action by a third party relating to approval or implementation of this minor use permit. The applicant shall reimburse the County for any court costs and attorney's fees which the County may be required by a court to pay as a result of such action, but such participation shall not relieve the applicant of his obligation under this condition.