

# Exhibit F

This page intentionally left blank.

# Tree Resource Assessment Management Plan

Prepared for:

Werner Nase

Prepared by:

Frank Ono  
Urban Forestry  
Member Society of American Foresters #48004  
ISA Certified Arborist #536  
1213 Miles Avenue  
Pacific Grove, CA 93950

December 29, 2015

Owner/Designer:

Werner Nase  
P.O. Box 2138  
Windsor, CA 95492

Forester and Arborist

Frank Ono, Society of American Foresters # 048004, Certified Arborist #536  
F.O. Consulting  
1213 Miles Ave  
Pacific Grove, CA 93950

## **SUMMARY**

The project proposes to a single family home with attached garage within an existing stand of Monterey pine and Coast live oak trees. The proposed development will require the removal of forty six (46) trees on this site with the potential of an addition additional seven (7) to be monitored. A tree resource assessment and forest management has been prepared identifying trees that will need to be removed to facilitate the project as well recommendations addressing management of the remaining forested resources.

## **INTRODUCTION**

This tree assessment/arborist report is prepared for Mr. Werner Nase, the owner of the property located at 1412 Lisbon Lane by Frank Ono, Urban Forester and Certified Arborist (Society of American Foresters #48004 and International Society of Arboriculture Certified Arborist #536) due to proposed construction. The Del Monte Forest Land Use Plan and Monterey County Zoning Ordinance Title 20 identify Monterey pine and Coast live oak trees as native tree species requiring protection and special consideration for their management.

## **ASSIGNMENT/SCOPE OF PROJECT**

In order to ensure protection of tree resources on site, the property owner, Mr. Werner Nase, has requested an assessment of the trees in proximity to proposed development areas and a management plan for remaining trees on this property. To accomplish this assignment, the following tasks have been completed;

- Evaluate health, structure and preservation suitability for tree within or adjacent (15 feet or less) to proposed development of trees measuring six inches in diameter or more at 24 inches above grade.
- Review proposed building site plans as provided by Werner Nase.
- Make recommendations for alternative methods and pre-construction treatments to facilitate tree retention.
- Create preservation specifications, as it relates to a Tree Location/Preservation Map.
- Determine the quantity of trees affected by construction that meet “Landmark” criteria as defined by the County of Monterey, Title 20 Monterey County Zoning Ordinance; as well as mitigation requirements for those to be affected.
- Document findings in the form of a report as required by the County of Monterey Planning Department.

## **LIMITATIONS**

This assignment is limited to the review of plans submitted to me by Werner Nase October 28, 2015 to assess effects of potential construction to trees within or adjacent to construction activities. This report is not intended to be a monetary valuation of the trees. It is not intended for this report to provide risk assessment for any tree on this parcel, as any tree can fail at any time. No clinical diagnosis was performed on any pest or pathogen that may or may not be present. In addition to an inspection of the property, F.O. Consulting relies on information provided in the preparation of this report (such as, surveys, property boundaries, and property ownership) and must reasonably rely on the accuracy of the information provided. F.O. Consulting shall not be responsible for another's means, methods, techniques, schedules, sequence or procedures, or for contractor safety or any other related programs; or for another's failure to complete the work in accordance with the plans and specifications. This assessment is only of the plans specifically presented to me. Additional tree hazard assessment may be necessary to evaluate trees outside the immediate building areas as this was not part of the development assessment. Only minor grading and erosion details are discussed in this report as it relates to tree health.

## **ASSESSMENT PURPOSE AND GOAL**

The tree resource assessment’s purpose is to independently assess existing tree resources on site to determine trees which may be affected by the proposed project. Monterey pine and Coast live oak trees are considered protected trees as defined by the County of Monterey, Title 20 Monterey County Zoning Ordinance. The Assessment’s goal is for protection and maintenance of the Del Monte Forest forested resources through the adherence of development standards which allows protection, and maintenance of forest resources by planning for potential effects of proposed development on the property, thus perpetuating the forested character of the property and the immediate vicinity.

## SITE DESCRIPTION

- 1) Assessor's Parcel Number: 008-232-003-000
- 2) Location: 1412 Lisbon Lane
- 3) Parcel size: Approximately Less than 1 acre (42,870 square feet)
- 4) Existing Land Use: The parcel is zoned for residential use LDR/1.5-D(CZ)
- 5) Slope: The parcel is mildly sloped and are approximately 5% to 8%
- 6) Soils: The parcel is located on soils classified by the Monterey County Soils report as Narlon fine sandy loam along the frontage of the property and Sheridan coarse sandy loam at the rear portion of the lot. Narlon soils are a gently sloping and moderately sloping soil on dissected marine terraces with profile described as representative of the series. The clay subsoil is at a depth of 15 to 20 inches. Slopes are mostly 3 to 6 percent. Runoff is slow to medium, and temporary shallow ponds form in swales in wet winters. The erosion hazard is moderate. The seedling mortality is low, and the wind throw hazard is severe. Narlon soils have moderate productivity for Monterey pine (site index averages about 75), equipment limitation is moderate or severe. Sheridan coarse sandy loam, are generally found with 15 to 30 percent slopes and are a moderately steep soil on rounded hills. It has the profile described as representative of the series. Runoff is rapid, and the erosion hazard is moderate.
- 7) Vegetation: The tree vegetation on site is composed primarily of upper canopy Monterey pine (*Pinus radiata*) with some scattered Coast live oak (*Quercus agrifolia*) understory present. Shrubs include willow (*Salix* sp.), Acacia species (*Acacia longifolia* and *A. verticillata*), and Huckleberry (*Vaccinium* sp.)
- 8) Forest Condition and Health: The stand of trees and their health is evaluated with the use of the residual trees and those of the surrounding adjacent trees as a complete stand. The stand composed of primarily dominant Monterey pine trees and a suppressed understory of Coast live oak. The canopy is considered closed with tree spacing at ten to fifteen feet apart on average. There are a number of stumps from previous tree removal or failures. Trees on the site range in health and condition. Oaks are being suppressed by the larger taller and dominant pines with approximately 1/3 of the pine trees on site dead or in poor health. Pests observed are Western Dwarf mistletoe (*Arceuthobium littorum*) a common evergreen parasitic plant. Also observed are Sequoia pitch moth (*Synanthedon sequoiae*) recently considered a vector for pine Pitch Canker. The larvae bore into the cambium causing masses of pitch to form on the stem or limbs. The Red turpentine beetle (*Dendroctonus valens*) generally attacks the bottom eight feet of the main stem. While there are a number of attacks observed on Monterey pine in the forest, it is not considered an aggressive tree killer but does cause damage, weakening a tree and making pines susceptible to other lethal bark beetles such as engraver beetles (*Ips* sp.) which initially cause pine canopies to die from the top down. Once the tree becomes infested with bark beetles, new insects emerge to spread to surrounding stressed or weaker trees.

## **BACKGROUND**

I (Frank Ono, F.O. Consulting) I met with the property owner, Werner Nase to understand the scope of what was being requested for the trees that are adjacent to his proposed development on his property. Mr. Nase wishes to develop the lot and requested I prepare a tree resource assessment which will work in conjunction with other conditions for approval of the building permit application. The assessment focuses on incorporating the preliminary location of site improvements coupled with consideration for the general goals of site improvement desired of the landowner, proposed construction, preserving of additional trees to the greatest extent feasible, maintaining the view shed and general aesthetic quality of the area while complying with Monterey County Codes.

A study of the individual trees was made to determine the treatments necessary to complete the project and meet the goals of the landowner. As a result trees within and immediately adjacent to the proposed development area were located, measured, inspected, flagged and recorded and concludes with an opinion of whether the tree should be removed, or preserved, based on the extent and effect of construction activity to the short and long term health of the tree. All meetings and field review were focused on the area immediately surrounding the proposed development.

## **OBSERVATIONS/DISCUSSION**

The following list includes observations made while on site during this stage of the planning process.

- The site is forested mainly with Monterey pines as the upper crown trees which are overshadowing the sparse understory. Understory consists mainly of a few scattered clumping's of Coast live oak and two Acacia wattle bushes. Lack of understory and ground covers are principally due to shading as well as mowing techniques and chemical control implemented for fuel load suppression.
- There are a number of falling or dead pines with associated slash (coarse and fine woody debris). Slash and fire suppression hygiene coupled with non-native plantings appear to have suppressed release of new pine seedlings. There are approximately fourteen stumps of removed or fallen pines observed.
- Pine trees throughout the site appear to be suffering drought stress which has accelerated insect activity, most notable mortality as a result within the pine tree population, as well as a number of pines appearing either be sparsely foliated or experiencing limb dieback and failure.
- Along Lisbon Road, pruning for high voltage utility clearance has occurred. A number of pines beneath the utility wires are dead.
- Population of pines on this site is overstocked. There are approximately 200 trees on the lot which is less than one acre. Tree removal on this site will be unavoidable due to the fact that the site is heavily wooded with many in poor condition. Additional tree removal is inevitable due to the poor condition and shallow rooting of existing Monterey pines. Oak trees are suppressed and range from poor to fair condition.

## PROJECT ASSESSMENT

Development of this lot will requires removal of forty six trees as charted below. Totals are six (6) dead pines, fifteen (15) poor, and twenty five (25) fair pines.

ID#	Diameter	Species	Condition	Position	Comments	Building Footprint
2701	24	MP	Poor	Dominant	Crown Die Back	X
2756	12	MP	Fair	Co-dominant		X
2757	12	MP	Poor	Co-dominant	Crown Die Back	X
2758	6	MP	Poor	Co-dominant	Hip Canker	X
2759	10	MP	Fair	Co-dominant		X
2760	10	MP	Poor	Suppressed	Crown Die Back	X
2761	10	MP	Poor	Suppressed	Crown Die Back	X
2768	12	MP	Poor	Co-dominant	Crown Die Back	X
2769	16	MP	Dead		Snag	X
2770	8	MP	Fair	Co-dominant		X
2771	10	MP	Poor	Co-dominant	Crown Die Back	X
2772	6	MP	Fair	Co-dominant		X
2773	16	MP	Fair	Dominant		X
2774	12	MP	Fair	Co-dominant	Topped	X
2786	12	MP	Fair	Dominant		X
2787	10	MP	Dead	Dominant		X
2788	6	MP	Poor	Suppressed	Dead Top	X
2789	14	MP	Fair	Dominant		X
2790	14	MP	Fair	Dominant	Thinning Top	X
2791	8	MP	Fair	Suppressed	Thinning Top	X
2792	14	MP	Dead	Intermediate		X
2793	18	MP	Fair	Dominant		X
2794	12	MP	Poor	Co-dominant	Dying	X
2795	24	MP	Poor	Dominant	Crown Die Back	X
2796	26	MP	Poor	Dominant	Crown Die Back	X
2797	10	MP	Fair	Co-dominant		X
2798	12	MP	Fair	Co-dominant		X
2799	12	MP	Fair	Co-dominant		X
2800	6	MP	Poor	Suppressed	Dead Top	X
2801	12	MP	Fair	Co-dominant		X
2802	12	MP	Fair	Co-dominant		X
2821	16	MP	Fair	Co-dominant		X
2828	18	MP	Dead	Co-dominant		X
2829	12	MP	Fair	Co-dominant		X
2830	26	MP	Poor	Dominant	Lean, lifted root plate	X
2831	8	MP	Fair	Co-dominant		X
2832	14	MP	Fair	Co-dominant		X
2833	12	MP	Fair	Co-dominant		X
2834	12	MP	Fair	Co-dominant		X
2835	16	MP	Fair	Co-dominant		X
2836	6	MP	Dead	Intermediate		X
2837	12	MP	Dead		On Tree #2796	X
2852	12	MP	Fair	Co-dominant		X
2853	6	MP	Fair	Co-dominant		X
PB1	14	MP	Poor	Co-dominant		X
PB2	12	MP	poor	Co-dominant		X

Dead trees are marked with blue lettering, Poor conditioned trees are signified with red lettering.



## Additional Trees to be Root Pruned

Whenever construction activities take place near trees, a potential for trees to experience decline exists. The greatest attempt has been made to identify trees anticipated to decline for monitoring and potential removal due to their proximity to construction and grading. The remainder of the property contains tree cover, which will remain undisturbed. No watercourses are near the planned construction.

ID#	Diameter	Species	Condition	Position	Comments	Building Footprint	Root Pruning
2731	24	MP	Fair	Dominant			X
2733	12	MP	Fair	Co-dominant			X
2734	16	MP	Fair	Dominant			X
2735	14	MP	Fair	Dominant			X
2803	16	MP	Fair	Co-dominant			X
2849	14	MP	Fair	Co-dominant			X
2850	14	MP	Fair	Co-dominant			X

### Short Term affects

Site disturbance will occur during building construction. Short term site affects are confined to the construction envelope and immediate surroundings where fifty tree stems will be removed, trees trimmed and root systems reduced to facilitate construction. Removal is based on position of trees to proposed construction, potential pruning of tree crowns above 30%, and reduction of root area. All these factors may have short term effects on those trees treated, including a reduction of growth and dieback.

### Long Term Affects

No significant long term affects to the forest ecosystem is anticipated. The site is heavily forested. Large canopied trees on site are in poor or in declining health. The site has a high need for tree removal, thinning and tree replacement. The site was evaluated for the following:

- Soil erosion; Slopes are gentle to moderate and may be addressed by appropriate measures;
- Water Quality: No water courses are located on the property. The removal of the trees will not substantially lessen the ability for the natural assimilation of nutrients, chemical pollutants, heavy metals, silt and other noxious substances from ground and surface waters;
- Ecological Impacts: The removals will not have a substantial adverse impact upon existing biological and ecological systems, or create climatic conditions which affect these systems. The site is surrounded by residential forested lots; proposed removals will not create conditions which may adversely affect the dynamic equilibrium of associated systems;
- Noise Pollution: The removals will not significantly increase ambient noise levels to the degree that a nuisance is anticipated to occur;
- Air Movement: The removals will not significantly reduce the ability of the existing vegetation to reduce wind velocities to the degree that a nuisance is anticipated to occur;
- Solar shade or sunlight: The site is overcrowded, many of the removals are of trees less dominant trees or poor quality trees;
- Wildlife Habitat: The removals does not appear it will significantly reduce available habitat for wildlife existence and reproduction or result in the immigration of wildlife from adjacent or associated ecosystems.

## CONCLUSION

The lot is over stocked (approximately 200 stems/acre) with mature Monterey pines and few Coast live oak clusters. Larger trees range from 40-60 years of age in poor condition and need removal. The design as presented requires removal of 46 trees as charted below. Totals for removal include four (4) landmark sized (24" or greater in diameter) Pines, eleven (11) trees in the 13-23" diameter class, and thirty one (31) in the 12" or less diameter class (landmark trees are trees measuring 24" or more in diameter, significant trees are trees measuring greater than 12" in diameter). Seven (7) additional trees may need to be monitored during grading and excavation as stated in the trees to be root pruned section.

### Trees 12" in diameter or less for removal

ID#	Diameter	Species	Condition	Position	Comments	Building Footprint
2758	6	MP	Poor	Co-dominant	Hip Canker	X
2772	6	MP	Fair	Co-dominant		X
2788	6	MP	Poor	Suppressed	Dead Top	X
2800	6	MP	Poor	Suppressed	Dead Top	X
2836	6	MP	Dead	Intermediate		X
2853	6	MP	Fair	Co-dominant		X
2770	8	MP	Fair	Co-dominant		X
2791	8	MP	Fair	Suppressed	Thinning Top	X
2831	8	MP	Fair	Co-dominant		X
2759	10	MP	Fair	Co-dominant		X
2760	10	MP	Poor	Suppressed	Crown Die Back	X
2761	10	MP	Poor	Suppressed	Crown Die Back	X
2771	10	MP	Poor	Co-dominant	Crown Die Back	X
2787	10	MP	Dead	Dominant		X
2797	10	MP	Fair	Co-dominant		X
2756	12	MP	Fair	Co-dominant		X
2757	12	MP	Poor	Co-dominant	Crown Die Back	X
2768	12	MP	Poor	Co-dominant	Crown Die Back	X
2774	12	MP	Fair	Co-dominant	Topped	X
2786	12	MP	Fair	Dominant		X
2794	12	MP	Poor	Co-dominant	Dying	X
2798	12	MP	Fair	Co-dominant		X
2799	12	MP	Fair	Co-dominant		X
2801	12	MP	Fair	Co-dominant		X
2802	12	MP	Fair	Co-dominant		X
2829	12	MP	Fair	Co-dominant		X
2833	12	MP	Fair	Co-dominant		X
2834	12	MP	Fair	Co-dominant		X
2837	12	MP	Dead		On Tree #2796	X
2852	12	MP	Fair	Co-dominant		X
PB2	12	MP	poor	Co-dominant		X

#### Removal of 13" to 23" diameter trees

2789	14	MP	Fair	Dominant		X
2790	14	MP	Fair	Dominant	Thinning Top	X
2792	14	MP	Dead	Intermediate		X
2832	14	MP	Fair	Co-dominant		X
PB1	14	MP	Poor	Co-dominant		X
2769	16	MP	Dead		Snag	X
2773	16	MP	Fair	Dominant		X
2821	16	MP	Fair	Co-dominant		X
2835	16	MP	Fair	Co-dominant		X
2793	18	MP	Fair	Dominant		X
2828	18	MP	Dead	Co-dominant		X

#### Removal of 24" or greater trees

2701	24	MP	Poor	Dominant	Crown Die Back	X
2795	24	MP	Poor	Dominant	Crown Die Back	X
2796	26	MP	Poor	Dominant	Crown Die Back	X
2830	26	MP	Poor	Dominant	Lean, lifted root plate	X

## FOREST MAINTENANCE RECOMMENDATIONS

### Pre-Construction Meeting

It is recommended that a project arborist be retained prior to the start of construction; a meeting and training session must be conducted in order to be communicate and instruct personnel about tree retention and protection. The pre-construction meeting will include required tree protection and exclusionary fencing installed prior to grading, excavation and construction procedures. Meeting attendees will be all involved parties including site clearance personnel, construction managers, heavy equipment operators, and tree service operators; a certified professional such as a Monterey County qualified forester or County qualified arborist will conduct training. A list of pre-construction attendees and the materials discussed may be maintained to be provided to the County. Meeting attendees must agree to abide to tree protection and instructions as indicated during the meeting and agree to insure tree protection will remain in place during entire construction period.

## Tree Protection

Prior to commencement of construction activities and after tree removal:

- Trees identified as remaining located adjacent to the construction area shall be protected from damage by construction equipment by the use of temporary fencing to extend to the tree drip line for protection of tree critical root zones. This may be further accomplished through wrapping of trunks inside of tree protection fencing with protective materials where ever there may be potential for equipment to strike a tree.
- Fencing shall consist of chain link, snowdrift, plastic mesh, hay bales, or field fence and root zone areas mulched with a 4” deep layer of wood chips.
- Fencing must not to be attached to the tree but shall be free standing or self-supporting so as not to damage trees. Fencing shall be rigidly supported and shall stand a minimum height of four feet above grade extending out to the tree drip line unless previously approved by a forester or arborist.
- Soil compaction, parking of vehicles or heavy equipment, stockpiling of construction materials, and/or dumping of materials is not allowed adjacent to trees on the property within fenced areas.
- Fenced areas and the trunk protection materials shall remain in place during the entire construction period. It is recommended that tree protection is monitored at different stages of construction with pictures documentation on an ongoing basis to insure that it is functioning, adequate and remains in place.

## Tree Removal for Construction

Development of this lot as designed requires removal of forty six trees as charted below.

ID#	Diameter	Species	Condition	Position	Comments	Building Footprint
2701	24	MP	Poor	Dominant	Crown Die Back	X
2756	12	MP	Fair	Co-dominant		X
2757	12	MP	Poor	Co-dominant	Crown Die Back	X
2758	6	MP	Poor	Co-dominant	Hip Canker	X
2759	10	MP	Fair	Co-dominant		X
2760	10	MP	Poor	Suppressed	Crown Die Back	X
2761	10	MP	Poor	Suppressed	Crown Die Back	X
2768	12	MP	Poor	Co-dominant	Crown Die Back	X
2769	16	MP	Dead		Snag	X
2770	8	MP	Fair	Co-dominant		X
2771	10	MP	Poor	Co-dominant	Crown Die Back	X
2772	6	MP	Fair	Co-dominant		X
2773	16	MP	Fair	Dominant		X
2774	12	MP	Fair	Co-dominant	Topped	X
2786	12	MP	Fair	Dominant		X
2787	10	MP	Dead	Dominant		X
2788	6	MP	Poor	Suppressed	Dead Top	X
2789	14	MP	Fair	Dominant		X
2790	14	MP	Fair	Dominant	Thinning Top	X
2791	8	MP	Fair	Suppressed	Thinning Top	X
2792	14	MP	Dead	Intermediate		X
2793	18	MP	Fair	Dominant		X
2794	12	MP	Poor	Co-dominant	Dying	X

### Removal Chart (continued)

2795	24	MP	Poor	Dominant	Crown Die Back	X
2796	26	MP	Poor	Dominant	Crown Die Back	X
2797	10	MP	Fair	Co-dominant		X
2798	12	MP	Fair	Co-dominant		X
2799	12	MP	Fair	Co-dominant		X
2800	6	MP	Poor	Suppressed	Dead Top	X
2801	12	MP	Fair	Co-dominant		X
2802	12	MP	Fair	Co-dominant		X
2821	16	MP	Fair	Co-dominant		X
2828	18	MP	Dead	Co-dominant		X
2829	12	MP	Fair	Co-dominant		X
2830	26	MP	Poor	Dominant	Lean, lifted root plate	X
2831	8	MP	Fair	Co-dominant		X
2832	14	MP	Fair	Co-dominant		X
2833	12	MP	Fair	Co-dominant		X
2834	12	MP	Fair	Co-dominant		X
2835	16	MP	Fair	Co-dominant		X
2836	6	MP	Dead	Intermediate		X
2837	12	MP	Dead		On Tree #2796	X
2852	12	MP	Fair	Co-dominant		X
2853	6	MP	Fair	Co-dominant		X
PB1	14	MP	Poor	Co-dominant		X
PB2	12	MP	poor	Co-dominant		X

Replant and Success Criteria – The Del Monte Forest Plan requires a minimum a 1: 1 replacement ratio for trees to be removed. There appears there will be enough space and light along the perimeter of the property to accomplish replanting with five gallon trees at the recommended rate of 1:1. To ensure the survivability and proper growth of the replacement or relocation of trees success criteria will be defined to meet a 100% survival rate and implemented as follows.

Replanting A qualified professional monitor newly planted trees for a period of at least one year for the following:

- Tree health and growth rates of new or relocated planting must be assessed by a qualified forester or certified arborist.
- Trees suffering poor growth rates or declining health are to be identified and documented as to reason it was not successful.
- Invigoration treatments if feasible will be recommended and implemented.
- Dead trees or trees identified in an irreversible state of decline will be replaced after a written recommendation is made by a qualified forester or certified arborist identifying type and location of new replacement. Trees found that need replacement will be replaced on a 1:1 ratio. Replant material shall be minimum container grown fifteen gallon-size or greater.
- Near the end of the three year monitoring period, the status of the plantings will be again assessed to make certain that success criteria has been met and all mitigation trees planted are performing well.

At the end of the project a report shall be prepared by an approved forester or certified arborist and submitted to the Planning Department for review and approval of the Director of Planning

describing replanting activities, success rates and adjustments for previous failures or unsuccessful transplanting with a follow up letter regarding the mitigation success after one year.

### Tree Pruning

It is to be understood that the pruning of retained trees will be expected for this site, especially along the driveway and building construction areas. Pruning should include the larger canopied trees that have deadwood or are exhibiting some minor structural defect or minor disease that must be compensated. Those trees appearing to require pruning and possible monitoring are the closest to the roadway, driveway and structures. Trees should be monitored by a certified professional on occasion for health and vigor after pruning.

The following are offered as guidelines when pruning

- In general the trees will be pruned first for safety, next for health, and finally for aesthetics.
- Type of pruning is determined by the size of branches to be removed. General guidelines for branch removal are:
  1. Fine Detail pruning- limbs under 2 inch diameter are removed
  2. Medium Detail Pruning – Limbs between 2 and 4 inch diameter
  3. Structural Enhancement – limbs greater than 4 inch diameter.
  4. Broken and cracked limbs-removed will be removed in high traffic areas of concern.

Crown thinning is the cleaning out of or removal of dead diseased, weakly attached, or low vigor branches from a tree crown

- All trees will be assessed on how a tree will be pruned from the top down.
- Trimmers will favor branches with strong, U- shaped angles of attachment and where possible remove branches with weak, V-shaped angles of attachment and/or included bark.
- Lateral branches will be evenly spaced on the main stem of young trees and areas of fine pruning.
- Branches that rub or cross another branch will be removed where possible.
- Lateral branches will be no more than one-half to three-quarters of the diameter of the stem to discourage the development of co-dominant stems where feasible.
- In most cases trimmers will not remove more than one- quarter of the living crown of a tree at one time. If it is necessary to remove more, it will be done over successive years.

Crown- raising removes the lower branches of a tree to provide clearance for buildings, vehicles, pedestrians and vistas.

- Live branches on at least two-thirds of a tree's total height will be maintained wherever possible. The removal of many lower branches will hinder the development of a strong stem.
- All basal sprouts and vigorous epicormic sprouts will be removed where feasible.

Crown reduction is used to reduce the height and/or spread of trees and is used for maintaining the structural integrity and natural form of a tree.

- Crown reduction pruning will be used only when absolutely necessary. Pruning cuts will be at a lateral branch that is at least one-third the diameter of the stem to be removed wherever possible.
- When it is necessary to remove more than half of the foliage from a branch it may be necessary remove the entire branch.

Crown restoration is used to improve the structure and appearance of trees that have been topped or severely pruned by the use of heading cuts. One of three sprouts on main branch stubs should be selected to reform a natural appearing crown. Selected vigorous sprouts may need to be thinned to ensure adequate attachment for the size of the sprout. Restoration may require several years of pruning.

#### Grading and Excavation during Construction:

- All trenching, grading or any other digging or soil removal that is expected to encounter tree roots must be monitored by a qualified arborist or forester to ensure against drilling or cutting into or through major roots.
- The project qualified arborist should be on site during excavation activities to direct any minor field adjustments that may be needed.
- Trenching for the retaining wall and driveway located adjacent to any tree should be done by hand where practical and roots found greater than 3-inches diameter be bridged or pruned appropriately.
- Any roots that must be cut will be cut by manually digging a trench and cutting exposed roots with a saw, vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment.
- Any roots damaged during grading or excavation should be exposed to sound tissue and cut cleanly with a saw.

If at any time potentially significant roots are discovered:

- The arborist/forester will be authorized to halt excavation until appropriate mitigation measures are formulated and implemented.
- If significant roots are identified that must be removed that will destabilize or negatively affects the target trees negatively, the property owner will be notified immediately and a determination for removal will be assessed and made as required by law for treatment of the area that will not risk death decline or instability of the tree consistent with the implementation of appropriate construction design approaches to minimize affects, such as hand digging, bridging or tunneling under roots, etc..

Remedial pruning should occur prior to any construction. Following construction, any above ground tree pruning/trimming should be delayed until one year after completion of construction. Following construction, a qualified arborist should monitor trees adjacent to the improvements area and if any decline in health that is attributable to the construction is noted, additional trees should be planted on the site.

## Best Management Practices to Observe

The following best management practices are to be adhered to:

- A) Do not deposit any fill around trees, which may compact soils and alter water and air relationships. Avoid depositing fill, parking equipment, or staging construction materials near existing trees. Covering and compacting soil around trees can alter water and air relationships with the roots. Fill placed within the drip line may encourage the development of oak rot fungus (*Armillaria mellea*). As necessary, trees may be protected by boards, fencing or other materials to delineate protection zones.
- B) Pruning shall be conducted so as not to unnecessarily injure the tree. General-principals of pruning include placing cuts immediately beyond the branch collar, making clean cuts by scoring the underside of the branch first, and for live oak, avoiding the period from February through May.
- C) Native live oaks are not adapted to summer watering and may develop crown or root rot as a result. Do not regularly irrigate within the drip line of oaks. Native, locally adapted, drought resistant species are the most compatible with this goal.
- D) Root cutting should occur outside of the springtime. Late June and July would likely be the best. Pruning of the live crown should not occur February through May.
- E) Oak material greater than 3 inches in diameter remaining on site more than one month that is not cut and split into firewood should be covered with black plastic that is dug in securely around the pile. This will discourage infestation and dispersion of bark beetles.
- F) A mulch layer up to approximately 4 inches deep should be applied to the ground under selected oaks following construction. Only 1 to 2 inches of mulch should be applied within 1 to 2 feet of the trunk, and under no circumstances should any soil or mulch be placed against the root crown (base) of trees. The best source of mulch would be from chipped material generated on site.
- G) If trees along near the development are visibly declining in vigor, a Professional Forester or Certified Arborist should be contacted to inspect the site to recommend a course of action.

## **Agreement by Landowner**

The following standard conditions are made a part of all Monterey County Forest Management Plans:

### **A. Management Objectives**

1. Minimize erosion in order to prevent soil loss and siltation.
2. Preserve natural habitat including native forest, understory vegetation and associated wildlife.
3. Prevent forest fire.
4. Preserve scenic forest canopy as located within the Critical View shed (any public viewing area).
5. Preserve landmark trees to the greatest extent possible as defined below.



## B. Management Maintenance Measures

1. Tree Removal: No tree will be removed without a Forest Management Plan or an amended Forest Management Plan.
2. Application Requirements: Trees proposed for removal will be conspicuously marked by flagging or by paint. Proposed removal of native trees greater than six inches will be the minimum necessary for the proposed development. Removal not necessary for the proposed development will be limited to that required for the overall health and long term maintenance of the forest, as verified in this Plan or in subsequent amendments to this Plan.
3. Landmark Trees: All landmark trees will be protected from damage if not permitted to be removed as a diseased tree, which threatens to spread the disease to nearby healthy trees or as a dangerous tree, which presents an immediate danger to human life or structures. Landmark oaks are trees that are visually, historically, or botanically significant specimens or are greater than 24 inches or more in diameter at breast height, or more than 1,000 years old.
4. Dead Trees: Because of their great value for wildlife habitat (particularly as nesting sites for insect eating birds) large dead trees will normally be left in place. Smaller dead trees will normally be removed in order to reduce the fire hazard. Dead trees may be removed at the convenience of the owner.
5. Thinning: Trees less than six inches diameter breast height may be thinned to promote the growth of neighboring trees, without first developing a Forest Management Plan.
6. Protection of Trees: All trees other than those approved for removal shall be retained and maintained in good condition. Trimming, where not injurious to the health of the tree, may be performed wherever necessary in the judgment of the owner, particularly to reduce personal safety and fire hazards. Retained trees which are located close to the construction site shall be protected from inadvertent damage by construction equipment through wrapping of trunks with protective materials, bridging or tunneling under major roots where exposed in foundation or utility trenches and other measures appropriate and necessary to protect the well-being of the retained trees.
7. Fire prevention: In addition to any measures required by the local California Department of Forestry fire authorities, the owner will:
  - A) Maintain a spark arrester screen atop each chimney.
  - B) Maintain spark arresters on gasoline-powered equipment.
  - C) Establish a "greenbelt" by keeping vegetation in a green growing condition to a distance of at least 50 feet around the house.
  - D) Break up and clear away any dense accumulation of dead or dry underbrush or plant litter, especially near landmark trees and around the greenbelt.
8. Use of fire (for clearing, etc.): Open fires will be set or allowed on the parcel only as a forest management tool under the direction of the Department of Forestry authorities, pursuant to local fire ordinances and directives.
9. Clearing Methods: Brush and other undergrowth, if removed, will be cleared through methods, which will not materially disturb the ground surface. Hand grubbing, crushing

and mowing will normally be the methods of choice.

10. Irrigation: In order to avoid further depletion of groundwater resource, prevent root diseases and otherwise maintain favorable conditions for the native forest, the parcel will not be irrigated except within developed areas. Caution will be exercised to avoid over watering around trees.

11. Exotic Plants: Care will be taken to eradicate and to avoid introduction of the following pest species:

- A) Pampas grass
- B) Genista (Scotch broom, French broom)
- C) Eucalyptus (large types)

### **Amendments**

The Monterey County Director of Planning may approve amendments to this Plan, provided that such amendments are consistent with the provisions of the discretionary permit or building submittal. Amendments to this Forest Management Plan will be required for proposed tree removal not shown as part of this Plan, when the proposed removal falls within the description of a Forest Management Plan or Amendment to an existing Forest Management Plan.

#### **Amended Forest Management Plan**

A) An amended Forest Management Plan shall be required when:

1. The Monterey County Director of Planning has previously approved a Forest Management Plan for the parcel.
2. The proposed tree removal as reviewed as part of a development has not been shown in the previously approved Forest Management Plan.

B) At a minimum, the Amended Forest Management Plan shall consist of:

1. A plot showing the location, type and size of each tree proposed for removal, as well as the location and type of trees to be replanted,
2. A narrative describing reasons for the proposed removal, alternatives to minimize the amount and impacts of the proposed tree removal, tree replanting information and justification for removal of trees outside of the developed area if proposed.

## Compliance

It is further understood that failure to comply with this Plan will be considered as failure to comply with the conditions of the Use Permit.

## Transfer of Responsibility

This Plan is intended to create a permanent forest management program for the site. It is understood, therefore, that in the event of a change of ownership, this Plan shall be as binding on the new owner as it is on the present owner. As a permanent management program, this Plan will be conveyed to the future owner upon sale of the property.

  
\_\_\_\_\_  
Frank Ono, SAF Member #48004 and ISA Certified Arborist #536      December 29, 2015  
Date

Recommendations Agreed to by landowner:

\_\_\_\_\_  
Landowner

\_\_\_\_\_  
Date

Forest Management Plan approved by:

\_\_\_\_\_  
Director of Planning

\_\_\_\_\_  
Date

## Tree Chart

The following pages list trees found and tagged on the property. Red lettering signifies poor quality trees, Blue lettering signifies dead trees.

ID#	Diameter	Species	Condition	Position	Comments	Building Footprint
2200	16	MP	Poor	Dominant	Dead Top	
2701	24	MP	Poor	Dominant	Crown Die Back	X
2702	12	MP	Fair	Intermediate		
2703	18	MP	Fair	Dominant		
2704	10	MP	Dead		Snag	
2705	10	MP	Poor	Suppressed	Crown Die Back	
2706	14	MP	Fair	Co-dominant		
2707	24	MP	Fair	Dominant		
2708	26	MP	Dead	Dominant		
2709	12,6,8,6,8	CLO	Fair	Suppressed	1- 6" Stem is Dead	
2710	14	CLO	Fair	Suppressed		
2711	6	CLO	Fair	Suppressed		
2712	10	MP	Fair	Co-dominant		
2713	12	MP	Fair	Dominant		
2714	18	MP	Fair	Dominant		
2715	6	CLO	Good	Dominant		
2716	12	MP	Poor	Co-dominant	Heavy Lean	
2717	12	CLO	Good	Dominant		
2718	10	MP	Fair	Co-dominant		
2719	14	MP	Fair	Dominant		
2720	12	MP	Fair	Dominant		
2721	10	MP	Poor	Co-dominant	Crown Die Back	
2722	20	MP	Fair	Dominant		
2723	14	MP	Poor	Co-dominant	Crown Die Back	
2724	12	CLO	Fair	Suppressed		
2725	10	CLO	Fair	Suppressed		
2726	12	MP	Fair	Co-dominant		
2727	22	MP	Fair	Dominant		
2728	6	MP	Poor	Intermediate	Crown Die Back	
2729	14	MP	Poor	Co-dominant	Dying	
2730	10	MP	Fair	Co-dominant		
2731	24	MP	Fair	Dominant		
2732	24	MP	Fair	Dominant		
2733	12	MP	Fair	Co-dominant		
2734	16	MP	Fair	Dominant		
2735	14	MP	Fair	Dominant		
2736	8	MP	Fair	Suppressed		
2737	20	MP	Fair	Dominant		
2738	16	MP	Poor	Co-dominant	Crown Die Back	
2739	16	MP	Fair	Co-dominant		
2740	14	MP	Fair	Co-dominant		
2741	10	MP	Fair	Suppressed		
2742	22	MP	Good	Dominant		
2743	12	MP	Fair	Dominant	Broken Top	
2744	14	MP	Fair	Dominant		
2745	6	CLO	Good	Suppressed		

2746	18	MP	Fair	Dominant		
2747	14	MP	Poor	Co-dominant	Dead Top	
2748	16	MP	Fair	Dominant		
2749	10	MP	Fair	Co-dominant		
2750	8	MP	Dead	Suppressed		
2751	12	MP	Fair	Co-dominant		
2752	20	MP	Fair	Dominant		
2753	24	MP	Good	Dominant		
2754	12	MP	Dead		Leaning Into Tree #2710	
2755	12	MP	Fair	Dominant		
2756	12	MP	Fair	Co-dominant		X
2757	12	MP	Poor	Co-dominant	Crown Die Back	X
2758	6	MP	Poor	Co-dominant	Hip Canker	X
2759	10	MP	Fair	Co-dominant		X
2760	10	MP	Poor	Suppressed	Crown Die Back	X
2761	10	MP	Poor	Suppressed	Crown Die Back	X
2762	10	CLO	Good	Suppressed		
2763	16	MP	Good	Dominant		
2764	20	MP	Good	Dominant		
2765	14	MP	Good	Co-dominant		
2766	28	MP	Good	Dominant		
2767	20	MP	Dead	Dominant		
2768	12	MP	Poor	Co-dominant	Crown Die Back	X
2769	16	MP	Dead		Snag	X
2770	8	MP	Fair	Co-dominant		X
2771	10	MP	Poor	Co-dominant	Crown Die Back	X
2772	6	MP	Fair	Co-dominant		X
2773	16	MP	Fair	Dominant		X
2774	12	MP	Fair	Co-dominant	Topped	X
2775	8,10,6,8,6	CLO	Good	Suppressed		
2776	14	MP	Dead	Dominant		
2777	10	MP	Fair	Co-dominant		
2778	18	MP	Fair	Dominant		
2779	26	MP	Poor	Dominant	Poor Stem Attachment	
2780	20	MP	Fair	Dominant		
2781	20	MP	Fair	Dominant		
2782	16	MP	Good	Co-dominant		
2783	10	MP	Poor	Suppressed	Heavy Sweep Into Tree #2752	
2784	18	MP	Fair	Dominant		
2785	26	MP	Poor	Dominant	IPS, Also Has 13" Stem	
2786	12	MP	Fair	Dominant		X
2787	10	MP	Dead	Dominant		X
2788	6	MP	Poor	Suppressed	Dead Top	X
2789	14	MP	Fair	Dominant		X
2790	14	MP	Fair	Dominant	Thinning Top	X
2791	8	MP	Fair	Suppressed	Thinning Top	X
2792	14	MP	Dead	Intermediate		X
2793	18	MP	Fair	Dominant		X
2794	12	MP	Poor	Co-dominant	Dying	X
2795	24	MP	Poor	Dominant	Crown Die Back	X
2796	26	MP	Poor	Dominant	Crown Die Back	X
2797	10	MP	Fair	Co-dominant		X
2798	12	MP	Fair	Co-dominant		X

2799	12	MP	Fair	Co-dominant		X
2800	6	MP	Poor	Suppressed	Dead Top	X
2801	12	MP	Fair	Co-dominant		X
2802	12	MP	Fair	Co-dominant		X
2803	16	MP	Fair	Co-dominant		
2804	22	MP	Fair	Dominant	Thinning Top	
2805	8,6,6	CLO	Good	Suppressed		
2806	6	MP	Dead	Intermediate		
2807	24	MP	Poor	Dominant	Thinning Top	
2808	6	MP	Fair	Suppressed		
2809	10	MP	Dead	Co-dominant		
2810	26	MP	Poor	Dominant	Dying Top	
2811	12	CLO	Fair	Suppressed	Hypoxylon	
2812	10	CLO	Fair	Suppressed	Hypoxylon	
2813	16	MP	Poor	Dominant	Dying Crown	
2814	10	MP	Fair	Intermediate		
2815	10	MP	Dead	Co-dominant		
2816	22	MP	Dead	Dominant		
2817	20	MP	Poor	Co-dominant	Dying Top	
2818	20	MP	Fair	Dominant		
2819	14	MP	Poor	Co-dominant	Thinning Top	
2820	10	MP	Fair	Intermediate		
2821	16	MP	Fair	Co-dominant		X
2822	10	MP	Fair	Co-dominant		
2823	12	MP	Fair	Co-dominant		
2824	20	MP	Fair	Dominant		
2825	30	MP	Fair	Dominant		
2826	10	MP	Fair	Intermediate		
2827	16	MP	Dead	Co-dominant		
2828	18	MP	Dead	Co-dominant		X
2829	12	MP	Fair	Co-dominant		X
2830	26	MP	Poor	Dominant	Lean, lifted root plate	X
2831	8	MP	Fair	Co-dominant		X
2832	14	MP	Fair	Co-dominant		X
2833	12	MP	Fair	Co-dominant		X
2834	12	MP	Fair	Co-dominant		X
2835	16	MP	Fair	Co-dominant		X
2836	6	MP	Dead	Intermediate		X
2837	12	MP	Dead		On Tree #2796	X
2838	10	MP	Poor	Suppressed	Dead Top	
2839	24	MP	Fair	Dominant		
2840	16	MP	Fair	Co-dominant		
2841	6	MP	Fair	Suppressed		
2842	12	MP	Fair	Co-dominant		
2843	12	MP	Dead	Suppressed		
2844	14	MP	Fair	Co-dominant	Thinning Crown	
2845	24	MP	Fair	Co-dominant	Hip Canker	
2846	13	MP	Fair	Co-dominant	Thinning Crown, Not On Topo Map	
2847	18	MP	Fair	Co-dominant		
2848	19	MP	Fair	Co-dominant	Not On Topo Map	
2849	14	MP	Fair	Co-dominant		
2850	14	MP	Fair	Co-dominant		

2851	10	MP	Fair	Co-dominant		
2852	12	MP	Fair	Co-dominant		X
2853	6	MP	Fair	Co-dominant		X
2854	24	MP	Dead	Dominant		
2855	14	MP	Poor	Co-dominant	Dying	
2856	24	MP	Fair	Dominant		
2857	6	MP	Dead	Suppressed		
2858	16	MP	Fair	Co-dominant	Thinning Crown	
2859	8	MP	Poor	Suppressed	Dying	
2860	8	MP	Poor	Co-dominant	Dying	
2861	10	MP	Fair	Co-dominant		
2862	10	MP	Fair	Co-dominant		
2863	6	MP	Fair	Intermediate		
2864	20	MP	Dead	Dominant		
2865	12	MP	Poor	Dominant	Dying Top	
2866	14	MP	Poor	Dominant	Dying Top	
2867	14,10,8	CLO	Fair	Suppressed	Hypoxylon	
2868	20	MP	Fair	Dominant		
2869	6	CLO	Fair	Suppressed		
2870	12	MP	Poor	Co-dominant	Hip Canker	
2871	8	Wattle	Good	Co-dominant		
2872	6	CLO	Fair	Co-dominant		
2873	14	MP	Fair	Dominant		
2874	14	MP	Fair	Dominant		
2875	10	MP	Fair	Co-dominant		
2876	10	MP	Fair	Co-dominant		
2877	12	MP	Fair	Co-dominant		
2878	10	MP	Poor	Co-dominant	Heavy Sweep	
2879	14	MP	Fair	Dominant		
2880	12	MP	Fair	Co-dominant		
2881	14	MP	Fair	Co-dominant		
2882	6	Acacia	Good	Suppressed		
2883	7 Stems 2-6	Acacia	Good	Suppressed		
2884	16	MP	Fair	Dominant		
2885	28	MP	Fair	Dominant		
2886	14	MP	Poor	Dominant	Dead Top	
2887	12	MP	Fair	Co-dominant		
2888	12	MP	Fair	Co-dominant		
2889	8	MP	Fair	Co-dominant		
2890	12	MP	Fair	Co-dominant		
2891	16	MP	Fair	Co-dominant		
2892	10	MP	Fair	Intermediate		
2893	14	MP	Fair	Co-dominant		
2894	10	MP	Fair	Co-dominant		
2895	24	MP	Fair	Dominant		
2896	14	MP	Dead	Co-dominant		
2897	16	MP	Fair	Co-dominant		
2898	14	MP	Fair	Co-dominant		
2899	12	MP	Fair	Co-dominant		
PB1	14	MP	Poor	Co-dominant		X
PB2	12	MP	poor	Co-dominant		X



## PHOTOGRAPHS

View of the lot to the south west from center of Lisbon Lane



View of the lot from Lisbon Lane to the south east





View of thinning canopy from Lisbon lane

