Appendix A
Technical Reports

(Additional technical reports will be provided upon request)

RGH CONSULTANTS

Experience is the difference

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March 29, 2010

Chamberlain Lakepark Limited
c/o Chamberlain Group
655 Skyway, Suite 230
San Carlos, CA 94070

Geotechnical Consultation
Revised Exploration Plan and Creep Prone Areas

Project Number: 1775.03.06.1

The Arbors at Nielson Ranch
APN 173-270-005
3500 Lake Park Drive
Santa Rosa, California

The purpose of this letter is to address requests by the City of Santa Rosa (City) as they relate to The Arbors at Nielson Ranch project to be constructed at 3500 Lake Park Drive in Santa Rosa, California. The results of our geotechnical study for the project were presented in a report dated May 18, 2005. We also provided a letter, dated February 28, 2008, clarifying our recommendations regarding creep soils and soils on slopes 10:1 or steeper. We understand that since our report was issued the project layout has been revised, and as such, the City would like us to revise our exploration plan to show the new project layout. We also understand that the City would like further clarification on mapped areas of observed creep and their impact on the proposed improvements.

We obtained the latest project layout from BKF/Carlenzoli & Associates, the project civil engineer. We transferred the geology, the exploration points and cross section locations, and areas of soil creep onto the new site layout. This revised Plate 2 (Exploration Plan) is attached and supersedes the Exploration Plan presented in our geotechnical study.

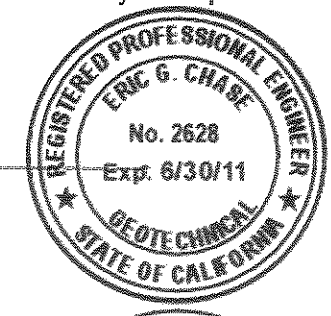
As shown on the revised Exploration Plan two areas of active soil creep exist at the site. These areas are shown to be outside of proposed building envelopes in designated open space downslope of Lots 4, 5, 7, 8, 9, and 10. To be clear, creeping soils at the Arbors' site are not landslides where the movement will continue to propagate up the slope towards the structures such as could be expected for an active landslide. If creep was observed in soils within an old dormant landslide, then it could be a sign of activation of a smaller feature within the larger landslide. This is not the case at the Arbors site because the site is not within an old inactive landslide. As discussed in our report, on sloping terrain 10:1 or steeper, the weak, expansive surface materials (typically less than 4 feet thick at the site) undergo a gradual downhill movement known as creep. Soil creep is inherent to hillsides in the area and its force is directly proportional to slope inclination, the soils plasticity, water content and expansion potential. Essentially, this means where weaker in-places soils with a higher plasticity index are present on steeper slopes, there is a potential for soil creep. Where soils are susceptible to creep, grading is either performed to strengthen these soils or foundations are designed to resist creep forces. However, areas of soil creep that are outside of building areas are not typically

remediated with grading unless other improvements (pool, decking, concrete walkways, etc) are planned. At the Arbors' site the two areas of active creep are in open space areas where no improvements are planned.

In summary, because the creeping soils are not associated with a landslide feature and the actively creeping areas are in open space, we judge that evaluation of their stability and remedial grading are not required. Once the site has been staked and while the required clearing is being performed, our engineer and geologist will perform a site reconnaissance of the actively creeping areas to observe their limits relative to the proposed improvements to confirm what we have presented in our geotechnical study. At that time, we may provide additional recommendations for surface and/or subsurface drainage. If these areas are found to have a potentially adverse impact on the improvement areas, further evaluation will be performed and remediation measures implemented if necessary. Evaluations will be performed in accordance with the guidelines outlined in California Geologic Survey's Special Publication 117.

We trust this provides the information you require at this time. Please call if you have questions.

Very truly yours,
RGH Consultants, Inc.



Jared J. Pratt
Senior Geologist

Eric G. Chase
Senior Associate Engineer

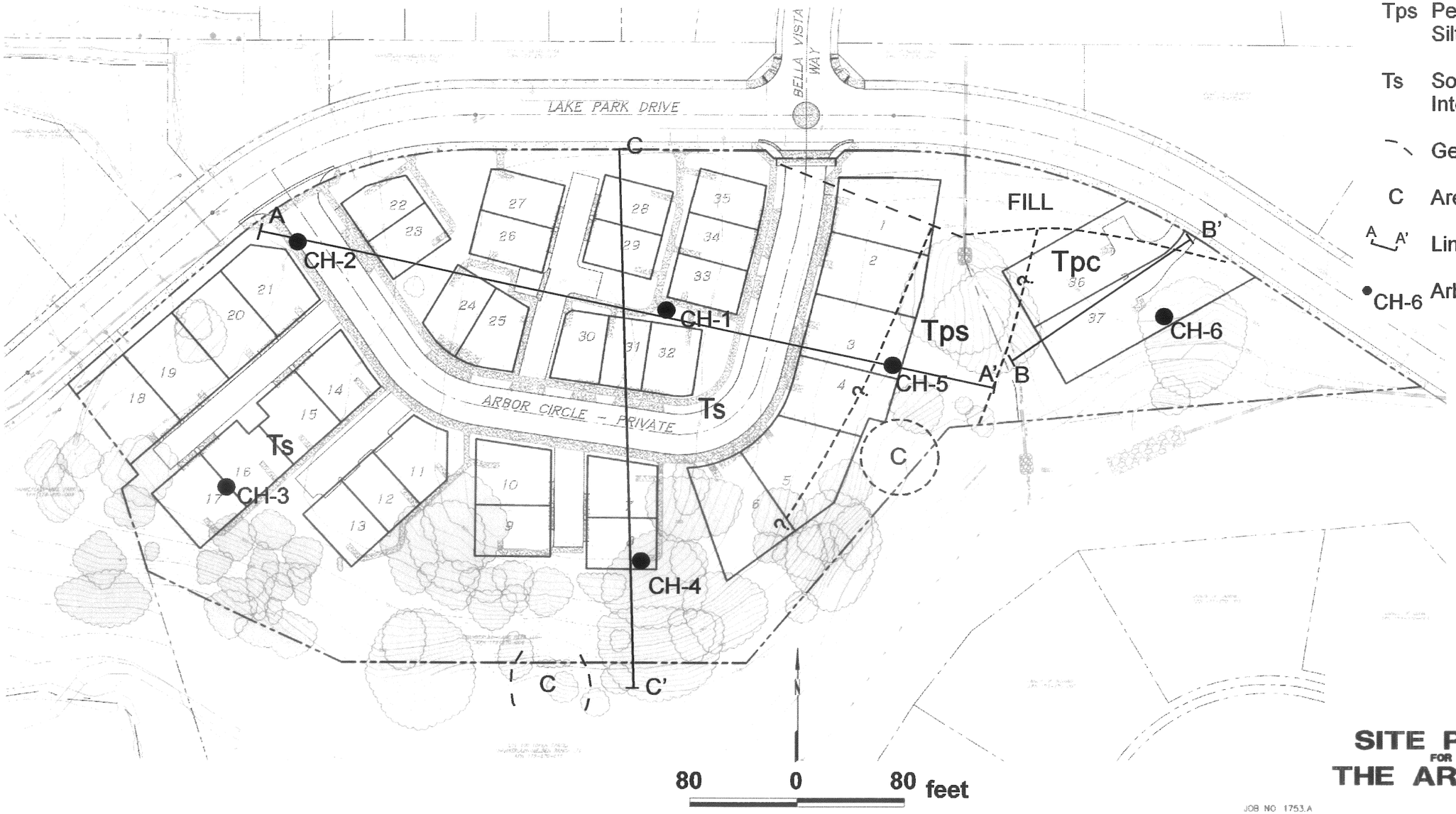
cc: City of Santa Rosa
Attn: Larry Lackie
LLackie@srcity.org

BKF-Carlenzoli& Associates
Attn: Bonnie Diefendorf
bdiefendorf@BKF.com

Attachment: Plate 2 – Exploration Plan

EGC:JJP:GWR:ec:lw
One copy submitted

s:\work in progress\1775.03.06.1 the arbors at nielson ranch\revised plate 2_creep areas letter.doc



EXPLANATION

Tp	Petaluma Claystone
Tps	Petaluma Sandstone Siltstone
Ts	Sonoma Volcanics Lithic Tuff, with Interbedded Sandstone and Siltstone
	Geologic Contact
C	Area of Soil Creep
A A'	Line of Geologic Cross Section
CH-6	Arbors Subdivision Core Hole

Reference: Site Plan by Carlenzoli and Associates, Undated.

Scale: 1"=80'

RGH CONSULTANTS		**EXPLORATION PLAN** The Arbors Subdivision Lake Park Drive Santa Rosa, California	PLATE 2
Job No: 1775.03.04.1	Date: Mar 2010		

Ralph Osterling Consultants

Natural & Urban Resources Management

25 November 2009

Mr. Jack Chamberlain
655 Skyway
Suite 23
San Carlos, Ca 94070

Re: Tree Report for the Arbors

Dear Jack:

In order to provide an accurate tree inventory as required by the City of Santa Rosa, Ralph Osterling Consultants, Inc. (ROC) completed a tree survey in October 2009 to update the existing tree data base. During the period of time between the initial tree report in September 1999 and this current tree report a number of trees have grown and now meet the minimum diameter requirement of four inches and must therefore be included in the inventory. In addition, a number of trees have died or partially failed requiring a change in their recorded condition.

An updated Tree Exhibit using the preliminary site plan as the base map was prepared by BKF Carlenzoli and Associates in October 2009. Tree data from the October, 2009 ROC tree survey report was used to verify tree location and current tree status.

A total of 892 regulated trees (four inches in trunk diameter and larger) have been verified in the project area by ROC. Of these trees, 128 were determined to be Heritage Trees as per the City of Santa Rosa Tree Ordinance.

A total of 670 trees will be removed for reasons of tree condition and construction purposes. Removal of Heritage Trees will be limited to 62.

Using the City of Santa Rosa's mitigation formula of two mitigation trees for every six inches of authorized removed trees (total combined trunk diameters divided by 6 and multiplied by 2) we have the following:

Total combined trunk diameters of removed trees:	6129 inches
6129 inches divided by 6 inches and multiplied by 2:	2043 required mitigation trees

A total of 2043 15-gallon size trees are required to be planted on the site. If the site cannot accommodate all of the required trees, an in-lieu fee of $100 per tree may be submitted in place of the tree planting.

1650 Borel Place, Suite 204 ▪ San Mateo, CA 94402
(650) 573-8733 ▪ Fax (650) 345-7890 ▪ email: monitor@landwatch-inc.com

From a Forester's perspective, the site represents an unnatural stand of oaks. This overstocked site created an environment in which the trees competed heavily for available resources; light, water and nutrients. As a consequence of this intense competition, the trees developed foliar canopies limited to the upper one fourth of the tree's architecture. Water and nutrients are also scarce resulting in reduced development of new growth. These trees do not depict the image one would conjure up when discussing a "classic oak".

It is this image of the "classic oak" that the City's Tree Ordinance is attempting to protect as described in Chapter 17-24 Trees, Article I "Declaration of legislative intent and purpose". The existing trees located at this site clearly do not meet the intent of the City's tree ordinance.

Safety is a major concern when protecting individual trees that have grown in a dense stand. The trees have developed an architecture that competes for sunlight and depends on the buffering effect of surrounding trees to resist strong winds. An individual tree from a dense stand has not developed the defenses to grow independently and will be vulnerable to wind throw or limb failure.

In regards to mitigation trees, we strongly encourage the preservation of selected oaks with trunk diameters between 9 to 12 inches or smaller for use as relocated (transplanted) trees. Careful selection of appropriate candidate trees followed by possible cabling at the time of transplanting will help to assure stability. Special irrigation regimes and root treatments will encourage healthy root systems capable of supporting the trees into the future.

Approximately 80 existing oaks in the diameter range of 9 to 12 inches have been selected as transplant candidates. These trees typify the "classic oak" appearance that the tree ordinance desires to preserve. This 9 to 12 inch size range actually represents the next generation of oaks which in ten years will become the future Heritage Trees to be protected and appreciated rather than feared.

Attached is a Tree Protection Plan with tree protection and preservation measures for those trees to be retained in the project area. This plan is to be made a detail on the final construction drawings for use in the field.

Should you have questions or require additional information, kindly contact me at your earliest convenience.

Respectfully,

Ralph Osterling
President

The Arbors
Tree Protection Plan

The following tree protection and preservation measures have been prepared for those trees to be retained in the project area. All protected tree fencing areas are shown on the Site Plan. The tree protection zone is shown as a bold dashed line and corresponds to the location of the tree protection fencing. The following measures will be implemented to provide protection to the trees during project construction:

1. **Tree Protection Fencing** - Prior to the start of construction, tree protection fencing will be installed in the locations shown on the final grading plan. Tree protection fencing shall be four (4') foot high orange plastic protection fencing. The fencing will be mounted on steel AT@ drive posts driven into the ground to a depth of at least one foot with a spacing of no more than eight (8') feet.

   Tree fencing is to be erected and approved by the Project Forester before any demolition, grading, or construction begins and remain in place until final inspection of the project permit. A durable warning sign measuring 8.5" x 11.0" that reads, **Warning Tree Protection Zone,** will be prominently displayed on each fence. (Please refer to attached examples.)

2. **Tree Protection Zone or (TPZ)** - each tree to be retained to will have a designated TPZ identifying an area sufficiently large enough to protect the tree and roots from disturbance. The TPZ shall be shown on all site plans for the project. Improvement activities such as paving, utility and irrigation trenching and other ancillary activities shall occur outside of the TPZ, unless authorized by the Project Forester, or by project approval. The tree protection fencing will be used to delineate the extent of the TPZ.

   The following activities are prohibited within the TPZ:

   < Storage or parking vehicles, building materials, refuse excavated spoils or dumping of poisonous materials on or around trees and roots. Poisonous materials include, but are not limited to, paint, petroleum products, concrete or stucco mix, dirty water or any other material that may be deleterious to tree health.

   < The use of tree trunks as a winch support, anchorage, as a temporary power pole, sign posts or other similar function.

- Cutting tree roots by utility trenching, foundation digging, placement of curbs and trenches and other miscellaneous excavation without prior approval of the Project Forester.

- Soil disturbance or grade change

- Drainage changes

The following activities may be permitted in the TPZ:

- Mulching. During construction, wood chips may be spread within the TPZ to a 4-6-inch depth, leaving the trunk clear of mulch to help inadvertent compaction and moisture loss from occurring. The mulch may be removed if improvements or other landscaping is required.

- Root Buffer. When areas under the tree canopy cannot be fenced, a temporary buffer is required and shall cover the root zone and remain in place at the specified thickness until final grading stage.

- Irrigation, aeration, fertilizing or other beneficial practices that have been specifically approved for use within the TPZ.

3. **Tree Pruning, Surgery and Removal** - Prior to the start of construction, the contractor and Project Forester will conduct an onsite review of trees adjacent to the construction area to identify any pruning necessary for vehicle and equipment clearance. Where needed, limbs will be professionally pruned to provide the minimum necessary vehicle clearance. Pruning shall not be attempted by construction or contractor personnel, but shall be performed by a qualified tree care specialist or certified tree worker.

4. **Grade Limitations within the Tree Protection Zone**

- Grade changes outside of the TPZ shall not significantly alter drainage to the tree. Where drainage alteration is unavoidable, supplemental drip irrigation may be required for two growing seasons following the drainage alteration to mitigate for the loss of natural soil water.

- Grade changes within the TPZ are prohibited, except as previously noted for Aline@ trees that will be impacted, but preserved.

- Grade changes under specifically approved circumstances shall not allow more than six (6") inches of fill soil added or allow more than four (4") inches of existing soil to be removed from natural grade unless mitigated.

- Grade fills over six (6") inches or impervious overlay shall incorporate an approved permanent aeration system, permeable material or other approved mitigation.

5. **Trenching, Excavation and Equipment Use** - Trenching, excavation or boring activity within the TPZ is restricted to the following activities, conditions and requirements if approved by the Project Forester.

   - Notification. Contractor shall notify the Project Forester a minimum of 24 hours in advance of any activity in the TPZ.

   - Root Severance. Roots that are encountered shall be cut to sound wood and repaired. Roots two (2") inches and greater must remain injury free.

   - Excavation. Any approved excavation, demolition or extraction of material shall be performed with equipment sitting outside the TPZ. Methods permitted are by hand digging, hydraulic or pneumatic air excavation technology. Excavation in the TPZ should be avoided during hot dry weather.

     If excavation or trenching for drainage, utilities, irrigation lines, etc., the contractor shall tunnel under any roots two (2") inches in diameter and greater. Prior to excavation for foundations, footings, walls, grading or trenching within the TPZ, roots shall first be severed cleanly one (1') foot outside the TPZ and to the depth of the future excavation. The trench must then be hand dug and the roots pruned with a saw, Sawzall®, narrow trencher with sharp blades or other approved root pruning equipment.

- Heavy Equipment. Use of backhoes, steel tread tractors or any heavy vehicles within the TPZ is prohibited unless approved by the Project Forester. If allowed, a protective root buffer is required. The protective root buffer shall consist of a base course of tree chips spread over the root area to a minimum depth of six (6") inches, layered by 3/4-inch quarry gravel to stabilize 3/4-inch plywood on top. This buffer within the TPZ shall be maintained throughout the entire construction process.

- Structural Design. If injurious activity or interference with roots greater than two (2") inches in diameter will occur within the TPZ, plans shall specify a design of special foundation, footing, walls, concrete slab or pavement designs subject to Project Forester approval. Discontinuous foundations such as concrete pier and structural grade beam must maintain natural grade (not to exceed a four (4") inch cut), to minimize root loss and allow the tree to use the existing soil.

6. **Injury Mitigation** - The following mitigation measures will be used as need to address project induced drought stress, dust accumulation, or soil compaction to trees that are to be saved. To help reduce impact injury, one or more of the following mitigation measures will be implemented, as necessary and supervised by the Project Forester.

   - Irrigation Program. Irrigate to wet the soil within the TPZ to a depth of 24" to 30". Or, apply sub-surface irrigation at regular specified intervals by injecting on approximate three (3') foot centers, ten (10) gallons of water per inch of trunk diameter within the TPZ. Duration shall be until project completion or monthly until seasonal rainfall totals at least eight (8") inches of rain.

   - Dust Control Program. If grading occurs during the dry summer months, dust shall be controlled by wetting all disturbed areas as needed with a water truck.

   - Soil Compaction Damage. If a compaction event to the upper 12-inch soil horizon within the tree protection zone has or will occur by any means, then one or more of the following mitigation measures will be implemented.

Type 1 Mitigation. If an approved paving, hardscape or other compromising material encroaches within the TPZ, an aeration system shall be designed by the Project Forester and used within this area. **See Attached - Tree Protection Detail Drawings** for a typical aeration system design.

Type 2 Mitigation. If inadvertent compaction of the soil has occurred within the TPZ, the soil shall be loosened by one or more of the following methods to promote favorable root conditions: vertical mulching, soil fracturing, core-venting, radial trenching or other method approved by the Project Forester.

Damage to Trees requires reporting of any damage or injury to protected trees to the Project Forester and job superintendent within six (6) hours so that mitigation can take place immediately. All mechanical or chemical injury to branches, trunk or to roots over two (2") inches in diameter shall be reported in the weekly inspection report. In the event of injury, the following mitigation and damage control measures shall apply:

< Root Injury. When approved trenches within the TPZ are excavated and tree roots two (2") inches in diameter or larger are encountered, they must be cleanly cut back to a sound wood lateral root. The end of the root shall be covered with either a plastic bag and secured with tape or rubber band, or be coated with latex paint. All exposed root areas within the TPZ shall be backfilled or covered within one hour. Exposed roots may be kept from drying out by temporarily covering the roots and draping layered burlap or carpeting over the upper three (3') feet of trench walls. The materials must be kept wet until backfilled to reduce evaporation from the trench walls.

< Bark or Trunk Wounding. Current bark tracing and treatment methods shall be performed by a qualified tree care specialist within two days.

< Scaffold Branch or Leaf Canopy Injury. Within five days, remove broken or torn branches back to an appropriate branch capable of resuming terminal growth. If leaves are heat scorched from equipment exhaust pipes, consult the project arborist within six (6) hours.

Inspection Schedule

During grading activities, the Project Forester shall inspect the site twice each week to verify that protected trees have not been damaged. If any native tree greater than or equal to four (4") dbh is determined by the Project Forester to be damaged, the tree(s) will be replaced at a 2:1 ratio, and temporary fencing of the tree drip lines within the remaining construction area shall be required.

Inspection Reports will be submitted at the end of each week to the City of Santa Rosa summarizing the week's observations, problems or violations, and the corrective measures taken.

Due to the density of the preserved woodland areas, most mitigation planting will occur in areas devoid of trees or areas cleared for project construction. As a matter of procedure, any mitigation planting or landscape planting that may occur within the drip line of any native oak tree must be done in a manner that does not damage or weaken the preserved tree. Any irrigation within the drip line must be drip type irrigation. Area sprays are prohibited within the drip line of native oak trees. In addition, the area around the root collar (min. 6' radius) of the native oak trees must remain dry throughout the summer season.

Visual Impacts

Visual impacts will be limited to the interior portion of the project; primarily the view from Lake Park Drive. Offsite views from the south and west will be screened by the dense tree cover that will remain in these areas.

WARNING
Tree Protection Zone

This fence shall not be moved without approval.
Only authorized personnel may enter this area.

Each Protected Tree is required to have at least one warning card on its fencing.

CUIDADO
Zona De Arbol Pretejido

Esta cerca no sera removida sin aprobacion.
Solo personal autorizado entrara en esta area.

Cada arbol pretejido requiere tener por lo menos una tarjeta de advertencia en su cerca.

TABLE A
TREE TABLE
The Arbors
Santa Rosa, California

Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
126	valley oak		X	good	14					
345	coast live oak		X	good	26	18	13	11		
346	coast live oak		X	fair	11	10				
347	coast live oak			good	15					
348	coast live oak			poor	7	5				
349	coast live oak			good	16					
352	coast live oak			good	15					
353	coast live oak		X	good	42	11				5" adj. madrone
354	coast live oak			good	14					
355	coast live oak			good	15					
356	coast live oak			good	16					
389	coast live oak		X	good	14	14				
390	coast live oak			poor	12					
391	coast live oak			fair	11	6				
392	coast live oak		X	fair	13	11	10			
393	coast live oak	X		good	13					
394	coast live oak		X	good	14	8	5			
395	coast live oak	X	X	good	10	8				
396	coast live oak			fair	10	7				
397	coast live oak		X	fair	20	18	16			
398	valley oak		X	poor	21	10				
593	coast live oak		X	good	16	14				
594	coast live oak	X	X	poor	17	12				
595	coast live oak		X	good	16	15				
596	coast live oak			good	14					
597	coast live oak			good	14					
599	coast live oak			poor	8	5				
600	coast live oak			good	11					
601	coast live oak	X	X	poor	13	11	10			
602	coast live oak	X	X	poor	15	13	10			
604	coast live oak	X	X	poor	13	5	4			
605	coast live oak		X	good	11	9	6			
606	coast live oak			fair	10	5				
607	coast live oak			fair	16					

TABLE A
TREE TABLE
The Arbors
Santa Rosa, California

Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
608	coast live oak		X	good	10	7	6			
609	coast live oak			fair	13					
610	coast live oak			fair	10					
611	coast live oak			good	16					
612	coast live oak		X	good	17	10	9	5		
613	coast live oak		X	fair	9	8	8	6		
614	coast live oak		X	good	11	6	6			
615	coast live oak		X	fair	24	16				
617	coast live oak		X	fair	11	9	8			
622	coast live oak		X	fair	17	15	12	9		
623	coast live oak		X	fair	21					
625	coast live oak		X	good	31	17	14			
626	coast live oak	X	X	fair	23					
627	coast live oak	X	X	poor	28	21	16			
628	coast live oak	X	X	poor	17	15	10			
629	coast live oak		X	good	11	11	10			
630	coast live oak		X	fair	12	11	8			
631	coast live oak		X	good	10	10	7	6		
633	coast live oak		X	fair	33					trunk decay
634	coast live oak		X	fair	22	15	12			
635	coast live oak		X	good	22					
636	coast live oak		X	fair	23	16				
637	coast live oak		X	good	10	7	6			
638	coast live oak		X	good	14	6				
639	coast live oak			poor	10	6				
640	coast live oak			fair	11	6				
641	coast live oak			poor	14					
642	coast live oak			good	12					
643	coast live oak		X	poor	15	10				
644	coast live oak		X	good	16	15				
645	coast live oak		X	fair	37					
646	coast live oak			good	17					
648	coast live oak		X	poor	17	10				
649	coast live oak			poor	8	7				

TABLE A
TREE TABLE
The Arbors
Santa Rosa, California

Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
650	coast live oak			poor	10	7				
651	coast live oak		X	good	18					
652	coast live oak			poor	11					
653	coast live oak		X	good	20	19	14			
654	coast live oak		X	fair	18					
655	coast live oak	X	X	good	36					
656	coast live oak	X	X	poor	23					
657	coast live oak	X		fair	14					
659	coast live oak	X	X	fair	20					
661	coast live oak	X	X	poor	17	16	15	14	9	
663	coast live oak	X		good	14					
664	coast live oak	X	X	poor	12	11				
665	coast live oak	X	X	poor	31					
666	coast live oak	X		good	11					
668	coast live oak	X	X	poor	19					
669	coast live oak	X	X	poor	27					
670	valley oak	X	X	poor	30					
683	coast live oak	X	X	poor	15	8				
685	coast live oak	X		fair	14					
688	coast live oak	X		fair	9					
689	coast live oak	X	X	poor	11	11				
690	coast live oak	X	X	poor	18					
898	valley oak		X	fair	39	21				bee hive
899	coast live oak			fair	13					
900	coast live oak			good	16					
902	coast live oak		X	good	15	13	13			
903	coast live oak			fair	13					
904	coast live oak	X	X	poor	13	12				
905	coast live oak			good	14					
5798	madrone		X	good	14	13	8			
5799	madrone	X		poor	5					
5800	coast live oak	X		poor	7					
5803	coast live oak	X		poor	6					
5804	coast live oak	X		fair	10					

TABLE A
TREE TABLE
The Arbors
Santa Rosa, California

Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5807	coast live oak	X		good	6					
5809	coast live oak	X		good	11					
5812	coast live oak	X		good	7					
5813	coast live oak	X		poor	5					
5814	coast live oak			poor	6					
5815	coast live oak	X		poor	9	7				
5816	coast live oak	X		fair	7					
5817	coast live oak	X		poor	7					
5818	coast live oak	X		good	9					
5819	coast live oak			poor	6	6				
5820	coast live oak			good	9					
5821	coast live oak			good	8					
5822	coast live oak	X	X	fair	22					
5823	coast live oak	X		good	17					
5824	coast live oak	X		poor	6					
5825	coast live oak	X		poor	7					
5826	coast live oak	X		good	8					
5827	valley oak	X	X	poor	10					
5828	coast live oak	X		fair	7					
5829	coast live oak	X		good	9					
5830	coast live oak	X		good	13					
5831	coast live oak	X		poor	6	5				
5832	coast live oak	X		good	13					
5833	coast live oak	X		good	14					
5834	coast live oak	X		fair	10					
5835	coast live oak	X		good	10					
5836	coast live oak	X		fair	9					
5837	black oak	X		good	6	6				
5838	coast live oak	X		good	11					
5839	coast live oak	X	X	poor	10	8				
5840	coast live oak	X		poor	9					
5841	coast live oak	X		good	9					
5842	coast live oak	X		poor	4					
5843	coast live oak	X		good	7	7				

TABLE A
TREE TABLE
The Arbors
Santa Rosa, California

Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5844	coast live oak	X		good	12					
5845	coast live oak	X		good	8	6				
5846	coast live oak	X		poor	6					
5847	coast live oak	X		fair	10					
5848	coast live oak	X		good	8	5				
5849	coast live oak			fair	7	6				
5850	coast live oak	X		good	9					
5851	coast live oak	X	X	poor	9	8	4			
5852	coast live oak	X		fair	10					
5853	coast live oak	X		good	7	4				
5854	coast live oak	X	X	poor	11	7	7			
5855	coast live oak	X	X	poor	9	9				
5856	coast live oak	X		good	8					
5857	coast live oak	X		fair	10					
5858	coast live oak	X	X	poor	12	10				
5859	coast live oak	X	X	poor	10	8				
5860	coast live oak	X		poor	6	6				
5861	coast live oak	X		poor	7					
5862	coast live oak	X		fair	6					
5863	coast live oak	X		poor	8	6				
5864	coast live oak	X		good	14					
5865	coast live oak	X		good	11					
5866	coast live oak	X		poor	7					
5867	coast live oak	X		poor	8					
5868	coast live oak	X		good	8	7				
5869	coast live oak	X		poor	9					
5870	coast live oak	X	X	poor	10	9				
5871	coast live oak	X		good	11					
5872	coast live oak	X		fair	8	6				
5873	coast live oak	X		good	8					
5874	coast live oak	X		poor	6					
5875	coast live oak	X		fair	7					
5876	coast live oak	X		good	11					
5877	coast live oak	X		fair	7					

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TREE TABLE
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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5878	coast live oak	X	X	poor	8	8	6	4		
5879	coast live oak	X	X	poor	12	12	6			
5880	coast live oak	X		fair	9					
5881	coast live oak	X		good	9					
5882	coast live oak	X		good	9					
5883	coast live oak	X		fair	6					
5884	coast live oak	X		good	14					
5885	coast live oak	X		fair	8					
5886	coast live oak	X		poor	9					
5887	coast live oak	X	X	poor	16	9	4			
5888	coast live oak	X		good	9	5				
5889	coast live oak	X		poor	6	6	4			
5890	coast live oak	X		good	9					
5891	coast live oak	X		fair	7					
5892	coast live oak	X	X	poor	11	10				
5893	coast live oak	X		good	10	7				
5894	coast live oak	X		poor	6					
5895	coast live oak	X		good	8					
5896	coast live oak	X		good	9					
5897	coast live oak	X		good	9					
5898	coast live oak	X		fair	7					
5899	coast live oak	X		fair	6					
5900	coast live oak	X	X	poor	14	8				
5901	coast live oak			fair	7	5				
5902	coast live oak		X	good	11	10	6			
5903	coast live oak		X	fair	11	9	8			
5904	coast live oak			fair	10					
5905	coast live oak			fair	8					
5906	coast live oak			good	7					
5907	coast live oak		X	good	10	10	6			
5908	black oak		X	good	6	6	4	4		
5909	coast live oak			good	10					
5910	coast live oak			fair	10					
5911	coast live oak	X	X	fair	14	10	8			

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5912	coast live oak	X		fair	9					
5913	coast live oak		X	poor	7	6	6			
5914	coast live oak			good	8					
5915	coast live oak			fair	11					
5916	coast live oak		X	fair	33					
5917	madrone	X		fair	11					
5918	madrone	X		good	7					
5919	coast live oak	X		good	8	6				
5920	coast live oak	X		good	10					
5921	coast live oak	X		good	7					
5922	coast live oak	X		good	8					
5923	madrone	X	X	poor	10	9				
5924	coast live oak	X		poor	7					
5925	coast live oak	X		good	13					
5926	coast live oak	X		poor	6					
5927	coast live oak	X		fair	8					
5928	coast live oak	X		fair	9					
5929	coast live oak	X		good	6	6	4			
5930	coast live oak	X		good	8					
5931	coast live oak	X	X	poor	12	8				
5932	coast live oak	X		poor	6					
5933	madrone	X	X	poor	12					
5934	coast live oak	X		good	9					
5935	coast live oak	X		good	7					
5936	coast live oak	X		fair	6					
5937	coast live oak	X		fair	6					
5938	coast live oak	X		good	7					
5939	coast live oak	X		poor	6					
5940	coast live oak	X		fair	6					
5941	coast live oak	X		good	8					
5942	coast live oak	X		good	8	7				
5943	coast live oak	X		good	11					
5944	coast live oak	X		poor	8					
5945	coast live oak	X		poor	6					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5946	coast live oak	X		good	16					
5947	coast live oak		X	fair	14	9				
5948	coast live oak	X		good	10					
5949	coast live oak	X		good	11					
5950	coast live oak	X		poor	12					
5951	coast live oak	X		good	10	6				
5952	coast live oak	X		good	9					
5953	coast live oak	X		good	9					
5954	coast live oak	X		poor	9					
5955	coast live oak	X		poor	7	6				
5956	coast live oak	X		good	15					
5957	coast live oak	X		good	10					
5958	coast live oak	X		poor	8					
5959	coast live oak	X		fair	12					
5960	coast live oak	X		poor	5					
5961	coast live oak	X		poor	8					
5962	coast live oak	X		poor	7					
5963	coast live oak	X		good	12					
5964	coast live oak	X		good	11					
5965	coast live oak	X		good	12					
5966	coast live oak	X		good	13					
5967	coast live oak	X		good	10					
5968	coast live oak	X		good	12					
5969	coast live oak	X		fair	8					
5970	coast live oak			good	14					
5971	coast live oak			good	8					
5972	coast live oak	X		poor	7					
5973	coast live oak			good	16					
5974	coast live oak	X		good	12					
5975	coast live oak	X		good	10					
5976	coast live oak	X		good	12					
5977	coast live oak	X	X	fair	14	5				
5978	coast live oak	X		fair	12	5				
5979	coast live oak	X		good	8	7				

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5980	coast live oak	X		good	10					
5981	coast live oak	X		good	10					
5982	coast live oak	X		fair	11					
5983	coast live oak	X		fair	8	7				
5984	coast live oak	X		good	8					
5985	coast live oak	X		fair	9					
5986	coast live oak	X		good	10					
5987	coast live oak	X		good	11					
5988	coast live oak	X		poor	6					
5989	coast live oak	X		poor	5					
5990	coast live oak	X		fair	10					
5991	coast live oak	X	X	poor	14	10				
5992	coast live oak	X		poor	7					
5993	coast live oak	X		poor	6					
5994	coast live oak	X		poor	8					
5995	coast live oak	X		poor	11					
5996	coast live oak	X		fair	7					
5997	coast live oak	X		good	9					
5998	coast live oak	X		good	8					
5999	coast live oak	X		poor	6					
6000	coast live oak	X		good	10					
6250	madrone	X		fair	9					
6259	madrone	X		good	10					
6260	madrone	X		good	8					
6261	coast live oak		X	good	15	12	11			
6262	coast live oak	X		fair	10					
6263	coast live oak	X		fair	8					
6264	coast live oak	X		good	12					
6265	coast live oak	X		fair	7					
6266	coast live oak	X		good	10					
6267	coast live oak	X		poor	6					
6268	coast live oak	X	X	poor	18	16	9			
6269	coast live oak	X	X	poor	12	11				
6270	coast live oak	X		poor	6					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6271	madrone	X	X	poor	13					
6272	coast live oak	X		fair	8					
6273	coast live oak	X		fair	7	6				
6274	coast live oak	X		good	12					
6275	coast live oak	X		good	10					
6276	valley oak	X	X	poor	7					
6277	coast live oak	X		poor	6					
6278	coast live oak	X		good	9					
6279	coast live oak	X	X	poor	12	7				
6280	coast live oak	X		fair	6					
6281	coast live oak	X		poor	6					
6282	coast live oak	X		poor	6					
6283	coast live oak	X		good	10					
6284	coast live oak	X		good	13					
6285	coast live oak	X		fair	7					
6286	coast live oak	X		good	7					
6287	madrone			good	11	4				
6288	coast live oak		X	fair	30	20	12			
6289	coast live oak			fair	6					
6290	coast live oak			good	9					
6291	coast live oak	X		good	7					
6292	coast live oak	X		poor	7					
6293	coast live oak			good	7					
6294	coast live oak		X	good	19	13				
6295	madrone		X	good	17	16				
6296	madrone			good	11					
6297	coast live oak	X		fair	6					
6298	coast live oak	X		fair	6					
6299	coast live oak	X		good	8					
6300	coast live oak	X		good	8					
6501	coast live oak	X		fair	8					
6502	coast live oak	X		good	7					
6503	coast live oak	X		fair	8					
6504	coast live oak	X		poor	6					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6505	coast live oak	X		good	9					
6506	coast live oak	X		good	7					
6507	coast live oak	X		fair	7	6				
6508	coast live oak	X		good	10	7				
6509	coast live oak	X		good	8					
6510	coast live oak	X	X	poor	12	10				
6511	coast live oak	X	X	poor	9	9	5			
6512	coast live oak	X		good	8	6				
6513	coast live oak	X	X	poor	12	10				
6515	coast live oak	X		fair	7					
6516	coast live oak	X		good	10					
6517	coast live oak	X		good	10					
6518	coast live oak	X		good	9	6				
6519	coast live oak	X		good	12					
6520	coast live oak	X		fair	9					
6521	coast live oak	X		good	15					
6522	coast live oak	X	X	fair	11	7				
6523	coast live oak	X		good	9					
6524	madrone	X	X	fair	14					
6525	coast live oak	X		good	12					
6526	coast live oak	X		good	8					
6527	coast live oak	X		fair	6					
6528	coast live oak	X		good	8	7				
6529	coast live oak	X		good	13					
6530	coast live oak	X		good	10					
6531	coast live oak	X		fair	6					
6532	coast live oak	X		good	8					
6533	coast live oak	X		good	12					
6534	coast live oak	X		fair	8					
6535	coast live oak	X		fair	8					
6536	coast live oak	X		good	9					
6537	coast live oak	X		good	8	8				
6538	coast live oak	X	X	poor	12	10	7			
6539	coast live oak	X	X	poor	14	9	6			

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6540	coast live oak	X		good	8					
6541	coast live oak	X		good	11					
6542	coast live oak	X		good	9	8				
6543	coast live oak	X		good	9					
6544	coast live oak	X		good	11					
6545	coast live oak	X		good	14					
6546	coast live oak	X		good	16					
6547	coast live oak	X		good	10					
6548	coast live oak	X		good	9					
6550	madrone	X	X	poor	12					
6551	coast live oak	X		good	9					
6552	madrone	X	X	good	9	4				
6553	coast live oak	X		good	16					
6554	coast live oak	X		good	15					
6555	coast live oak	X		good	6	6				
6556	black oak	X	X	poor	11	8				
6557	coast live oak	X		fair	9					
6558	coast live oak	X		good	9					
6559	coast live oak	X		good	7					
6560	coast live oak	X		good	10					
6561	coast live oak	X		poor	5	3				
6562	coast live oak	X		good	7	7				
6563	coast live oak	X		good	10					
6564	coast live oak	X		good	10					
6565	coast live oak	X	X	good	12	7				
6566	coast live oak	X		fair	7					
6567	coast live oak	X		good	9					
6568	coast live oak	X		good	7					
6569	coast live oak	X		good	13					
6570	coast live oak	X		good	7	5				
6572	coast live oak	X		good	8					
6573	coast live oak	X		good	9	8				
6574	coast live oak	X		good	8	8				
6575	coast live oak	X		good	8					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6576	coast live oak	X		fair	6					
6577	coast live oak	X		good	7	7				
6578	coast live oak	X		fair	10					
6579	coast live oak	X		good	7					
6580	coast live oak	X		good	7	6				
6581	black oak	X		good	7	5				
6582	coast live oak	X		good	8					
6583	coast live oak	X		good	9					
6584	coast live oak	X		good	8	7				
6585	coast live oak	X		good	8	6				
6586	madrone			good	9					
6587	madrone			poor	5					
6588	coast live oak			fair	7	6				
6589	coast live oak			fair	7					
6590	coast live oak			good	9					
6591	coast live oak		X	good	8	7	5			
6592	coast live oak		X	good	13	9				
6593	coast live oak			fair	9					
6594	coast live oak			good	6					
6595	coast live oak		X	good	10	9				
6596	coast live oak			good	10					
6597	coast live oak	X		good	9					
6598	coast live oak		X	good	9	9	9	8	6	
6599	madrone			good	10					
6601	coast live oak			poor	9					
6602	coast live oak		X	good	10	9				
6603	coast live oak			poor	8					
6604	coast live oak			fair	7					
6605	coast live oak		X	good	10	9	9			
6606	coast live oak			good	7	5	5			
6607	coast live oak	X		good	7	7				
6609	coast live oak	X		good	5	5	5			
6610	coast live oak	X		good	6	5	4			
6611	coast live oak	X	X	fair	10	8	7			

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6612	coast live oak	X		poor	6					
6613	coast live oak	X		good	8					
6614	coast live oak	X		fair	7	6				
6615	coast live oak	X		good	6	5				
6616	coast live oak	X		good	7					
6617	coast live oak	X		good	6					
6618	coast live oak	X		good	5	5				
6619	coast live oak	X		fair	7					
6620	coast live oak	X	X	poor	10	9	7			
6621	coast live oak	X		poor	4	4				
6622	coast live oak			good	9	7				
6623	coast live oak			good	8	5				
6625	coast live oak	X		good	7					
6626	coast live oak	X		good	7					
6627	coast live oak	X		poor	4					
6628	coast live oak	X		poor	5					
6629	coast live oak			poor	8	4				
6631	coast live oak	X		poor	4					
6632	coast live oak	X		poor	6					
6633	coast live oak	X		poor	5					
6634	coast live oak	X		poor	4					
6635	coast live oak	X		poor	5					
6636	coast live oak	X		good	7					
6638	coast live oak	X		poor	5	4				
6640	coast live oak			fair	5	5	4			
6641	coast live oak			fair	6					
6642	coast live oak			good	7	6				
6643	coast live oak			good	7					
6644	coast live oak	X		good	4					
6645	coast live oak	X		fair	6					
6646	coast live oak	X		poor	4					
6647	coast live oak	X		fair	5					
6648	coast live oak	X		good	6					
6650	coast live oak	X		poor	7					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6651	coast live oak	X		poor	4	2	2			
6652	coast live oak	X		poor	5					
6653	coast live oak	X		poor	4					
6654	coast live oak	X		poor	4					
6655	coast live oak	X		poor	4					
6656	coast live oak	X		fair	7					
6657	coast live oak	X		poor	5					
6658	coast live oak	X		poor	5					
6659	coast live oak	X		poor	5					
6660	coast live oak	X		good	5					
6661	coast live oak	X		poor	7					
6662	coast live oak	X		fair	6					
6663	coast live oak	X		good	7					
6664	coast live oak	X		good	6					
6665	coast live oak	X		poor	4	3	3	2		
6666	coast live oak	X		poor	6					
6667	coast live oak	X		poor	6					
6668	coast live oak	X		poor	6					
6669	coast live oak	X		poor	6					
6670	coast live oak	X		fair	6					
6671	coast live oak	X		good	5	4				
6672	coast live oak	X		fair	6					
6673	coast live oak	X		fair	6					
6674	coast live oak	X		fair	7					
6675	coast live oak	X		good	7					
6676	coast live oak	X		poor	4	3				
6677	coast live oak	X		poor	4					
6678	coast live oak	X		poor	5					
6679	coast live oak	X		good	5					
6680	coast live oak	X		poor	7	5	4			
6681	coast live oak	X		poor	4	3	3	2		
6682	coast live oak	X		poor	4					
6683	coast live oak	X		poor	6					
6684	coast live oak			poor	6					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6685	coast live oak	X		poor	6	5				
6686	coast live oak	X		poor	4					
6687	coast live oak	X		good	6					
6688	coast live oak	X		poor	4					
6689	coast live oak	X		poor	5					
6690	coast live oak	X		fair	6					
6691	coast live oak	X		poor	6					
6692	coast live oak	X		fair	5					
6693	coast live oak	X		good	4					
6694	coast live oak	X		fair	4					
6695	coast live oak			fair	5					
6696	coast live oak	X		poor	4					
6697	coast live oak	X		poor	4					
6698	coast live oak	X		good	6					
6699	coast live oak	X		poor	5					
6700	coast live oak	X		fair	6					
6701	coast live oak	X		poor	5					
6702	coast live oak	X		poor	6	5				
6703	coast live oak	X		poor	9					
6704	coast live oak	X		fair	6					
6705	coast live oak	X		fair	6					
6706	coast live oak	X		fair	7	3				
6707	coast live oak	X		fair	7					
6708	coast live oak	X		poor	6					
6709	coast live oak	X		poor	5					
6710	coast live oak	X		fair	10					
6711	coast live oak	X		fair	9					
6712	coast live oak	X		fair	8					
6713	coast live oak	X		fair	6					
6716	coast live oak	X		fair	4	4				
6717	coast live oak	X		fair	6					
6719	coast live oak	X		poor	6					
6720	coast live oak	X		poor	5					
6721	plum	X		fair	4	1				

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6722	coast live oak	X		poor	5	2	1			
6723	coast live oak	X		poor	5					
6724	coast live oak	X		poor	5					
6725	coast live oak	X		fair	4					
6726	coast live oak	X		poor	5					
6727	coast live oak	X		poor	4					
6728	coast live oak	X		poor	6					
6729	coast live oak	X		poor	5	2				
6730	coast live oak	X		poor	4					
6731	coast live oak	X		fair	4					
6732	coast live oak	X		fair	7					
6733	coast live oak	X		poor	5					
6734	coast live oak	X		poor	5	2				
6735	coast live oak	X		fair	5					tag 617
6736	coast live oak	X		fair	7					
6737	coast live oak	X		fair	6					
6738	coast live oak	X		poor	5					
6739	coast live oak	X		fair	6	2				
6740	coast live oak	X		good	9					
6741	coast live oak	X		poor	5					
6742	valley oak	X	X	poor	7					
6743	coast live oak	X		fair	5					tag 621
6744	black oak	X		fair	6					
6745	coast live oak	X		fair	6					
6746	coast live oak	X		fair	3	3	3			
6747	coast live oak	X		fair	5	3	1			
6748	coast live oak	X		poor	5					big tree
6749	coast live oak	X		fair	6					
6750	coast live oak	X		good	7	5				
6751	coast live oak	X		fair	7					
6752	coast live oak	X		fair	6	3				
6753	coast live oak	X		fair	4					
6754	coast live oak	X		poor	4					
6755	coast live oak	X		fair	8					

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The Arbors
Santa Rosa, California

Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6756	coast live oak	X		poor	4					
6757	coast live oak	X		poor	5					
6758	coast live oak	X		fair	7	4	2			
6759	coast live oak	X		good	7					
6760	coast live oak	X		fair	8	6	2	1		
6761	coast live oak	X		poor	5					
6762	coast live oak	X		poor	4					
6763	coast live oak	X		poor	5					
6764	coast live oak			good	9	8				
6765	coast live oak			fair	6	1				
6766	coast live oak	X		poor	5					
6767	coast live oak	X		fair	9					
6768	coast live oak	X		fair	7					
6769	coast live oak	X		good	9	3				
6770	coast live oak	X		fair	7					
6771	coast live oak	X		fair	8					
6772	coast live oak	X		poor	5					
6773	coast live oak	X		fair	4	3	1			
6774	coast live oak	X		poor	7					
6775	coast live oak	X		poor	5					
6776	coast live oak	X		fair	6					
6777	coast live oak	X		poor	7					
6778	coast live oak	X		fair	7					
6779	coast live oak			fair	6					
6780	coast live oak	X		poor	5					
6781	coast live oak			poor	4					
6782	coast live oak			fair	5					
6783	coast live oak	X		fair	6					
6784	coast live oak	X		fair	5					
6785	coast live oak	X		fair	6					
6786	coast live oak	X		good	6	1				
6787	coast live oak	X	X	fair	13	5				
6789	coast live oak	X		fair	6					
6790	coast live oak	X		poor	7	6				

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6791	coast live oak			fair	7					
6792	coast live oak			poor	7	5				
6793	coast live oak		X	poor	10	10				
6794	coast live oak	X		good	7	6				
6795	coast live oak	X		fair	9	6				
6796	coast live oak	X		fair	7					
6797	coast live oak	X		fair	6					
6798	coast live oak	X		fair	8					
6799	coast live oak	X		good	7					
6800	coast live oak	X		good	9					
6801	plum	X		good	5					
6802	coast live oak	X		fair	7	4				
6803	coast live oak	X		fair	6	3				
6804	coast live oak	X		fair	5					
6805	coast live oak	X		good	7					
6806	coast live oak	X		good	7					
6807	coast live oak	X		poor	4					
6808	coast live oak	X		fair	7					
6809	coast live oak	X		good	8					
6810	coast live oak	X		good	6					
6811	coast live oak	X		fair	5					
6812	coast live oak	X		fair	8	4				
6813	coast live oak			good	5					
6814	coast live oak	X		good	7					
6815	coast live oak	X		good	7					
6816	coast live oak	X		good	7	6				
6817	coast live oak	X		good	9					
6818	coast live oak	X		good	7					
6819	coast live oak	X	X	fair	8	6	4			
6820	coast live oak	X		good	8					
6821	coast live oak			good	8	5	3			
6822	coast live oak			good	8					
6824	coast live oak			good	7					
6825	coast live oak			good	6	6				

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6826	coast live oak			good	5					
6827	coast live oak			good	5					
6828	coast live oak	X		fair	6	6				
6829	coast live oak	X		good	5	3	2			
6830	coast live oak	X		fair	7					
6831	coast live oak	X		good	3	3	3			
6832	coast live oak	X		good	5					
6833	coast live oak	X		good	3	3	3			
6834	coast live oak	X		good	4	3				
6835	coast live oak	X		good	6	4				
6837	coast live oak	X		good	8					
6838	coast live oak	X		good	5					
6839	coast live oak	X		good	7					
6840	coast live oak	X		good	4	3	3			
6841	coast live oak	X		fair	5	4				
6842	coast live oak	X		good	6	5	5			
6843	coast live oak	X		fair	4					
6844	coast live oak	X		good	5					
6845	coast live oak	X		good	7					
6846	coast live oak	X		good	6	3	2			
6847	coast live oak	X		good	6	5				
6848	coast live oak	X		good	6	5				
6849	coast live oak	X		good	7	3				
6850	coast live oak	X		fair	6					
6851	coast live oak	X		good	7					
6901	coast live oak	X		fair	4					
6902	coast live oak	X		good	8	5	2			
6903	coast live oak	X		poor	6					
6904	coast live oak	X		fair	9					
6905	coast live oak	X		fair	6					
6906	coast live oak	X		good	8					
6907	coast live oak	X		poor	5					
6908	coast live oak	X		good	9					
6909	coast live oak	X		fair	6					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6911	coast live oak	X		poor	4					
6912	coast live oak	X		poor	5					
6913	coast live oak	X		good	10					
6914	coast live oak	X		fair	5	5	2			
6915	coast live oak	X		fair	4	3				
9000	coast live oak	X		fair	5					
9001	coast live oak	X		fair	7					
9002	coast live oak			fair	7					
9003	coast live oak		X	fair	11	7	5			
9005	coast live oak	X		good	8					
9006	black oak	X		good	7					
9007	coast live oak	X		good	5					
9013	coast live oak	X		fair	5					
9014	coast live oak	X		fair	5					
9015	coast live oak			fair	5					
10000	coast live oak	X		fair	7					
10001	madrone			good	6					
10002	coast live oak			good	6					
10003	coast live oak	X		poor	5					
10004	coast live oak	X		fair	6					
10005	coast live oak	X		fair	6					
10006	coast live oak	X		fair	7					
15214	coast live oak			fair	5					
15216	coast live oak	X		fair	5					
15218	coast live oak			fair	5					
15220	coast live oak	X		fair	4					
15221	coast live oak	X		good	8					
15223	coast live oak	X		good	5					
15224	coast live oak	X		good	5					
15225	coast live oak	X		good	4					
15226	coast live oak	X		fair	6					
15227	coast live oak	X		fair	4					
15228	coast live oak	X		good	5					
15229	coast live oak	X		good	5					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
15230	coast live oak		X	poor	12	9				
15231	coast live oak			fair	5					
15232	coast live oak	X		fair	5					
15233	coast live oak	X		fair	4					
15234	coast live oak	X		good	12					
15235	coast live oak	X		fair	8					
15236	coast live oak	X		poor	8					
15273	coast live oak	X		fair	4					
15274	coast live oak	X		fair	4					
15275	coast live oak	X		fair	5					
15276	coast live oak	X		fair	4					
15277	coast live oak	X		fair	5					
15278	coast live oak			fair	4					
15279	coast live oak			poor	5					
15280	coast live oak			fair	4					
15281	coast live oak	X		fair	5	4	4			
15282	coast live oak	X		fair	4					
15283	valley oak	X		fair	4					
15284	coast live oak	X		poor	4					
15285	madrone	X		fair	5					
15286	coast live oak	X		poor	4					
15287	coast live oak	X		poor	5					
15288	coast live oak	X		fair	5					
15289	coast live oak	X		fair	5					
15290	coast live oak	X		fair	5					
15291	coast live oak	X		fair	5					
15292	coast live oak	X		fair	4					
15293	coast live oak	X		poor	5					
15294	coast live oak	X		fair	5					
15295	coast live oak	X		fair	4					
15296	coast live oak	X		poor	4					
15297	coast live oak	X		fair	5					
15298	coast live oak	X		poor	4					
15299	coast live oak	X		poor	5					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
15300	coast live oak	X		fair	4					
15301	coast live oak	X		fair	4					
15302	coast live oak	X		fair	4					
15303	coast live oak	X		poor	5					
15304	coast live oak	X		poor	4					
15305	coast live oak	X		poor	4					
15306	coast live oak	X		fair	4					
15307	coast live oak	X		fair	4					
15308	coast live oak	X		poor	5					
15309	coast live oak	X		poor	4					
15310	coast live oak	X		fair	5					
15311	coast live oak	X		poor	5					
15312	coast live oak	X		fair	4					
15313	coast live oak	X		fair	5					
15314	coast live oak	X		good	5					
15315	coast live oak	X		good	6					
15316	coast live oak	X		good	5					
15317	coast live oak	X		good	6					
15318	coast live oak	X		good	4					
15319	coast live oak	X		good	6					
15320	coast live oak	X		good	7	4				
15321	coast live oak	X		fair	4					
15322	coast live oak	X		good	6					
15323	coast live oak	X		good	5					
15324	coast live oak	X		good	5					
15325	coast live oak	X		good	5					
15326	coast live oak	X		fair	4					
15327	madrone	X		good	4					
15328	coast live oak	X		fair	4					
15329	coast live oak	X		good	5					
15330	coast live oak	X		fair	4					
15331	coast live oak	X		fair	5					
15332	coast live oak	X		fair	5					
15333	coast live oak	X		fair	5					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
15334	coast live oak	X		fair	5					
15335	coast live oak	X		poor	4					
15336	coast live oak	X		fair	5					
15337	coast live oak	X		fair	4					
15338	coast live oak	X		fair	4					
15339	coast live oak			fair	4	4				
15341	coast live oak	X		good	4					
15342	coast live oak			fair	4					
15343	coast live oak			good	4					
15344	coast live oak			fair	6	5				
15345	coast live oak			fair	4					
15346	coast live oak			good	7					
15347	coast live oak			good	7					
15348	coast live oak			good	6					
15349	coast live oak	X		good	5					
15350	coast live oak	X		good	5					
15351	coast live oak	X		good	4					
15352	coast live oak			fair	5					
15353	coast live oak			fair	5					
15354	coast live oak	X		good	6					
15355	coast live oak			good	5					
15356	coast live oak	X		fair	6	5				
15357	coast live oak	X		fair	6	4				
15358	coast live oak	X		fair	6					
15359	coast live oak	X		fair	5					
15360	coast live oak		X	fair	12	11				
15361	coast live oak			poor	7					
15362	coast live oak			fair	5					
15363	coast live oak	X		fair	8					
15364	coast live oak	X		fair	5					
15365	coast live oak	X		fair	8					
15366	coast live oak	X		fair	11	5				
15367	coast live oak	X		good	10					
15368	coast live oak		X	fair	8	6	6	5		

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
15369	coast live oak			fair	13					
15370	coast live oak			fair	16					
15371	coast live oak	X		poor	6					
15372	coast live oak	X		good	7	7				
15373	coast live oak	X		good	9					
15374	coast live oak	X		good	8					
15375	coast live oak	X		fair	11					
15376	coast live oak	X		fair	7					
15377	coast live oak	X		poor	5					
15378	coast live oak	X		fair	6					
15379	coast live oak	X		fair	6	6				
15380	coast live oak	X		poor	4	4				
15381	coast live oak			good	11					
15382	coast live oak	X		good	7					
15383	coast live oak			good	8					
15384	coast live oak	X		good	11					
15385	coast live oak	X		poor	7					
15386	coast live oak	X		poor	5					
15387	coast live oak	X		fair	8	7				
15388	coast live oak			fair	7					
15389	coast live oak			fair	7					
15390	coast live oak	X		poor	5					
15391	coast live oak	X		fair	7	5				
15392	coast live oak			fair	6					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
15393	coast live oak			poor	8					
15394	coast live oak			fair	4					
15395	coast live oak	X		fair	5					
15396	coast live oak			fair	13					
15397	coast live oak			good	8	5				
15398	coast live oak			fair	7					
15399	coast live oak			fair	9					
15400	coast live oak			good	7					
15457	coast live oak	X		fair	5					
15458	coast live oak	X		fair	4	5				
15459	coast live oak	X		fair	6					
15460	coast live oak			good	8					
15461	coast live oak		X	fair	8	6	5			
15462	coast live oak	X		good	8	6				
15464	coast live oak			good	14					
15465	coast live oak			good	8					
15466	coast live oak		X	good	18	7				
15467	coast live oak			good	9	6				
15468	coast live oak			good	10					
15469	coast live oak			good	9	2				
15470	coast live oak	X		fair	9	7				
15501	coast live oak	X		fair	6	5	4			
15502	coast live oak	X		fair	6					
15503	coast live oak	X		poor	4					
15504	coast live oak	X		fair	4					
15505	coast live oak			good	12					
15506	coast live oak			fair	4					
15507	coast live oak			good	11					
15508	coast live oak		X	fair	12	11	8			
15509	coast live oak			good	12					
15510	coast live oak			fair	8					
15511	madrone			fair	8					
15512	coast live oak			fair	5					
15513	coast live oak			fair	8					

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Tree No.	Species	Remove	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
15514	coast live oak			fair	5					
15515	coast live oak			good	14					
15516	coast live oak		X	good	14	12				
15517	coast live oak			fair	6					
15518	coast live oak			good	9					
15519	coast live oak			good	6					
15520	coast live oak			fair	7					
15521	coast live oak			good	13					
15522	coast live oak			good	10					
16192	coast live oak			good	12					
16193	coast live oak			good	11					
16194	coast live oak			good	12					
16195	coast live oak			good	10					
16196	coast live oak			fair	10					
16197	coast live oak			good	14					
16198	coast live oak			good	10					
16199	coast live oak			fair	5					
16200	coast live oak			good	10					

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July 8, 2009

Mr. Jack Chamberlain
Chamberlain Lake Park LLC
655 Skyway Road, Suite 230
San Carlos, CA 94070

RE: The Arbors Project, 3500 Lake Park Drive, Santa Rosa, CA
APN 173-270-005; File No. MJ07-016

Dear Mr. Chamberlain:

This letter report provides the final and complete results of surveys conducted from March to June 2009 for special status plants for The Arbors project site located at 3500 Lake Park Drive in Santa Rosa, Sonoma County, California. This report updates the May 19, 2009 report and includes an updated plant species list.

SITE DESCRIPTION

The project area is located in Section 11 of the Santa Rosa 7.5-minute topographic quadrangle, within Township 7N and Range 8W. The property is approximately 5.69 acres in size and the assessor parcel number is 173-270-005. The Arbors project is located on the south side of Lake Park Drive. The site is bounded on the east by residential development, on the south by Russell Creek, on the west by open lands and Bicentennial Way and on the north by residential development. The surrounding land uses consist of mainly of urban and residential development. The Arbors is part of the larger 70-acre Nielsen Ranch which includes existing development west and northwest of the site and proposed development on the western portion of the site. The Arbors proposed project includes subdividing the 5.69 acres into 37 lots for 37 single family attached homes. The proposed lot sizes range from 1,648 square feet to 7,290 square feet with an average lot size of 2,638 square feet. Access to 35 of the new lots would be provided via a new private loop street, Arbor Circle, which would connect with Lake Park Drive.

Approximately 72% (4.06 acres) is proposed for development with a private open space of 1.54 acres on the south side of the parcel that will be contiguous with the privately owned permanent open space Russell Creek parcel of 3.63 acres. The surrounding area is transitioning from an undeveloped hillside area to residential developments. The approved Bicentennial Estates II, located west of the Arbors, at 3450 and 3551 Lake Park Drive, is an 8.03- acre parcel that will be subdivided into 12 single family lots and two duplex lots. Single family detached residential uses occur to the east and north and the public Russell Creek trail occurs on the south and east side of the parcel.

METHODS

Prior to fieldwork an initial query was conducted from the On-line 7th Edition of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2009) and the California Natural Diversity Database (CNDDB 2009) for the records of special-status plant species within the Santa Rosa USGS quad and the eight surrounding contiguous quadrangles. These include the Mark West Springs, Calistoga, Kenwood, Glen Ellen, Cotati, Two Rock, Sebastopol and Healdsburg quadrangles. From this

query it was determined that 76 special status plant species have potential to occur on the project site based on the presence of potential habitat. A list of special status plants that could potentially occur in the area based on the CNDDB and CNPS data base searches is provided as Attachment A.

Surveys were conducted by Geri Hulse-Stephens, botanist, as subconsultant to Jane Valerius Environmental Consulting on March 16, April 10, May 9, June 8 and June 25, 2009. As required by the California Department of Fish & Game (CDFG) guidelines (CDFG 2000) Ms. Valerius and Ms. Hulse-Stephens are both botanists with extensive experience conducting floristic field surveys and with knowledge of plant taxonomy and plant community ecology and are familiar with the plants of the Santa Rosa and Sonoma County area including rare, threatened and endangered species. Surveys conducted for special status plants surveys for the project were floristic in nature and took into account all vascular plant species encountered. A list of plant species observed during the spring to summer surveys is provided as Attachment B. The entire project site was walked on foot and covered thoroughly so that all representative habitat types, topographic features and aspects were investigated. Plant communities occurring on the site are also described. Surveys were conducted in the field at the proper time of year when rare, threatened or endangered species were both evident and identifiable.

RESULTS

A total of 136 plant species representing 32 families were identified during the spring to summer surveys. A list of plant species observed is provided as Attachment B. The site has a rich diversity of plant species, however 68 species, or 50% of the total number of plant species are non-native plants. Several of these species are considered to be invasive and include English ivy (*Hedera helix*), Italian thistle (*Carduus pycnocephalus*), Napa thistle (*Centaurea melitensis*), French broom (*Genista monspessulana*), subterranean clover (*Trifolium subterraneum*), Himalayan blackberry (*Rubus discolor*), and medusa head grass (*Taeniatherum caput-medusae*). However, 50% of the plant species are natives including 5 species of oaks: coast live oak (*Quercus agrifolia*), Garry oak (*Quercus garryana* var. *garryana*), black oak (*Quercus kelloggii*), valley oak (*Quercus lobata*) and interior live oak (*Quercus wislizeni*). The other native tree species on the site is madrone (*Arbutus menziesii*). Native shrubs and vines include poison oak (*Toxicodendron diversilobum*), coyote brush (*Baccharis pilularis*), honeysuckle (*Lonicera hispidula* var. *vacillans*), blue elderberry (*Sambucus mexicana*), snowberry (*Symphoricarpos albus* var. *laevigatus* and *S. mollis*), manzanita (*Arctostaphylos manzanita* ssp. *manzanita*), toyon (*Heteromeles arbutifolia*) and California blackberry (*Rubus ursinus*). Three species of fern were also observed: bracken fern (*Pteridium aquilinum*), goldenback fern (*Pentagramma triangularis* ssp. *triangularis*) and wood fern (*Dryopteris arguta*). Notable native forb species include Kellogg's yampa (*Perideridia kelloggii*), yarrow (*Achillea millefolium*), mule's ears (*Wyethia angustifolia* and *W. glabra*), rancher's fireweed (*Amsinckia menziesii* var. *intermedia*), lupines (*Lupinus bicolor* and *L. nanus*), checkermallow (*Sidalcea diploscypha*), sun cup (*Camissonia ovata*), miner's lettuce (*Claytonia perfoliata*), bird's-beak (*Cordylanthus pilosus*), iris (*Iris macrosiphon*), blue-eyed grass (*Sisrynchium bellum*), brodiaea (*Brodiaea elegans*), yellow mariposa (*Calochortus luteus*), soap plant (*Chlorogalum pomeridianum* var. *pomeridianum*), blue dicks (*Dichelostemma capitatum* ssp. *capitatum*), and white brodiaea (*Triteleia hyacinthina*). In addition three species of sedge and three species of rush occur on the site: clustered field sedge (*Carex praegracilis*), foothill sedge (*Carex tumulicola*), nut-grass (*Cyperus eragrostis*), common rush (*Juncus patens*), western rush (*Juncus occidentalis*), and slender rush (*Juncus tenuis*).

Plant communities that occur on the site are oak woodland and non-native annual grassland which are described in detail below. Within the non-native annual grassland are patches of native perennial grasses, specifically California oatgrass (*Danthonia californica*) and purple needlegrass (*Nasella pulchra*). California Oatgrass Bunchgrass Grassland and Purple Needlegrass Grasslands are special community types as designated by the California Department of Fish and Game (CDFG) on their List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database (CDFG 2003).

California oatgrass and purple needlegrass occur as small patches within the overall non-native annual grassland and constituent a very small percentage of the overall project area. Areas with California oatgrass and purple needlegrass also occur in the open space areas within the property boundary and adjacent public and private open space so that even though there would be some loss from the project development these two native perennial grasses, along with other native species, will be preserved in the open space areas. As a note, of the 25 grass species on the site 19 of them are non-native. Native grasses on the site are California brome (*Bromus carinatus* ssp. *carinatus*), California oatgrass, slender hairgrass (*Deschampsia elongata*), blue wildrye (*Elymus glaucus ssp. glaucus*), meadow barley (*Hordeum brachyantherum* ssp. *brachyantherum*) and purple needlegrass. Please refer to Attachment B for a list of all plant species observed.

Oak woodland

The oak woodland community on the project site is equivalent to the Coast Live Oak Series as described by The Manual of California Vegetation (Sawyer and Keeler-Wolf 1995). More than three quarters of the The Arbors project area is comprised of oak woodland. The dense woodland canopy is dominated by coast live oak with some madrone and black oak in the woodland composition. Other oak species that occur in this community type are Oregon or Garry oak, valley oak, and interior live oak.

The understory vegetation within the oak woodland is sparsely covered with poison oak near the edges of the canopy. Where the understory is more open Italian thistle is very common and abundant. The outer edges of the woodland are bordered by shrubs including coyote brush and French broom. French broom is an invasive weed and it is evident from aerial photographs of the site that this species is extending into grasslands from the edges of the woodlands. Many seedlings were observed underneath and at the edges of these newer stands. Valley oak occurs along a swale with an understory of Himalayan blackberry, California blackberry and poison oak. As mentioned above, 50% of the plants on the site are native and 50% are non-native. There is a high diversity of plant species on the project site with many of them being natives. Unfortunately the non-natives also comprise a significant portion of the plant species diversity and of the overall understory vegetation cover.

Coast live oak series is not listed as a special community type as designated by the CDFG on their List of California Terrestrial Natural Communities Recognized by the California Natural Diversity Database (CDFG 2003) and is therefore not considered to be a vegetation community that is either known or believed to be of high priority of inventory in the CNDDB. Senate Bill 1334, the Oak Woodlands Conservation Act, became law on January 1, 2005, and was added to the CEQA statutes as Section 21083.4. This law protects oak woodlands that are not protected under the State Forest Practice Act. This act imposes requirements on counties when determining what environmental document must be prepared for a project over which the county has jurisdiction. Because The Arbors project is within the City of Santa Rosa its approval is within the jurisdiction of the City, rather than Sonoma County. Consequently, the Oak Woodlands Conservation Act does not apply to this proposed development decision. Based on the mitigated negative declaration (MND) prepared by the City of Santa Rosa for this project, compensation for the loss of oak woodland will be through the replacement as described in the Tree Mitigation Plan (City of Santa Rosa 2008). The Tree Mitigation Plan is based on the Arborist Report for The Arbors prepared by Ralph Osterling and Consultants revised on January 14, 2002.

Annual Grassland

The annual grassland community on the project site is equivalent to the California Annual Grassland type described in The California Manual of Vegetation (Sawyer and Keeler-Wolf 1995). This vegetation type occurs in grassy openings along Lake Park Drive especially on the fill slope below Lake Park Drive across from Bella Vista Way and on the slope above the trailhead to the east as well as parts of the grasslands to the south of the project area. The dominant species in this habitat is oat grass (*Avena sativa*). Other non-native or exotic grasses such as big quaking grass (*Briza maxima*), soft chess (*Bromus*

hordaceus) and Italian rye (*Lolium multiflorum*) are included in this plant community. The herbaceous plants within this grassland are primarily exotic herbs and include white-stemmed filaree (*Erodium bothrys*), rose clover (*Trifolium hirtum*), crimson clover (*Trifolium incarnatum*) and spring vetch (*Vicia sativa* ssp. *sativa*). Native herbs observed in this plant community were blue-eyed grass, miniature lupine and sky lupine.

Bordering the oak woodland to the north and south and within the narrow opening in the woodland are areas with perennial native grasses. The native grasses occur where soils have not been disturbed by fill from road building. Native grasses found in this limited area include purple needlegrass, California oatgrass and blue wild rye. The non-native annual grasses are mixed in with the native grasses and since the areas with native grasses are so small they have not been separated out from the annual grassland type. As described above non-native/exotic grasses include soft chess, Italian rye and slender wild oat (*Avena barbata*). Native forbs include California buttercup (*Ranunculus californica)* slender cottonweed (*Micropus californicus*), purple sanicle (*Sanicula bipinnidafida*) rattlesnake weed (*Daucus pusillus*), yarrow and *Plantago erecta*. The exotic herbs included in this community are white-stemmed filaree and Shepard's needle (*Scandix pectens-veneris*). On the south border of this area above the improved trail is a dense stand of narrow-leaved mule ears (*Wyethia angustifolia*). As mentioned above, French broom has expanded into narrow strips of grassland and along the edges of the grasslands evidenced by the presence of young shrubs and dense patches of seedlings.

Special-Status Plants
Surveys were conducted in March 16, April 10, May 6, June 8 and June 25, 2009. These survey dates cover the flowering period of all the special status plant species that could potentially occur on the site based on a 9-quadrangle search of the CNDDB and CNPS on-line electronic inventory and the presence of potential habitat. No special status plant species have been identified on the project site.

Surveys were conducted in accordance with CDFG guidelines and are in compliance with these guidelines and with the standard protocol for conducting plant surveys. A separate arborist report was prepared that identifies each of the trees on the site and provides and inventory and analysis of the health and vigor of the tree species. Please refer to this report for details regarding the trees on the site.

SUMMARY AND CONCLUSION

Surveys conducted in March, April, May and June of 2009 did not find any special status plants on the site and no special status plants are expected to occur on the project site. The loss of oak woodland will be compensated by replacing trees in accordance with Title 17-24.050(C) of the Municipal Code as described in the Initial Study/Mitigated Negative Declaration (City of Santa Rosa 2008). The project includes 1.54 acres of private open space on the south side of the parcel that will be contiguous with the City-owned Russell Creek parcel of 3.63 acres. The open space areas will preserve oak woodland and grassland areas within the project property boundary and within the overall Nielsen Ranch Planned Community. A total of approximately 10 acres of open space will be preserved within the planned community area and includes the Francis Nielsen park that also includes a lake. I hope this information is helpful. If you have any questions, please do not hesitate to contact me.

Sincerely,

Jane Valerius

Jane Valerius, Botanist

Attachments

REFERENCES

California Department of Fish & Game (CDFG). 2000. Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities. State of California, The Resources Agency, Department of Fish and Game. Dated December 9, 1983, Revised May 8, 2000.

California Natural Diversity Database (CNDDB). 2009. Reported occurrences for the Santa Rosa and surrounding 7.5-minute topographic USGS quadrangles. California Department of Fish & Game, Sacramento, CA.

California Native Plant Society (CNPS). 2009. On-line 7th Edition of the Inventory of Rare and Endangered Plants of California. www.cnps.org

City of Santa Rosa. 2008. The Arbors, 3500 Lake Park Drive, Santa Rosa, CA (Sonoma County), Assessor's Parcel No. 173-270-005, Initial Study/Mitigated Negative Declaration. Lead Agency: City of Santa Rosa, Community Development Department, Santa Rosa, CA. November 20, 2008.

Attachment A.
Special status plant species that could potentially occur within The Arbors Project Site based on a review of the CNDDB and CNPS Electronic Inventory for the Santa Rosa and surrounding USGS quadrangles (2009).

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
Allium peninsulare var. *franciscanum* Franciscan onion	-/-/L1B	May-June	Cismontane woodland, grassland/clay, volcanic, often serpentine	Not present. Not observed during surveys.
Alopecurus aequalis var. *sonomensis* Sonoma alopecurus	FE/-/L1B	May-July	Marshes & swamps (freshwater), riparian scrub.	No habitat on site. Not observed during surveys.
Amorpha californica var. *napensis* Napa false indigo	-/-/L1B	April-July	Broadleafed upland forest (openings), chaparral, cismontane woodland.	Not present. Not observed during surveys.
Anomobryum julaceum	-/-/L2		Broadleafed upland forest, lower montane coniferous forest/ damp rock and soil on outcrops, usually on roadcuts.	Not present. Not observed during surveys.
Arctostaphylos canescens ssp. *sonomensis* Sonoma canescent manzanita	-/-/L1B	January-June	Chaparral, lower montane coniferous forest-sometimes serpentinite.	Not present. Not observed during surveys.
Arctostaphylos densiflora Vine Hill manzanita	-/CE/L1B	February-April	Chaparral (acid marine sand).	No habitat on site. Not observed during surveys.
Arctostaphylos stanfordiana ssp. *decumbens* Sonoma canescent manzanita	-/-/L1B	February-April	Chaparral (rhyolitic), cismontane woodland.	Not present. Not observed during surveys.
Astragalus breweri Brewer's milkvetch	-/-/L4	April-July	Chaparral (openings), cismontane woodland, grassland/ serpentinite or volcanic, rocky, clay.	Not present. Not observed during surveys.
Astragalus claranus Clara Hunt's milk-vetch	FE/CT/L1B	March-May	Grassland/serpentinite or volcanic, rocky clay.	Not present. Not observed during surveys..
Balsamorhiza macrolepis var. *macrolepis* Big scale balsamroot	-/-/L1B	March-June	Grassland/sometimes serpentinite.	Not present. Not observed during surveys.
Blennosperma bakeri Sonoma sunshine	FE/CE/1B	March-May	Mesic grasslands and vernal pools.	No habitat on site. Not observed during surveys.
Brodiaea californica var. *leptandra* Narrow-anthered California brodiaea	-/-/L1B	May-July	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, grassland/volcanic.	Not present. Not observed during surveys.

Attachment A (continued)

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
Calamagrostis bolanderi Bolander's reed grass	-/-/L4	May-August	Bogs and fens, broadleafed upland forest, closed-cone coniferous forest, coastal scrub, meadows and seeps, marshes and swamps (freshwater), North Coast coniferous forest/mesic.	No habitat on site. Not observed during surveys.
Calamagrostis crassiglumis Thurber's reed grass	-/-/L2	May-July	Coastal scrub (mesic); marshes & swamps (freshwater)	No habitat on site. Not observed during surveys.
Calamagrostis ophitidis Serpentine reed grass	-/-/L4	April-July	Chaparral, lower montane coniferous forest, meadows and seeps, grassland (vernally mesic)/ serpentinite, rocky.	No habitat on site. Not observed during surveys.
Calandrinia breweri Brewer's calandrinia	-/-/L4	March-June	Chaparral, coastal scrub, sandy or loamy, disturbed sites and burns.	No habitat on site. Not observed during surveys.
Calystegia collina ssp. *oxyphylla* Mt. Saint Helena morning-glory	-/-/L4	April-June	Chaparral, lower montane coniferous forest, grassland/ serpentinite.	No habitat on site. Not observed during surveys.
Campanula californica Swamp harebell	-/-/L1B	June-October	Bogs and fens, closed cone coniferous forest.	No habitat on site. Not observed during surveys.
Carex albida Sonoma white sedge	FE/CE/L1B	May-July	Bogs and fens, marshes and swamps (freshwater).	No habitat on site. Not observed during surveys.
Castilleja uliginosa Pitkin Marsh Indian paintbrush	-/CE/L1A	June-July	Marshes and swamps (freshwater).	No habitat on site. Not observed during surveys.
Ceanothus confusus Rincon Ridge ceanothus	-/-/L1B	February-June	Closed-cone coniferous forest, chaparral, cismontane woodland/volcanic or serpentinite.	No species of *Ceanothus* observed on the site. Not observed during surveys.
Ceanothus divergens Calistoga ceanothus	-/-/L1B	February-March	Chaparral (serpentinite or volcanic, rocky).	No species of *Ceanothus* observed on the site. Not observed during surveys.
Ceanothus foliosus var. *vineatus* Vine Hill ceanothus	-/-/L1B	March-May	Chaparral.	No species of *Ceanothus* observed on the site. Not observed during surveys.

Attachment A (continued)

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
Ceanothus purpureus Holly-leaved ceanothus	-/-/L1B	February-June	Chaparral, cismontane woodland/volcanic, rocky.	No species of *Ceanothus* observed on the site. Not observed during surveys.
Ceanothus sonomensis Sonoma ceanothus	-/-/L1B	February-April	Chaparral (sandy, serpentinite or volcanic).	No species of *Ceanothus* observed on the site. Not observed during surveys.
Centromadia parryi ssp. *parryi* Pappose tarplant	-/-/L1B	May-November	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), grassland (vernally mesic)/often alkaline.	Not present. Not observed during surveys. Typical habitat not present on site.
Chorizanthe valida Sonoma spineflower	FE/CE/L1B	June-August	Coastal prairie (sandy).	Not present. Not observed during surveys.
Clarkia imbricata Vine Hill clarkia	FE/CE/L1B	June-August	Chaparral, grassland/acidic sandy loam.	Not present. Not observed during surveys.
Cordylanthus tenuis ssp. *capillaris* Pennell's bird's-beak	FE/CR/L1B	June-September	Closed-cone coniferous forest, chaparral/serpentinite.	Not present. Not observed during surveys.
Delphinium luteum Golden larkspur	FE/CR/L1B	March-May	Chaparral, coastal prairie, coastal scrub/ rocky.	Not present. Not observed during surveys. Typical habitat not present on site.
Downingia pusilla Dwarf downingia	-/-/L2	March-May	Grassland (mesic), vernal pools.	Not present. Not observed during surveys. Typical habitat not present on site.
Erigeron biolettii Streamside daisy	-/-/L3	June-October	Broadleafed upland forest, cismontane woodland, North Coast coniferous forest/rocky, mesic.	Not present. Not observed during surveys.
Erigeron serpentinus Serpentine daisy	-/-/L1B	May-August	Chaparral (serpentinite, seeps).	Not present. Not observed during surveys. Typical habitat not present on site.
Eryngium constancei Loch Lomond button-celery	FE/CE/L1B	April-June	Vernal pools.	No habitat on site. Not observed during surveys.
Eryngium pinnatisectum Tuolumne button-celery	-/-/L1B	May-August	Cismontane woodland, lower montane coniferous forest, venal pools/ mesic.	Not present. Not observed during surveys. Typical habitat not present on site.

Attachment A (continued)

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
Fritillaria liliacea Fragrant fritillary	-/-/L1B	February-April	Grassland/often serpentinite.	Not present. Not observed during surveys.
Gilia capitata ssp. *tomentosa* Woolly-headed gilia	-/-/L1B	May-July	Coastal bluff scrub (rocky, outcrops).	Not present. Not observed during surveys. Typical habitat not present on site.
Hemizonia congesta ssp. *congesta* Seaside tarplant	-/-/L1B	April-November	Grassland-sometimes roadsides.	Not present. Not observed during surveys.
Horkelia tenuiloba Thin-lobed horkelia	-/-/L1B	May-July	Broadleafed upland forest, chaparral, grassland/mesic openings, sandy.	Not present. Not observed during surveys. Typical habitat not present on site.
Lasthenia burkei Burke's goldfields	FE/CE/1B	April-June	Meadows and seeps (mesic), vernal pools.	Not present. Not observed during surveys. Typical habitat not present on site.
Lasthenia californica ssp. *bakeri* Baker's goldfields	-/-/L1B	April-October	Closed-cone coniferous forest (openings), coastal scrub, meadows and seeps, marshes and swamps.	Not present. Not observed during surveys. Typical habitat not present on site.
Lasthenia conjugens Contra Costa goldfields	FE/-/L1B	March-June	Cismontane woodland, playas (alkaline), grassland, vernal pools/mesic.	Not present. Not observed during surveys. Typical habitat not present on site.
Layia septentrionalis Colusa layia	-/-/L1B	April-May	Chaparral, cismontane woodland, grassland/sandy, serpentintie.	Not present. Not observed during surveys. Typical habitat not present on site.
Legenere limosa Legenere	-/-/L1B	April-June	Vernal pools	Not present. Not observed during surveys. Typical habitat not present on site.
Leptosiphon jepsonii Jepson's leptosiphon	-/-/L1B	March-May	Chaparral, cismontane woodland – usually volcanic	Not present. Not observed during surveys.
Lessingia hololeuca Woolly-headed lessingia	-/-/L3	June-October	Broadleafed upland forest, coastal scrub, lower montane coniferous forest, grassland/clay, serpentinite.	Not present. Not observed during surveys.

Attachment A (continued)

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
Lilium pardalinum ssp. *pitkinense* Pitkin Marsh lily	FE/CE/L1B	June-July	Cismontane woodland, meadows and seeps, marshes and swamps (freshwater)/mesic, sandy.	Not present. Not observed during surveys.
Limnanthes vinculans Sebastopol meadowfoam	FE/CE/1B	April-May	Meadows and seeps, grasslands, vernal pools/ vernally mesic.	No habitat on site. Not observed during surveys.
Lomatium repostum Napa lomatium	-/-/L4	March-June	Chaparral, cismontane woodland, serpentinite.	No habitat on site (no serpentinite). Not present. Not observed during surveys.
Lotus formosissimus Harlequin lotus	-/-/L4	March-July	Broadleafed upland forest, coastal bluff scrub, closed cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, North Coast coniferous forest, grassland, wetlands, roadsides.	Not present. Not observed during surveys.
Lupinus sericatus Cobb Mountain lupine	-/-/L1B	March-June	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest.	Not present. Not observed during surveys.
Mertensia bella Oregon lungwort	-/-/L2	May-July	Meadows and seeps, upper montane coniferous forest/mesic.	Not present. Typical habitat not present. Not observed during surveys.
Micropus amphibolus Mt. Diablo cottonweed	-/-/L3	March-May	Broadleafed upland forest, chaparral, cismontane woodland, grassland/rocky.	Not present. Not observed during surveys.
Microseris paludosa Marsh microseris	-/-/L1B	April-June	Closed-cone coniferous forest, cismontane woodland.	Not present. Not observed during surveys.
Monardella villosa ssp. *globosa* Robust monardella	-/-/L1B	June-July	Broadleafed upland forest (openings), chaparral (openings), cismontane woodland, coastal scrub, grassland.	Not present. Not observed during surveys.
Monardella viridis ssp. *viridis* Green monardella	-/-/L4	June-September	Broadleafed upland forest, chaparral, cismontane woodland.	Not present. Not observed during surveys.
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	-/-/1B	May-July	Cismontane woodland, lower montane coniferous	Not present. Typical habitat not present. Not observed during

Attachment A (continued)

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
			forest, meadows and seeps, grasslands, vernal pools/mesic.	surveys.
Navarretia leucocephala ssp. *plieantha* Many-flowered navarretia	FE/CE/L1B	May-June	Vernal pools (volcanic ash flow)	No habitat on site. Not observed during surveys.
Penstemon newberryi var. *sonomensis* Sonoma beardtongue	-/-/L1B	April-August	Chaparral (rocky).	Not present. Not observed during surveys.
Plagiobothrys strictus Calistoga popcorn-flower	FE/CT/L1B	March-June	Meadows and seeps, grassland, vernal pools/alkaline areas near thermal springs.	Habitat not present on site. Not observed during surveys.
Pleuropogon hooverianus North Coast semaphore grass	-/CT/L1B	April-August	Broadleafed upland forest, meadows and seeps, North Coast coniferous forest/open areas, mesic.	Not present. Not observed during surveys.
Pleuropogon refractus Nodding semaphore grass	-/-/L4	April-August	Lower montane coniferous forest, meadows and seeps, North Coast coniferous forest, riparian forest.	Not present. Not observed during surveys.
Poa napensis Napa blue grass	FE/CE/L1B	April-August	Meadows and seeps, grassland/alkaline, near thermal springs.	Not present. Not observed during surveys.
Potentilla hickmanii Hickman's cinquefoil	FE/CE/L1B	April-August	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic), marshes and swamps (freshwater).	Not present. Not observed during surveys.
Perideridia gairdneri ssp. *gairdneri* Gairdner's yampah	-/-/L4	June-October	Broadleafed upland forest, chaparral, coastal prairie, grassland, vernal pools, vernally mesic.	Not present. Not observed during surveys.
Ranunculus lobbii Lobb's aquatic buttercup	-/-/L4	February-May	Cismontane woodland, North Coast coniferous forest, grassland, vernal pools/mesic.	Not present. Not observed during surveys.
Rhynchospora alba White beaked-rush	-/-/L2	July-August	Bogs and fens, meadows and seeps, marshes and swamps.	No habitat on site. Not likely to occur.
Rhynchospora californica California beaked-rush	-/-/L1B	May-July	Bogs and fens, lower montane coniferous forest, meadows and seeps marshes and swamps.	Not present. Not observed during surveys.
Rhynchospora capitellata	-/-/L2	July-August	Lower montane	No habitat on site.

Attachment A (continued)

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
Brownish beaked-rush			coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest/ mesic.	Not present. Not observed during surveys.
Rhynchospora globularis var. *globularis* Round-headed beaked-rush	-/-/L2	July-August	Marshes and swamps (freshwater).	No habitat on site. Not present. Not observed during surveys.
Sidalcea hickmanii ssp. *viridis* Marin checkerbloom	-/-/L1B	May-June	Chaparral (serpentinite).	No habitat on site. Not present. Not observed during surveys.
Sidalcea oregana ssp. *valida* Kenwood Marsh checkerbloom	FE/CE/L1B	June-September	Marshes and swamps (freshwater).	No habitat on site. Not present. Not observed during surveys.
Trifolium amoenum Two-fork clover	FE/-/L1B	April-June	Coastal bluff scrub, grassland (sometimes serpentinite).	Not present. Not observed during surveys.
Trifolium buckwestiorum Santa Cruz clover	-/-/L1B	April-October	Broadleafed upland forest, cismontane woodland, coastal prairie/gravelly, margins.	Not present. Not observed during surveys.
Trifolium depauperatum var. *hydrophilum* Saline clover	-/-/L1B	April-June	Marshes and swamps, grassland (mesic, alkaline), vernal pools.	No habitat on site. Not present. Not observed during surveys.
Viburnum ellipticum Oval-leaved viburnum	-/-/L2	May-June	Chaparral, cismontane woodland, lower montane coniferous forest.	Not present. Not observed during surveys.

Status:

FE: Federally listed endangered.
CE: State listed endangered
CT: State listed threatened.
List 1A: Plants presumed extinct in California.
List 1B: Plants rare and endangered in California and elsewhere.
List 2: Plants rare, threatened or endangered in California but more common elsewhere.
List 3: Plants about which more information is needed– a review list.
List 4: Plants of limited distribution – a watch list.

ATTACHMENT B:

Vascular Plants of The Arbors Project

Surveys conducted March 16, April 10, May 6, June 8, and June 25, 2009
Nomenclature follows the Jepson Manual, Higher Plants of California, Hickman, 1993
Note: Exotic species followed by an asterix have the potential to become invasive

Total Taxa =136, Families = 32

Family	Scientific Name	Common Name	Exotic
PTEROPHYTA - Ferns and other non-seed plants			
Dennstaedtiaceae - Bracken Family (1 taxon)			
	Pteridium aquilinum var. *pubescens*	Bracken Fern	
Pteridaceae - Brake Fern Family (1 taxon)			
	Pentagramma triangularis ssp. *triangularis*	Goldenback Fern	
Dryopteridaceae -Wood Fern Family (1 taxon)			
	Dryopteris arguta	Wood Fern	
ANTHOPHYTA - Dicotyledones (Dicots)			
Anacardiaceae - Sumac Family (1 taxon)			
	Toxicodendron diversilobum	Poison Oak	
Apiaceae - Carrot Family (8 taxa)			
	Daucus pusillus	Rattlesnake Weed	
	Foeniculum vulgare	Fennel	x
	Perideridia kelloggii	Yampah	
	Sanicula bipinnatifida	Purple Sanicle	
	Sanicula crassicaulis	Gamble Weed	
	Scandix pecten-veneris	Shepard's Needle	x
	Torilis arvensis	Japanese Hedge Parsley	x
	Yabea microcarpa	Hedge-Parsley	
Araliaceae - Ginseng Family (1 taxon)			
	Hedera helix	English Ivy	x*
Asteraceae - Aster Family (18 taxa)			
	Achillea millefolium	Yarrow	
	Aster radulinus	Broad-leaf Aster	
	Baccharis pilularis	Coyote Brush	
	Carduus pycnocephalus	Italian Thistle	x*
	Centaurea melitensis	Napa Thistle, Tocalote	x*
	Filago gallica		
	Hedypnois cretica	Crete Weed	x
	Helmenthoteca echioides(Picris)	Ox-Tongue	x
	Hypochaeris glabra	Smooth Cat's Ear	x
	Hypochaeris radicata	Hairy Cat's Ear	x
	Lagophylla ramosissima		
	Madia gracilis	Slender Tarweed	
	Micropus californicus	Slender Cottonweed	
	Senicio vulgaris	Common Groundsel	x
	Silybum marianum	milk thistle	x

	Taraxacum officionale	Common Dandelion	x
	Wyethia angustifolia	Narrow-leaved Mule Ears	
	Wyethia glabra	Coast Mule Ears	
Boraginaceae - Borage Family (1 taxon)			
	Amsinckia menziesii var. *intermedia*	Rancher's Fireweed	
Brassicaceae - Mustard Family (3 taxa)			
	Brassica nigra	Black Mustard	x
	Cardamine californica var. *cardiophylla*	Milk Maids	
	Cardamine oligosperma		
Caprifoliaceae - Honeysuckle Family (4 taxa)			
	Lonicera hispidula var. *vacillans*	Honeysuckle	
	Sambucus mexicana	Blue elderberry	
	Symphoricarpos albus var. *laevigatus*	Snowberry	
	Symphoricarpos mollis	Creeping Snowberry	
Caryophyllaceae - Pink Family (3 taxa)			
	Cerastium glomeratum	Mouse-ear Chickweed	x
	Silene gallica	Windmill Pink	x
	Stellaria media	Common Chickweed	x
Convululaceae - Morning-Glory Family (1 taxon)			
	Convulvulus arvensis	Bindweed	x
Dipsacaceae - Teasel Family (1 taxon)			
	Dipsacus sativus	Wild Teasel	x
Ericaceae - Heath Family (2 taxa)			
	Arbutus menziesii	Madrone	
	Arctostaphylos manzanita ssp. *manzanita*	Manzanita	
Fabaceae - Pea Family (13 taxa)			
	Genista monspressulana	French Broom	x*
	Lotus corniculatus	Bird's foot treefoil	x
	Lotus micranthus		
	Lupinus bicolor	Miniature Lupine	
	Lupinus nanus	Sky Lupine	
	Medicago polymorpha	California Burclover	x
	Trifolium dubium	Shamrock Clover	x
	Trifolium hirtum	Rose Clover	x
	Trifolium incarnatum	Crimson Clover	x
	Trifolium subterraneum	Subterranean Clover	x*
	Vicia sativa ssp. *nigra*	Common Vetch	x
	Vicia sativa ssp. sativa	Spring Vetch	x
	Vicia villosa ssp. *villosa*	Hairy Vetch	x
Fagaceae - Beech Family (5 taxa)			
	Quercus agrifolia	Coast Live Oak	
	Quercus garryana var. *garryana*	Oregon Oak, Garry Oak	
	Quercus kelloggii	Black Oak	
	Quercus lobata	Valley Oak	
	Quercus wislizeni	Interior Live Oak	

Gentianaceae - Gentian Family (I taxon)			
	Centaurium mehlenbergii		
Geraniaceae - Geranium Family (4 taxa)			
	Erodium botrys	Broadleaf Filaree	x
	Erodium cicutarium	Red-stemmed Filaree	x
	Geranium dissectum	Cut-leaf Geranium	x
	Geranium molle	Dove-foot Geranium	x
Lamiaceae - Mint Family (3 taxa)			
	Glechoma hederacea	Ground Ivy	x
	Lamium purpureum	Red Henbit	x
	Stachys ajugoides		
Malvaceae - Mallow Family (1 taxon)			
	Sidalcea diploscypha	Checkermallow	
Onagraceae - Evening Primrose Family (1 taxon)			
	Camissonia ovata	Sun Cup	
Plantaginaceae - Plantain Family (2 taxa)			
	Plantago erecta		
	Plantago lanceolata	English Plantain	x
Polygonaceae - Buckwheat Family (2 taxa)			
	Rumex acetosella	Sheep Sorrel	x
	Rumex pulchra	Fiddleleaf Dock	x
Portulacaceae - Purslane Family (1 taxon)			
	Claytonia perfoliata	Minor's Lettuce	
Primulaceae - Primrose Family (1 taxon)			
	Anagallis arvensis	Scarlet Pimpernel	x
Ranunculaceae - Buttercup Family (1 taxon)			
	Ranunculus californicus	California Buttercup	
Rosaceae - Rose Family (5 taxa)			
	Cotoneaster pannosa	Cotoneaster	x
	Heteromeles arbutifolia	Toyon	
	Photinia serrulata	Chinese Photinia	x
	Pyracantha angustifolia	Firethorn	x
	Rubus discolor	Himalayan Blackberry	x
	Rubus ursinus	California Blackberry	
Rubiaceae - Madder Family (4 taxa)			
	Galium aparine	Goose Grass	x
	Galium californicum ssp. *californicum*	California Bedstraw	
	Galium parisiense	Wall Bedstraw	x
	Galium porrigens	Climbing Bedstraw	
Scrophulariaceae - Figwort Family (5 taxa)			
	Bellardia trixago	Bellardia	x
	Castilleja attenuata	Valley Tassels	
	Cordylanthus pilosus	Bird's Beak	
	Kickxia elantine	Fluellin	x
	Parentucellia viscosa	Parentucellia	x
MONOCOTYLEDONES - The Monocots			
Araceae - Arum Family (1 taxon)			
	Arum italicum	Arum	x

Cyperaceae - Sedge Family (3 taxa)			
	Carex praegracilis	Clustered Field Sedge	
	Carex tumulicola	Foothill Sedge	
	Cyperus eragrostis	Nut-grass	
Iridaceae - Iris Family (2 taxa)			
	Iris macrosiphon	Iris	
	Sisyrinchium bellum	Blue-eyed Grass	
Juncaceae - Rush Family (3 taxa)			
	Juncus patens	Common Rush	
	Juncus occidentalis	Western Rush	
	Juncus tenuis	Slender Rush	
Lilaceae - Lily Family (5 taxa)			
	Brodiaea elegans	Harvest Brodiaea	
	Calochortus luteus	Yellow Mariposa	
	Chlorogalum pomeridianum var. *pomeridianum*	Soap Plant	
	Dichelostemma capitatum ssp. *capitatum*	Blue Dicks	
	Triteleia hyacinthina	White Brodiaea	
Poaceae - Grass Family (25 taxa)			
	Anthoxanthum odoratum	Sweet Vernal Grass	x
	Avena barbata	Slender Wild Oat	x
	Avena fatua	Wild Oat	x
	Avena sativa	Cultivated Oat	x
	Brachypodium distachyon	False Brome	x
	Briza maxima	Big Quacking Grass	x
	Briza minor	Little Quaking Grass	x
	Bromus carinatus ssp. *carinatus*	California Brome	
	Bromus diandrus	Ripgut Grass	x
	Bromus hordeaceus	Soft Chess	x
	Bromus sterilis	Brome	x
	Cynosurus echinatus	Hedgehog Dogtail Gras	x
	Dactylis glomerata	Orchard Grass	x
	Danthonia californica var. *americana*	California Oat Grass	
	Deschampsia elongata	Slender Hairgrass	
	Elymus glaucus ssp. *glaucus*	Blue Wildrye	
	Festuca arundinaceae	Tall Fescue	x
	Festuca trachyphylla	Sheep Fescue	x
	Hordeum brachyantherum ssp. *brachyantherum*	Meadow Barley	
	Lolium multiflorum	Italian Rye	x
	Nassella pulchra	Purple Needle Grass	
	Phalaris aquatica	Harding Grass	x
	Taeniatherum caput-medusae	Medusa Head	x*
	Vulpia bromoides	Six's Weeks Fescue	x
	Vulpia myuros var. *myuros*	Rattail Fescue	x

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May 19, 2009

Mr. Jack Chamberlain
Chamberlain Lake Park LLC
655 Skyway Road, Suite 230
San Carlos, CA 94070

RE: The Arbors Project, 3500 Lake Park Drive, Santa Rosa, CA
APN 173-270-005; File No. MJ07-016

Dear Mr. Chamberlain:

This letter report provides the results of surveys conducted in the spring of 2009 for special status plants for The Arbors project site located at 3500 Lake Park Drive in Santa Rosa, Sonoma County, California. The project area is located in Section 11 of the Santa Rosa 7.5-minute topographic quadrangle, within Township 7N and Range 8W. The property is approximately 5.69 acres in size and the assessor parcel number is 173-270-005.

SITE DESCRIPTION

The Arbors project is located on the south side of Lake Park Drive. The site is bounded on the east by residential development, on the south by Russell Creek, on the west by open lands and Bicentennial Way and on the north by residential development. The surrounding land uses consist of mainly of urban and residential development. The Arbors is part of the larger 70-acre Nielsen Ranch which includes existing development west and northwest of the site and proposed development on the western portion of the site. The Arbors proposed project includes subdividing the 5.69 acres into 37 lots for 37 single family attached homes. The proposed lot sizes range from 1,648 square feet to 7,290 square feet with an average lot size of 2,638 square feet. Access to 35 of the new lots would be provided via a new private loop street, Arbor Circle, which would connect with Lake Park Drive.

Approximately 72% (4.06 acres) is proposed for development with a private open space of 1.54 acres on the south side of the parcel that will be contiguous with the City-owned Russell Creek parcel of 3.63 acres. The surrounding area is transitioning from an undeveloped hillside area to residential developments. The approved Bicentennial Estates II, located west of the Arbor s, at 3450 and 3551 Lake Park Drive, is an 8.03- acre parcel that will be subdivided into 14 single family lots to duplex lots. Single family detached residential uses occur to the east and north and the public Russell Creek trail occurs on the south and east side of the parcel.

METHODS

Prior to fieldwork an initial query was conducted from the On-line 7th Edition of the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants and the California Natural Diversity Database (CNDDB 2009) for the records of special-status plant species within the Santa Rosa USGS quad and the eight surrounding contiguous quadrangles. These include the Mark West Springs, Calistoga, Kenwood, Glen Ellen, Cotati, Two Rock, Sebastopol and Healdsburg quadrangles. From this query it was determined that 76 special status plant species have potential to occur on the project site based on the

presence of potential habitat. A list of special status plants that could potentially occur in the area based on the CNDDB and CNPS data base searches is provided as Attachment A.

Surveys were conducted by Geri Hulse-Stephens, botanist, as subconsultant to Jane Valerius Environmental Consulting on March 16, April 10, and May 9, 2009. An additional plant survey will be conducted in June to cover the full flowering season for all the potential special status plant that could occur in the area but given the habitats for the later flowering species it is unlikely that they would occur on the site as the site does not support the type of habitat that these species typically occur or does not have the microhabitat on which these species normally occur. Please refer to the Results section for further discussion.

Surveys conducted were floristic in nature and took into account all vascular plant species encountered. The entire project site was walked on foot and covered thoroughly so that all representative habitat types, topographic features and aspects were investigated. Plant communities occurring on the site are also described.

RESULTS

A total of 161 plant species representing 31 families have been identified in the surveys to date. A list of plant species observed is provided as Attachment B. Plant communities that occur on the site are oak woodland and non-native annual grassland which are described in detail below.

Oak woodland

The oak woodland community on the project site is equivalent to the Coast Live Oak Series as described by The Manual of California Vegetation (Sawyer and Keeler-Wolf 1995). More than three quarters of the The Arbors project area is comprised of oak woodland. The dense woodland canopy is dominated by coast live oak *(Quercus agrifolia)* with some madrone (*Arbutus menziesii*) and black oak (*Quercus kelloggii*) in the woodland composition.

The understory vegetation within the oak woodland is sparsely covered with poison oak (*Toxicodendron diversilobum*) near the edges of the canopy. Where the understory is more open Italian thistle (*Carduus pycnocephalus*) is very common and abundant. The outer edges of the woodland are bordered by shrubs including coyote brush (*Baccharis pilularis*) and French broom (*Genista monspessulana*). French broom is an invasive weed and it is evident from aerial photographs of the site that this species is extending into grasslands from the edges of the woodlands. Many seedlings were observed underneath and at the edges of these newer stands. Valley oak (*Quercus lobata*) occurs along a swale with an understory of Himalayan blackberry *(Rubus discolor)*, California blackberry (*Rubus ursinus*) and poison oak.

Annual Grassland

The annual grassland community on the project site is equivalent to the California Annual Grassland type described in The California Manual of Vegetation (Sawyer and Keeler-Wolf 1995). This vegetation type occurs in grassy openings along Lake Park Drive especially on the fill slope below Lake Park Drive across from Bella Vista Way and on the slope above the trailhead to the east as well as parts of the grasslands to the south of the project area. The dominant species in this habitat is oat grass (*Avena sativa*). Other non-native or exotic grasses such as big quaking grass (*Briza maxima*), soft chess (*Bromus hordaceus*) and Italian rye (*Lolium multiflorum*) are included in this plant community. The herbaceous plants within this grassland are primarily exotic herbs and include white-stemmed filaree (*Erodium bothrys*), rose clover (*Trifolium hirtum*), crimson clover (*Trifolium incarnatum*) and spring vetch (*Vicia sativa* ssp. *sativa*). Native herbs observed in this plant community were blue-eyed grass (*Sisyrinchium bellum*), miniature lupine (*Lupinus bicolor*) and sky lupine (*Lupinus nanus*).

Bordering the oak woodland to the north and south and within the narrow opening in the woodland are areas with perennial native grasses. The native grasses occur where soils have not been disturbed by fill from road building. Native grasses found in this limited area include purple needlegrass (*Nasella pulchra*), California oatgrass (*Danthonia californica*) and blue wild rye (*Elymus glaucus*). The non-native annual grasses are mixed in with the native grasses and since the areas with native grasses are so small they have not been separated out from the annual grassland type. As described above non-native/exotic grasses include soft chess, Italian rye and slender wild oat (*Avena barbata*). Native forbs include California buttercup (*Ranunculus californica)* slender cottonweed (*Micropus californicus*), purple sanicle (*Sanicula bipinnidafida*) rattlesnake weed (*Daucus pusillus*), yarrow (*Achillia millefolium*) and *Plantago erecta.* The exotic herbs included in this community are white-stemmed filaree and Shepard's needle (*Scandix pectens-veneris*). On the south border of this area above the improved trail is a dense stand of narrow-leaved mule ears (*Wyethia angustifolia*). As mentioned above, French broom has expanded into narrow strips of grassland and along the edges of the grasslands evidenced by the presence of young shrubs and dense patches of seedlings.

Special-Status Plants

Surveys were conducted in March, April and May of 2009. As of the date of the May 9, 2009 survey no special status plant species have been identified on the project site. An additional survey is proposed for June to cover the entire flowering season but special status plant species with flowering periods in June or later that have the potential to occur in the area based on the CNDDB are considered not likely to occur on the project site (please refer to Attachment A). It unlikely that any of the later flowering species would occur on the site based on the fact that the site does not support the type of habitat that these species typically occur or and/or does not have the microhabitat on which these species normally occur. However, to be in full compliance with the CDFG guidelines one final plant survey will be conducted.

The following 15 special status plant species (Attachment A) begin to flower in June or later: 1) swamp harebell (*Campanula californica*); 2) Pitkin Marsh Indian paintbrush (*Castilleja uliginosa*); 3) Sonoma spineflower (*Chorizanthe valida*); 4) Vine Hill clarkia (*Clarkia imbricata*); 5) Pennell's bird's-beak (*Cordylanthus tenuis* ssp. *capillaris*); 6) streamside daisy (*Erigeron biolettii*); 7) woolly-headed lessingia (*Lessingia hololeuca*); 8) Pitkin Marsh lily (*Lilium pardalinum* ssp. *pitkinense*); 9) robust monardella (*Monardella villosa* ssp. *globosa*); 10) green monardella (*Monardella viridis* ssp. *viridis*); 11) Gairdner's yampa (Perideridia gairdneri ssp. *gairdneri*); 12) white beaked-rush (*Rhynchospora alba*); 13) brownish beaked-rush (*Rhynchospora capitellata*); 14) round-headed beaked-rush (*Rhynchospora globularis* var. *globularis*); and 15) Kenwood Marsh checkerbloom (*Sidalcea oregana* ssp. *valida*). There is no habitat on site for swamp harebell, Pitkin Marsh Indian paintbrush, Sonoma spineflower, Vine Hill clarkia, Pennell's bird's-beak, Pitkin Marsh lily, white beaked-rush, brownish beaked-rush, round-headed beaked-rush, or Kenwood Marsh checkerbloom and these species are not expected to occur on the site based on the lack of suitable habitat.

Potential habitat does occur on site for streamside daisy, woolly-headed lessingia and Gairdner's yampa but the first two species are CNPS List 3 species and the yampa is a CNPS List 4 species which have no formal protection. List 3 is a review list and List 4 is a watch list. There is no requirement under CEQA to address these plants although information about the occurrence of these species is helpful for determining if these species are truly diminishing or not. No species of *Erigeron* or *Lessingia* have been noted on the site so the streamside daisy and woolly-headed lessingia are not likely to occur on the site. One species of yampa (*Perideridia* sp.) has been observed on the site but as mentioned previously, Gairdner's yampa is a CNPS List 4 species and there is no requirement under CEQA to address List 4 species.

There is potential habitat on site for robust monardella and green monardella. These are both perennial plant species and plants in the genus *Monardella* are identifiable when only the leaves are present. No plants in the genus *Monardella* have been observed on the site. Therefore it is safe to conclude that neither of these species occur on the project site.

SUMMARY AND CONCLUSION

Even though the site supports a number of native plants and is dominated by oak woodland, which is a native plant community type, herbaceous plants on the site are mostly non-native and invasive plants such as French broom, Italian thistle, fennel, English ivy, black mustard, Himalayan blackberry, rose and crimson clovers, filarees, and annual grasses. Given the dominance in the herbaceous layer of non-native species and some very aggressive noxious weeds like French broom it is unlikely that any special status plants occur on the site. In addition, the site does not provide habitat for most of the special status plants known to occur in the area based on the CNPS and CNDDB data bases. Surveys conducted in March, April and May of 2009 did not find any special status plants on the site and no special status plants are expected to occur on the project site

I hope this information is helpful. If you have any questions, please do not hesitate to contact me.

Sincerely,

Jane Valerius

Jane Valerius
Botanist

Attachments

Attachment A.
Special status plant species that could potentially occur within The Arbors Project Site based on a review of the CNDDB and CNPS Electronic Inventory for the Santa Rosa and surrounding USGS quadrangles (2009).

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
Allium peninsulare var. *franciscanum* Franciscan onion	-/-/L1B	May-June	Cismontane woodland, grassland/clay, volcanic, often serpentine	Not present. Not observed during surveys.
Alopecurus aequalis var. *sonomensis* Sonoma alopecurus	FE/-/L1B	May-July	Marshes & swamps (freshwater), riparian scrub.	No habitat on site. Not observed during surveys.
Amorpha californica var. *napensis* Napa false indigo	-/-/L1B	April-July	Broadleafed upland forest (openings), chaparral, cismontane woodland.	Not present. Not observed during surveys.
Anomobryum julaceum	-/-/L2		Broadleafed upland forest, lower montane coniferous forest/ damp rock and soil on outcrops, usually on roadcuts.	Not present. Not observed during surveys.
Arctostaphylos canescens ssp. *sonomensis* Sonoma canescent manzanita	-/-/L1B	January-June	Chaparral, lower montane coniferous forest-sometimes serpentinite.	Not present. Not observed during surveys.
Arctostaphylos densiflora Vine Hill manzanita	-/CE/L1B	February-April	Chaparral (acid marine sand).	No habitat on site. Not observed during surveys.
Arctostaphylos stanfordiana ssp. *decumbens* Sonoma canescent manzanita	-/-/L1B	February-April	Chaparral (rhyolitic), cismontane woodland.	Not present. Not observed during surveys.
Astragalus breweri Brewer's milkvetch	-/-/L4	April-July	Chaparral (openings), cismontane woodland, grassland/ serpentinite or volcanic, rocky, clay.	Not present. Not observed during surveys.
Astragalus claranus Clara Hunt's milk-vetch	FE/CT/L1B	March-May	Grassland/serpentinite or volcanic, rocky clay.	Not present. Not observed during surveys..
Balsamorhiza macrolepis var. *macrolepis* Big scale balsamroot	-/-/L1B	March-June	Grassland/sometimes serpentinite.	Not present. Not observed during surveys.
Blennosperma bakeri Sonoma sunshine	FE/CE/1B	March-May	Mesic grasslands and vernal pools.	No habitat on site. Not observed during surveys.
Brodiaea californica var. *leptandra* Narrow-anthered California brodiaea	-/-/L1B	May-July	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, grassland/volcanic.	Not present during May survey.

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
Calamagrostis bolanderi Bolander's reed grass	-/-/L4	May-August	Bogs and fens, broadleafed upland forest, closed-cone coniferous forest, coastal scrub, meadows and seeps, marshes and swamps (freshwater), North Coast coniferous forest/mesic.	No habitat on site. Not observed during surveys.
Calamagrostis crassiglumis Thurber's reed grass	-/-/L2	May-July	Coastal scrub (mesic); marshes & swamps (freshwater)	No habitat on site. Not observed during surveys.
Calamagrostis ophitidis Serpentine reed grass	-/-/L4	April-July	Chaparral, lower montane coniferous forest, meadows and seeps, grassland (vernally mesic)/ serpentinite, rocky.	No habitat on site. Not observed during surveys.
Calandrinia breweri Brewer's calandrinia	-/-/L4	March-June	Chaparral, coastal scrub, sandy or loamy, disturbed sites and burns.	No habitat on site. Not observed during surveys.
Calystegia collina ssp. *oxyphylla* Mt. Saint Helena morning-glory	-/-/L4	April-June	Chaparral, lower montane coniferous forest, grassland/ serpentinite.	No habitat on site. Not observed during surveys.
Campanula californica Swamp harebell	-/-/L1B	June-October	Bogs and fens, closed cone coniferous forest.	No habitat on site. Not observed during surveys.
Carex albida Sonoma white sedge	FE/CE/L1B	May-July	Bogs and fens, marshes and swamps (freshwater).	No habitat on site. Not observed during surveys.
Castilleja uliginosa Pitkin Marsh Indian paintbrush	-/CE/L1A	June-July	Marshes and swamps (freshwater).	No habitat on site. Not observed during surveys.
Ceanothus confusus Rincon Ridge ceanothus	-/-/L1B	February-June	Closed-cone coniferous forest, chaparral, cismontane woodland/volcanic or serpentinite.	No species of *Ceanothus* observed on the site. Not observed during surveys.
Ceanothus divergens Calistoga ceanothus	-/-/L1B	February-March	Chaparral (serpentinite or volcanic, rocky).	No species of *Ceanothus* observed on the site. Habitat not present. Not observed during surveys.
Ceanothus foliosus var. *vineatus* Vine Hill ceanothus	-/-/L1B	March-May	Chaparral.	No species of *Ceanothus* observed on the site. Habitat not present. Not observed during surveys.

Attachment A (continued)

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
Ceanothus purpureus Holly-leaved ceanothus	-/-/L1B	February-June	Chaparral, cismontane woodland/volcanic, rocky.	No species of *Ceanothus* observed on the site. Not observed during surveys.
Ceanothus sonomensis Sonoma ceanothus	-/-/L1B	February-April	Chaparral (sandy, serpentinite or volcanic).	No species of *Ceanothus* observed on the site. Habitat not present. Not observed during surveys.
Centromadia parryi ssp. *parryi* Pappose tarplant	-/-/L1B	May-November	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), grassland (vernally mesic)/often alkaline.	Not present. Not observed during surveys. Typical habitat not present on site.
Chorizanthe valida Sonoma spineflower	FE/CE/L1B	June-August	Coastal prairie (sandy).	Not present. Not observed during surveys.
Clarkia imbricata Vine Hill clarkia	FE/CE/L1B	June-August	Chaparral, grassland/acidic sandy loam.	Not present. Not observed during surveys.
Cordylanthus tenuis ssp. *capillaris* Pennell's bird's-beak	FE/CR/L1B	June-September	Closed-cone coniferous forest, chaparral/serpentinite.	No habitat on site. Not likely to occur.
Delphinium luteum Golden larkspur	FE/CR/L1B	March-May	Chaparral, coastal prairie, coastal scrub/ rocky.	Not present. Not observed during surveys. Typical habitat not present on site.
Downingia pusilla Dwarf downingia	-/-/L2	March-May	Grassland (mesic), vernal pools.	Not present. Not observed during surveys. Typical habitat not present on site.
Erigeron biolettii Streamside daisy	-/-/L3	June-October	Broadleafed upland forest, cismontane woodland, North Coast coniferous forest/rocky, mesic.	Potential habitat on site. Survey will be conducted in June. List 3 plants have no formal protection – they are plants about which more information is needed.
Erigeron serpentinus Serpentine daisy	-/-/L1B	May-August	Chaparral (serpentinite, seeps).	Not present. Not observed during surveys. Typical habitat not present on site.
Eryngium constancei Loch Lomond button-celery	FE/CE/L1B	April-June	Vernal pools.	No habitat on site. Not observed during surveys.

Scientific Name **Common Name**	**Status: Federal/ State/CNPS List**	**Flowering Period**	**Habitat and Notes**	**Potential for Occurrence**
Eryngium pinnatisectum Tuolumne button-celery	-/-/L1B	May-August	Cismontane woodland, lower montane coniferous forest, venal pools/ mesic.	Not present. Not observed during surveys. Typical habitat not present on site.
Fritillaria liliacea Fragrant fritillary	-/-/L1B	February-April	Grassland/often serpentinite.	Not present. Not observed during surveys.
Gilia capitata ssp. *tomentosa* Woolly-headed gilia	-/-/L1B	May-July	Coastal bluff scrub (rocky, outcrops).	Not present. Not observed during surveys. Typical habitat not present on site.
Hemizonia congesta ssp. *congesta* Seaside tarplant	-/-/L1B	April-November	Grassland-sometimes roadsides.	Not present. Not observed during surveys.
Horkelia tenuiloba Thin-lobed horkelia	-/-/L1B	May-July	Broadleafed upland forest, chaparral, grassland/mesic openings, sandy.	Not present. Not observed during surveys. Typical habitat not present on site.
Lasthenia burkei Burke's goldfields	FE/CE/1B	April-June	Meadows and seeps (mesic), vernal pools.	Not present. Not observed during surveys. Typical habitat not present on site.
Lasthenia californica ssp. *bakeri* Baker's goldfields	-/-/L1B	April-October	Closed-cone coniferous forest (openings), coastal scrub, meadows and seeps, marshes and swamps.	Not present. Not observed during surveys. Typical habitat not present on site.
Lasthenia conjugens Contra Costa goldfields	FE/-/L1B	March-June	Cismontane woodland, playas (alkaline), grassland, vernal pools/mesic.	Not present. Not observed during surveys. Typical habitat not present on site.
Layia septentrionalis Colusa layia	-/-/L1B	April-May	Chaparral, cismontane woodland, grassland/sandy, serpentintie.	Not present. Not observed during surveys. Typical habitat not present on site.
Legenere limosa Legenere	-/-/L1B	April-June	Vernal pools	Not present. Not observed during surveys. Typical habitat not present on site.
Leptosiphon jepsonii Jepson's leptosiphon	-/-/L1B	March-May	Chaparral, cismontane woodland – usually volcanic	Not present. Not observed during surveys.
Lessingia hololeuca Woolly-headed lessingia	-/-/L3	June-October	Broadleafed upland forest, coastal scrub, lower montane	Typical habitat not present on site. Survey will be

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
			coniferous forest, grassland/clay, serpentinite.	conducted in June. List 3 plants have no formal protection – they are plants about which more information is needed.
Lilium pardalinum ssp. *pitkinense* Pitkin Marsh lily	FE/CE/L1B	June-July	Cismontane woodland, meadows and seeps, marshes and swamps (freshwater)/mesic, sandy.	Typical habitat is not present on site. Survey will be conducted in June. Known occurrence is from Pitkin Marsh in Sebastopol.
Limnanthes vinculans Sebastopol meadowfoam	FE/CE/1B	April-May	Meadows and seeps, grasslands, vernal pools/ vernally mesic.	No habitat on site. Not observed during surveys.
Lomatium repostum Napa lomatium	-/-/L4	March-June	Chaparral, cismontane woodland, serpentinite.	No habitat on site (no serpentinite). Not present. Not observed during surveys.
Lotus formosissimus Harlequin lotus	-/-/L4	March-July	Broadleafed upland forest, coastal bluff scrub, closed cone coniferous forest, cismontane woodland, coastal prairie, coastal scrub, meadows and seeps, marshes and swamps, North Coast coniferous forest, grassland, wetlands, roadsides.	Not present. Not observed during surveys.
Lupinus sericatus Cobb Mountain lupine	-/-/L1B	March-June	Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest.	Not present. Not observed during surveys.
Mertensia bella Oregon lungwort	-/-/L2	May-July	Meadows and seeps, upper montane coniferous forest/mesic.	Not present. Typical habitat not present. Not observed during surveys.
Micropus amphibolus Mt. Diablo cottonweed	-/-/L3	March-May	Broadleafed upland forest, chaparral, cismontane woodland, grassland/rocky.	Not present. Not observed during surveys.
Microseris paludosa Marsh microseris	-/-/L1B	April-June	Closed-cone coniferous forest, cismontane woodland.	Not present. Not observed during surveys.
Monardella villosa ssp. *globosa* Robust monardella	-/-/L1B	June-July	Broadleafed upland forest (openings), chaparral (openings), cismontane woodland,	Potential habitat is present on site. Survey will be conducted in June. No

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
			coastal scrub, grassland.	species of *Monardella* observed on site to date- not likely to occur as this genus would be identifiable if present on site.
Monardella viridis ssp. *viridis* Green monardella	-/-/L4	June-September	Broadleafed upland forest, chaparral, cismontane woodland.	Potential habitat is present on site. Survey will be conducted in June. No species of *Monardella* observed on site to date- not likely to occur as this genus would be identifiable if present on site.
Navarretia leucocephala ssp. *bakeri* Baker's navarretia	-/-/1B	May-July	Cismontane woodland, lower montane coniferous forest, meadows and seeps, grasslands, vernal pools/mesic.	Not present. Typical habitat not present. Not observed during surveys.
Navarretia leucocephala ssp. *plieantha* Many-flowered navarretia	FE/CE/L1B	May-June	Vernal pools (volcanic ash flow)	No habitat on site. Not observed during surveys.
Penstemon newberryi var. *sonomensis* Sonoma beardtongue	-/-/L1B	April-August	Chaparral (rocky).	Typical habitat not on site. Not present. Not observed during surveys.
Plagiobothrys strictus Calistoga popcorn-flower	FE/CT/L1B	March-June	Meadows and seeps, grassland, vernal pools/alkaline areas near thermal springs.	Habitat not present on site. Not observed during surveys.
Pleuropogon hooverianus North Coast semaphore grass	-/CT/L1B	April-August	Broadleafed upland forest, meadows and seeps, North Coast coniferous forest/open areas, mesic.	Typical habitat not on site. Not present. Not observed during surveys.
Pleuropogon refractus Nodding semaphore grass	-/-/L4	April-August	Lower montane coniferous forest, meadows and seeps, North Coast coniferous forest, riparian forest.	Typical habitat not on site. Not present. Not observed during surveys.
Poa napensis Napa blue grass	FE/CE/L1B	April-August	Meadows and seeps, grassland/alkaline, near thermal springs.	Typical habitat not on site. Not present. Not observed during surveys.
Potentilla hickmanii Hickman's cinquefoil	FE/CE/L1B	April-August	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic),	Potential habitat not on site. Not present. Not observed during surveys.

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
			marshes and swamps (freshwater).	
Perideridia gairdneri ssp. *gairdneri* Gairdner's yampah	-/-/L4	June-October	Broadleafed upland forest, chaparral, coastal prairie, grassland, vernal pools, vernally mesic.	Potential habitat on site. Survey will be conducted in June. List 4 plants have no formal protection – they are plants of limited distribution-a watch list.
Ranunculus lobbii Lobb's aquatic buttercup	-/-/L4	February-May	Cismontane woodland, North Coast coniferous forest, grassland, vernal pools/mesic.	Typical habitat not on site. Not present. Not observed during surveys.
Rhynchospora alba White beaked-rush	-/-/L2	July-August	Bogs and fens, meadows and seeps, marshes and swamps.	No habitat on site. Not likely to occur.
Rhynchospora californica California beaked-rush	-/-/L1B	May-July	Bogs and fens, lower montane coniferous forest, meadows and seeps marshes and swamps.	Typical habitat not on site. Not present. Not observed during surveys.
Rhynchospora capitellata Brownish beaked-rush	-/-/L2	July-August	Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest/ mesic.	No habitat on site. Not likely to occur.
Rhynchospora globularis var. *globularis* Round-headed beaked-rush	-/-/L2	July-August	Marshes and swamps (freshwater).	No habitat on site. Not likely to occur.
Sidalcea hickmanii ssp. *viridis* Marin checkerbloom	-/-/L1B	May-June	Chaparral (serpentinite).	No habitat on site. Not present. Not observed during surveys.
Sidalcea oregana ssp. *valida* Kenwood Marsh checkerbloom	FE/CE/L1B	June-September	Marshes and swamps (freshwater).	No habitat on site. Not likely to occur.
Trifolium amoenum Two-fork clover	FE/-/L1B	April-June	Coastal bluff scrub, grassland (sometimes serpentinite).	Not present. Not observed during surveys.
Trifolium buckwestiorum Santa Cruz clover	-/-/L1B	April-October	Broadleafed upland forest, cismontane woodland, coastal prairie/gravelly, margins.	Not present. Not observed during surveys.
Trifolium depauperatum var. *hydrophilum* Saline clover	-/-/L1B	April-June	Marshes and swamps, grassland (mesic, alkaline), vernal	No habitat on site. Not observed during surveys.

Scientific Name Common Name	Status: Federal/ State/CNPS List	Flowering Period	Habitat and Notes	Potential for Occurrence
			pools.	
Viburnum ellipticum Oval-leaved viburnum	-/-/L2	May-June	Chaparral, cismontane woodland, lower montane coniferous forest.	Not present. Not observed during surveys.

Status:

FE: Federally listed endangered.
CE: State listed endangered
CT: State listed threatened.
List 1A: Plants presumed extinct in California.
List 1B: Plants rare and endangered in California and elsewhere.
List 2: Plants rare, threatened or endangered in California but more common elsewhere.
List 3: Plants about which more information is needed– a review list.
List 4: Plants of limited distribution – a watch list.

ATTACHMENT B

List of Plant Species Observed for The Arbors Project March to May 2009

Family	Scientific Name	Common Name	Exotic	Grassland	Woodland
PTEROPHYTA - Ferns and other non-seed plants					
Dennstaedtiaceae - Bracken Family (I taxon)					
	Pteridium aquilinum var pubescens	Bracken Fern		x	x
Pteridaceae - Brake Fern Family (1 taxon)					
	Pentagramma triangularis ssp. *triangularis*	Goldenback Fern			x
Dryopteridaceae -Wood Fern Family (1 taxon)					
	Dryopteris arguta	Wood Fern			x
ANTHOPHYTA - Dicotyledones (Dicots)					
Anacardiaceae - Sumac Family (1 taxon)					
	Toxicodendron diversilobum	Poison Oak			x
Apiaceae - Carrot Family (8 taxa)					
	Daucus pusillus	Rattlesnake Weed		x	
	Foeniculum vulgare	Fennel	x	x	
	Perideridia sp	Yampah		x	
	Sanicula bipinnatifida	Purple Sanicle			
	Sanicula crassicaulis	Gamble Weed			
	Scandix pecten-veneris	Shepard's Needle	x	x	
	Torilis arvensis	Japanese Hedge Parsley	x	x	
	Yabea microcarpa	Hedge-Parsley			x
Araliaceae - Ginseng Family (1 taxon)					
	Hedera helix	English Ivy	x		x
Asteraceae - Aster Family (15 taxa)					
	Achillea millefolium	Yarrow		x	x
	Aster radulinus	Broad-leaf Aster			x
	Baccharis pilularis	Coyote Brush		x	x
	Carduus pycnocephalus	Italian Thistle	x	x	x
	Hedypnois cretica	Crete Weed	x	x	
	Helmentotheca echioides(Picris)	Ox-Tongue	x	x	
	Hypochaeris glabra	Smooth Cat's Ear	x	x	x
	Hypochaeris radicata	Hairy Cat's Ear	x	x	x
	Lagophylla ramosissima			x	
	Micropus californicus	Slender Cottonweed			
	Senecio vulgaris	Common Groundsel	x	x	
	Silybum marianum	milk thistle	x	x	x
	Taraxacum officinale	Common Dandelion	x	x	
	Wyethia angustifolia	Narrow-leaved Mule Ears		x	
	Wyethia glabra	Coast Mule Ears		x	
Boraginaceae - Borage Family (1 taxon)					
	Amsinckia menziesii var. intermedia	Rancher's Fireweed		x	
Brassicaceae - Mustard Family (3 taxa)					

	Brassica nigra	Black Mustard	x		
	Cardamine californica var. cardiophylla	Milk Maids		x	x
	Cardamine oligosperma			x	x
Caprifoliaceae - Honeysuckle Family (4 taxa)					
	Lonicera hispidula var. vacillans	Honeysuckle			x
	Sambucus sp.				x
	Symphoricarpos albus var. laevigatus	Snowberry			x
	Symphoricarpos mollis	Creeping Snowberry			x
Caryophyllaceae - Pink Family (3 taxa)					
	Cerastium glomeratum	Mouse-ear Chickweed	x	x	
	Silene gallica	Windmill Pink	x	x	
	Stellaria media	Common Chickweed	x	x	
Dipsacaceae - Teasel Family (1 taxon)					
	Dipsacus sativus	Wild Teasel	x		
Ericaceae - Heath Family (2 taxa)					
	Arbutus menziesii	Madrone			x
	Arctostaphylos manzanita ssp. manzanita	Manzanita			x
Fabaceae - Pea Family (13 taxa)					
	Genista monspressulana	French Broom	x		x
	Lotus corniculatus	Bird's foot treefoil	x		
	Lotus micranthus			x	
	Lupinus bicolor	Miniature Lupine		x	
	Lupinus nanus	Sky Lupine		x	
	Medicago polymorpha	California Burclover	x	x	
	Trifolium dubium	Shamrock Clover	x	x	
	Trifolium hirtum	Rose Clover	x	x	
	Trifolium incarnatum	Crimson Clover	x		
	Trifolium subterraneum	Subterranean Clover	x	x	
	Vicia sativa ssp. nigra	Common Vetch	x	x	
	Vicia sativa ssp. sativa	Spring Vetch	x	x	
	Vicia villosa ssp. villosa	Hairy Vetch	x	x	
Fagaceae - Beech Family (5 taxa)					
	Quercus agrifolia	Coast Live Oak			x
	Quercus garryana var. garryana	Oregon Oak, Garry Oak			x
	Quercus kelloggii	Black Oak			x
	Quercus lobata	Valley Oak			x
	Quercus wislizeni	Interior Live Oak			x
Geraniaceae - Geranium Family (4 taxa)					
	Erodium botrys	Broadleaf Filaree	x	x	
	Erodium cicutarium	Red-stemmed Filaree	x	x	
	Geranium dissectum	Cut-leaf Geranium	x	x	
	Geranium molle	Dove-foot Geranium	x	x	
Lamiaceae - Mint Family (3 taxa)					
	Glechoma hederacea	Ground Ivy	x		
	Lamium purpureum	Red Henbit	x		
	Stachys ajugoides				

Malvaceae - Mallow Family (1 taxon)					
	Sidalcea diploscypha			x	
Onagraceae - Evening Primrose Family (1 taxon)					
	Camissonia ovata	Sun Cup		x	
Plantaginaceae - Plantain Family (2 taxa)					
	Plantago erecta				
	Plantago lanceolata	English Plantain	x	x	
Polygonaceae - Buckwheat Family (2 taxa)					
	Rumex acetosella	Sheep Sorrel	x	x	
	Rumex pulchra	Fiddleleaf Dock	x		
Portulacaceae - Purslane Family (1 taxon)					
	Claytonia perfoliata	Minor's Lettuce			x
Primulaceae - Primrose Family (1 taxon)					
	Anagallis arvensis	Scarlet Pimpernel	x	x	
Ranunculaceae - Buttercup Family (1 taxon)					
	Ranunculus californicus	California Buttercup			x
Rosaceae - Rose Family (3 taxa)					
	Heteromeles arbutifolia	Toyon			x
	Rubus discolor	Himalayan Blackberry	x		x
	Rubus ursinus	California Blackberry			
Rubiaceae - Madder Family (4 taxa)					
	Galium aparine	Goose Grass	x	x	x
	Galium californicum ssp. californicum	California Bedstraw			x
	Galium parisiense	Wall Bedstraw	x	x	
	Galium porrigens	Climbing Bedstraw		x	x
Scrophulariaceae - Figwort Family (3 taxa)					
	Castilleja attenuata	Valley Tassels			
	Cordylanthus sp.	bird's beak			
	Parentucellia viscosa		x		
MONOCOTYLEDONES - The Monocots					
Cyperaceae - Sedge Family (2 taxa)					
	Carex praegracilis	Clustered Field Sedge		x	
	Cyperus eragrostis	Nut-grass		x	
Iridaceae - Iris Family (2 taxa)					
	Iris macrosiphon				x
	Sisyrinchium bellum	Blue-eyed Grass		x	x
Juncaceae - Rush Family (2 taxa)					
	Juncus patens	Common Rush		x	
	Juncus tenuis				
Liliaceae - Lily Family (3 taxa)					
	Chlorogalum pomeridianum var. *pomeridianum*	Soap Plant		x	x
	Dichelostemma capitatum ssp. capitatum	Blue Dicks		x	x
	Triteleia hyacinthina	White Brodiaea		x	
Poaceae - Grass Family (21 taxa)					
	Avena barbata	Slender Wild Oat	x	x	
	Avena fatua	Wild Oat	x		

	Avena sativa	Cultivated Oat	x	x	
	Briza maxima	Big Quacking Grass	x	x	
	Briza minor	Little Quaking Grass	x	x	
	Bromus carinatus ssp. carinatus	California Broom		x	x
	Bromus diandrus	Ripgut Grass	x	x	
	Bromus hordeaceus	Soft Chess	x	x	
	Bromus sterilis		x		x
	Cynosurus echinatus	Hedgehog Dogtail Gras	x	x	
	Dactylis glomerata	Orchard Grass	x	x	
	Danthonia californica var. americana	California Oat Grass		x	
	Deschampsia elongata	Slender Hairgrass		x	
	Elymus glaucus ssp. glaucus	Blue Wildrye		x	x
	Festuca trachyphylla	Sheep Fescue	x		x
	Hordeum brachyantherum ssp. brachyantherum	Meadow Barley			
	Lolium multiflorum	Italian Rye	x		
	Nassella pulchra	Purple Needle Grass		x	
	Phalaris aquatica	Harding Grass	x	x	
	Vulpia bromoides	Six's Weeks Fescue	x	x	
	Vulpia myuros var. myuros	Rattail Fescue	x	x	

Nomenclature follows The Jepson Manual of Higher Plants of Califofnia (Hickman 1993).

Wildlife Research Associates

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January 21, 2009

Mr. Jack Chamberlain
Chamberlain Lake Park LLC
P.O. Box 970
San Carlos, CA 94070

Ph: 650-595-5582

RE: Wildlife Habitat Assessment for The Arbors, Sonoma County, CA

Dear Mr. Chamberlain,

The following is a letter report describing the results of our wildlife habitat assessment of The Arbors property located at 3500 Lake Park Drive (APN 173-270-005), in the northeastern portion of the City of Santa Rosa, Sonoma County, California. This assessment was conducted to determine the potential for occurrence of special-status animal species and the limitations for potential development, such as a residential development. This report does not address the potential for occurrence of or impacts to vegetation communities, or special-status plant species.

Reports reviewed for this assessment include the *Notice of Public Review and Intent to Adopt a Mitigated Negative Declaration* (City of Santa Rosa 2008a), *Department of Community Development Staff Report for Planning Commission, The Arbors* (City of Santa Rosa 2008b), *The Arbors – File MJ07-016CNPS E-mail Letter November 27, 2007* (Ralph Osterling Consultants, Inc. 2008), and *Arborist Report for The Arbors* (Ralph Osterling Consultants 2007).

SITE AND PROJECT DESCRIPTION

The roughly rectangular-shaped 5.69-acre parcel, located on the south side of Lake Park Drive, is bounded on the east by residential development, on the south by Russell Creek, on the west by open lands and Bicentennial Way and on the north by residential development. Beyond the immediate boundaries, surrounding land uses consist of mainly of urban and residential development. The project area is located in Section 11 of the Santa Rosa 7.5-minute topographic quadrangle, within Township 7N and Range 8W.

The proposed project, The Arbors, is part of the larger 70-acre Nielsen Ranch which includes existing development west and northwest of the site and proposed development on the western portion of the proposed project. The Arbors proposed project includes subdividing the 5.6 acres into 37 lots for 37 single-family attached homes (City of Santa Rosa 2008a). The proposed lot sizes range from 1,648 square feet to 7,290 square feet with an average lot size of 2,638 square feet (City of Santa Rosa 2008b). Access to 35 of the new lots would be provided via a new private loop street, Arbor Circle, which would connect with Lake Park Drive (City of Santa Rosa 2008b).

Approximately 72% (4.06 acres) is proposed for development with a private open space of 1.54 acres on the south side of the parcel that will be contiguous with the City-owned Russell Creek parcel of 3.63 acres (Ralph Osterling Consultants 2008). Approximately 36% of the site exceeds a 25% slope with an overall

slope average of 22% (City of Santa Rosa 2008a) and the proposed project will avoid development on areas of the site exceeding 25 % slope (City of Santa Rosa 2008b). The development will be located between 65 feet and 90 feet upslope from Russell Creek.

The project would remove approximately 400 native trees and preserve approximately 460 native trees. A significant amount of the oak trees planned for removal appear stunted and bush-like; it is speculated by the project arborist that a previous fire in the 1960s may be the cause of the current condition of these trees (City of Santa Rosa 2008b). A total of 70 Significant and heritage trees, occur on the site, of which 28 will be preserved and are presented in the Tree Exhibit which identifies the location and health of trees on the site (Ralph Osterling Consultants 2007). The heritage trees that are to be removed are all located within the new private street or within foundations of new homes (City of Santa Rosa 2008b).

The surrounding area is transitioning from an undeveloped hillside area to residential developments. The approved Bicentennial Estates II, located west of the Arbor s, at 3450 and 3551 Lake Park Drive, is an 8.03-acre parcel that will be subdivided into 14 single family lots to duplex lots (Santa Rosa Department of Community Development 2005). The trees on the north and south side of Lake Park Drive were removed n January 2009, resulting in the loss of 25% of the existing woodland. Single family detached residential uses occur to the east and north and the public Russell Creek trail occurs on the south and east side of the parcel.

METHODS

Information on special-status animal species was compiled through a review of the California Natural Diversity Data Base (CNDDB 2009) for the Santa Rosa 7.5-minute topographic quadrangle, the California Department of Fish and Game's (CDFG) Special Animals List (CDFG 2009), the U.S. Fish and Wildlife Service (USFWS) electronic list of Endangered and Threatened Species for the same quadrangle (http://www.fws.gov/sacramento/es/spp_lists/make_the_list.cfm) and the State and Federally Listed Endangered and Threatened Animals of California (CDFG 2009).

I conducted a daytime survey on January 6, 2009 from 1000 to 1300 hours. I also surveyed the trees for suitable habitat for nesting birds and assessed potential for roosting habitat for bats using 8 x 42 roof-prism binoculars, noting presence of cavities, old bird nests and squirrel nests. The reconnaissance-level site visit was intended only as an evaluation of on-site and adjacent habitat types, and no special-status species surveys were conducted as part of this effort.

Wildlife Research Associates bat biologist Greg Tatarian conducted a daytime habitat assessment on January 15, 2009, of all trees (approximately 860) identified in the *Arborist Report for The Arbors* (Ralph Osterling Consultants 2007). The survey was conducted between 1030 and 1330 on a calm, clear day, with temperatures ranging from 60F to 68F. A 500,000 candlepower spotlight and 10 x 42 roof-prism binoculars were used to view cavity and crevice features of trees. No night emergence surveys were conducted; this assessment and survey was intended to identify potential tree habitat and provide recommendations for safe removal of those trees, under the assumption that any potentially suitable roost trees could be occupied at the time of removal.

All potential habitat trees were recorded, and marked with the letter "B" using either yellow or orange spray paint and further marked with orange flagging tape. Potential habitat tree locations were marked by encircling tree symbols on the *Lake Park Apartments Tree Location Map* (Oberkamper & Associates, undated).

EXISTING CONDITIONS

The Arbors project area is located within the San Francisco Bay Coastal Bioregion (Welsh 1994). This bioregion is located within central California and encompasses the San Francisco Bay and the Sacramento Delta, extending from the Pacific Ocean to the eastern portion of the tule marsh zone, which is defined by

Highway 99 (Welsh 1994). Habitats within this bioregion include both mesic (moist) habitats, such as freshwater marsh, and xeric (dry) habitats, such as chaparral, and are typical of a Mediterranean type climate.

The project area is located on the hills east of the San Miguel Rancheria and the Santa Rosa Plain and northwest of Sonoma Mountain (Figure 1). Topographically, the project site is located on a predominantly south facing slope with a plateau on the northern portion and steep slopes, greater than 25%, on the southern portion of the site. The property ranges in elevation between 320 and 330 feet.

No blue-lined creeks occur in the area. Several reservoirs occur in the area, with a large reservoir occurring 1.2 miles north of the site. The closest reservoir occurs at the Nielson Ranch Park, less than 1,000 feet east of the site and was dammed prior to 1989 to store irrigation water for a tree farm (EIP 1989). The overflow from the Nielson Ranch Park Reservoir feeds into Russell Creek, which is located on the southern boundary of The Arbors project site.

Although located outside of The Arbors project site, Russell Creek was evaluated as part of the proposed project. Russell Creek, which flows from east to west, is located within the Piner Creek watershed. West of the project site, at Bicentennial Way and Park Lane Drive, the creek flows through a storm drain and heads north west, where it daylights again west of Mendocino Avenue and north of Kaiser Hospital approximately 0.5 miles west. Russell Creek then crosses under Highway 101 and flows west to meet Piner Creek. A concrete check dam at Range Avenue, one mile west of the project site, is considered a barrier to fish movement upstream (City of Santa Rosa 2007).

Wildlife Habitats

The value of a site to wildlife is influenced by a combination of the physical and biological features of the immediate environment. Species diversity is a function of diversity of abiotic and biotic conditions and is greatly affected by human use of the land. The wildlife habitat quality of an area, therefore, is ultimately determined by the type, size, and diversity of vegetation communities present and their degree of disturbance. Wildlife habitats are typically distinguished by vegetation type, with varying combinations of plant species providing different resources for use by wildlife. The following is a discussion of the wildlife species supported by the on-site habitats, as described by *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1989).

The site is dominated by coast live oak (*Quercus agrifolia*) woodland, with several Valley oaks (*Quercus lobata*), black oaks (*Quercus kelloggii*) and madrone (*Arbutus menziesii*) mixed throughout the site. The oaks vary in size between 4 inches and 36 inches dbh (Ralph Osterling Consultants 2007) and the canopy cover varies between 60% and 99%. A total of 860 trees occur on the site. Understory shrub species observed in the woodland include, coyote bush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), Himalayan blackberry (*Rubus discolor*), manzanita (*Arctostaphylos* sp.), and the highly invasive French broom (*Genista monspessulana*).

The coast live oak woodland provides habitat for reptiles, such as western fence lizards (*Sceloporus occidentalis*), northern alligator lizards (*Gerrhonotus coeruleus*) and gopher snakes (*Pituophis melanoleucus*), and foraging and nesting habitat for passerines (perching birds) and raptors (birds of prey), and roosting habitat for bats. Smaller passerines, such as black-capped chickadee (*Poecile atricapillus*), bushtit (*Psaltriparus minimus*) and acorn woodpecker (*Melanerpes formicivorus*) observed on the site may nest and forage in the senescent trees and cavities in the woodlands. Although no large cavities capable of supporting larger raptors, such as great horned owl (*Bubo virginianus*), were observed, smaller cavities large enough to support the small western screech-owl (*Megascops kennicottii*) and American kestrel (*Falco sparverius*) were observed. Other species observed on the site include spotted towhee (*Pipilo maculatus*), dark eyed junco (*Junco hyemalis*), California towhee (*Pipilo crissalis*), Townsend's warbler (*Dendroica townsendii*), and ruby-crowned kinglet (*Regulus calendula*). Oak trees may also provide potential nesting habitat for tree swallows (*Tachycineta bicolor*). Several of the trees were of a diameter large enough to support roosting bats species, and 16 trees were found to contain suitable cavities or crevices for colonial

species, such as long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), Yuma myotis (*Myotis yumanensis*), California myotis (*Myotis californicus*), big brown bat (*Eptesicus fuscus*), silver-haired bat (*Lasionycteris noctivagans*) and pallid bat (*Antrozous pallidus*), a California Special Concern (CSC) species.

Grassland habitat, including native and non-native grasslands, typically provides habitat for a wide variety of wildlife species. However, the small size and degraded nature of the grassland, invaded by French broom, present along the northern portion of the site reduces the suitability of this habitat for many species. The downed shrubs and logs in the southern portion of the site provide foraging and cover for California towhee and California quail (*Callipepla californica*). Subterranean mammals, such as California vole (*Microtus californicus*), and Botta's pocket gopher (*Thomomys bottae*), observed on the site, forage and nest within grasslands. The south facing slopes on the parcel would be suitable nesting habitat for western pond turtle, if they are present in Russell Creek.

An intermittent drainage occurs on the eastern portion of the site and receives water from the surface runoff from the residential development on the north side of Lake Park Drive. The channel appears to be undefined, with no bed or bank. An understory of Himalayan blackberry and poison oak provides foraging for deer and raccoon (*Procyon lotor*).

Adjacent to the project area, Russell Creek is an intermittent drainage, and during the field survey, very few pools greater than 12 inches were observed and the depth ranged between 8 to 12 inches. Large boulders, acting as slope stabilizers, occur along the entire reach and may create pools downstream of the boulders during periods with greater rainfall. The creek has a canopy of coast live oak, madrone, willows (*Salix* sp.) with an understory of Himalayan blackberry and poison oak, among other species. The majority of the creek along the project boundary supports a 100% canopy cover, as well as shading from a hillside to the south, while the western portion, outside of the project boundary, supports no canopy cover.

Movement Corridors

Wildlife movement includes migration (i.e., usually one way per season), inter-population movement (i.e., long-term genetic flow) and small travel pathways (i.e., daily movement corridors within an animal's territory). While small travel pathways usually facilitate movement for daily home range activities such as foraging or escape from predators, they also provide connection between outlying populations and the main corridor, permitting an increase in gene flow among populations.

These linkages among habitat types can extend for miles between primary habitat areas and occur on a large scale throughout California. Habitat linkages facilitate movement among populations located in discrete areas and populations located within larger habitat areas. The mosaic of habitats found within a large-scale landscape results in wildlife populations that consist of discrete sub-populations comprising a large single population, which is often referred to as a meta-population. Even where patches of pristine habitat are fragmented, such as occurs with coastal scrub, the movement between wildlife populations is facilitated through habitat linkages, migration corridors and movement corridors. Depending on the condition of the corridor, genetic flow between populations may be high in frequency, thus allowing high genetic diversity within the population, or may be low in frequency. Potentially low frequency genetic flow may lead to complete isolation, and if pressures are strong, potential extinction (McCullough 1996; Whittaker 1998).

Hydrologic connectivity of this site to other open lands in the area occurs via Russell Creek, which occurs on the southern portion of the project site. A barrier to fish passage occurs one mile west of the site on Piner Creek, into which Russell Creek flows. Terrestrial connectivity occurs from the oak woodlands which are connected to woodlands to the north and east via remnant woodlands in the valleys and steeper slopes. However, 25% of the woodlands on the west side of the parcel have been removed, reducing the connectivity of the site to the surrounding areas.

SPECIAL-STATUS BIOLOGICAL RESOURCES

Certain animal species are designated as having special-status based on their overall rarity, endangerment, restricted distribution, and/or unique habitat requirements. In general, special-status is a combination of these factors that leads to the designation of a species as sensitive. The Federal Endangered Species Act (FESA) outlines the procedures whereby species are listed as endangered or threatened and established a program for the conservation of such species and the habitats in which they occur. The California Endangered Species Act (CESA) amends the California Fish and Game Code to protect species deemed to be locally endangered and essentially expands the number of species protected under the FESA.

Special-status Animal Species

Special-status animal species include those listed by the USFWS (2009) and the CDFG (2009a, 2009b). The USFWS officially lists species as either Threatened or Endangered, and as candidates for listing. Additional species receive federal protection under the Bald Eagle Protection Act *(e.g.*, bald eagle, golden eagle), the Migratory Bird Treaty Act (MBTA), and state protection under CEQA Section 15380(d). In addition, many other species are considered by the CDFG to be species of special concern; these are listed in Remsen (1978), Williams (1986), and Jennings and Hayes (1994). Although such species are afforded no official legal status, they may receive special consideration during the planning and CEQA review stages of certain development projects. The CDFG further classifies some species under the following categories: "fully protected", "protected fur-bearer", "protected amphibian", and "protected reptile". The designation "protected" indicates that a species may not be taken or possessed except under special permit from the CDFG; "fully protected" indicates that a species can be taken for scientific purposes by permit only.

Of the 12 special-status animal species identified as potentially occurring in the vicinity of the project area (CNDDB 2008, USFWS 2009), several additional species have potential to occur on or near the site based on the habitats present (please refer to Table 1). This resulted in a total of 16 special-status animal species that were evaluated for their potential to occur within the study area, based on: 1) review of the CNDDB, 2) the "Special Animals" list (CDFG 2009) that includes those wildlife species whose breeding populations are in serious decline, and 3) the habitat present on site. See Table 1 for a list of the species evaluated.

Table 1: Potentially Occurring Special-Status Animal Species in the Project Area

Common Name *Scientific Name*	Status USFWS/ CDFG	Habitat Affinities and Reported Localities in the Project Area	Occurrence Potential
Invertebrates			
Blennosperma vernal pool andrenid bee *Andrena blennospermatis*	-/CSC	Oligolectic (specialist pollinator) on vernal pool Blennosperma and nests the uplands around vernal pools.	None: no habitat present.
California linderiellla *Linderiella ocidentalis*	-/CSC	Seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions.	None: no habitat present.
California freshwater shrimp *Syncaris pacifica*	FE/SE	Endemic to Napa, Sonoma and Marin Counties. Occurs in low elevation and low gradient perennial streams with moderate to heavy riparian cover.	None: no suitable habitat present.
Fish			

Common Name *Scientific Name*	Status USFWS/ CDFG	Habitat Affinities and Reported Localities in the Project Area	Occurrence Potential
Coho salmon - Central California Coast ESU *Onchorhynchus kisutch*	FT/SE	Occurs from Punta Gorda, in northern California, to the San Lorenzo River, in Santa Cruz County, and includes coho salmon populations from several tributaries of San Francisco Bay (e.g., Corte Madera and Mill Valley Creek).	None: no habitat present.
steelhead - Central California Coast ESU *Onchorhynchus mykiss*	FT/-	Requires beds of loose, silt-free, coarse gravel for spawning and cover, cool water and sufficient dissolved oxygen.	None: no habitat present.
Chinook salmon *Oncorhynchus tshawytscha*	FT	Requires gravel diameter of 2 to 3 inches, with depths generally less than 36 inches but more than 20 inches and a velocity of more than 3 ft/sec. Requires water temperatures from 42°F to 51°F.	None: no habitat present.
Amphibians			
California tiger salamander *Ambystoma californiense*	FT (Central Valley), FE (Sonoma County)/CSC	Breeds in temporary or semi-permanent pools. Seeks cover in rodent burrows in grasslands and oak woodlands.	None: no habitat present and outside species range.
foothill yellow-legged frog *Rana boylii*	-/CSC	Prefers permanent stream pools, and creeks with emergent and/or riparian vegetation.	None: no suitable habitat present.
California red-legged frog *Rana draytonii*	FT/-	Prefers semi-permanent and permanent stream pools, ponds and creeks with emergent and/or riparian vegetation. Occupies upland habitat especially during the wet winter months.	None: no suitable habitat present.
Reptiles			
northwestern pond turtle *Actinemys marmorata marmorata*	SC/CSC	Prefers permanent, slow-moving creeks, streams, ponds, rivers, marshes and irrigation ditches with basking sites and a vegetated shoreline. Requires upland sites for egg-laying.	**Low**: suitable upland habitat present.
Birds			
Cooper's hawk *Accipiter cooperii*	MBTA/CSC	Nests in forests and woodlands with relatively dense canopy cover near water	**Moderate**: suitable habitat present.
sharp-shinned hawk *Accipiter striatus*	MBTA/CSC	Nests in coniferous forests and riparian corridors with relatively dense canopy cover near water.	**Moderate**: suitable habitat present.
white-tailed kite *Elanus leucurus*	MB/CFP	Inhabits low rolling foothills and valley margins with scattered oaks and river bottom- lands or marshes adjacent to deciduous woodlands. Prefers open grasslands, meadows and marshes for foraging close to isolated, dense-topped trees for nesting and perching.	None: no suitable habitat present.
Acorn woodpecker *Melanerpes formicivorus*	MBTA	Nests in cavities of oak trees in woodlands and forests.	**High**: suitable nesting habitat.

Common Name *Scientific Name*	Status USFWS/ CDFG	Habitat Affinities and Reported Localities in the Project Area	Occurrence Potential
Northern spotted owl *Strix occidentalis*	FT, MB/-	Dense coniferous and hardwood forest, shaded, steep sided canyons.	None: no suitable habitat present.
Mammals			
pallid bat *Antrozous pallidus*	-/CSC	Day roosts include rock outcrops, mines, caves, hollow trees, buildings and bridges. High reliance on tree roosts in some areas.	**Moderate**: some suitable habitat present in tree cavities.
Townsend's big-eared bat *Corynorhinus townsendii*	-/CSC	Roosts in caves, mines buildings and bridges. Recently found roosting in very large redwood basal cavities.	None: no suitable habitat present.
Western red bat *Lasiurus blossevillii*	-/CSC	Solitary foliage-roosting species; strongly associated with cottonwood and sycamore riparian habitat, but also uses orchards, non-native trees, shrubs, oak woodlands. The California Central Valley of California and surrounding foothills comprise primary habitat of reproductive females.	**Low**: large leaves of madrone and density of oak canopy may provide potentially suitable habitat

U.S. FISH AND WILDLIFE SERVICE

FE = federally listed Endangered
FT = federally listed Threatened
SC[1] = federal Species of Concern
MBTA = Migratory Bird Treaty Act.

CALIFORNIA DEPT. OF FISH AND GAME

CE = California listed Endangered
CT = California listed as Threatened
CSC = California Special Concern species

Although none of these species have a high potential for occurrence at the project site, six species are considered to have a low to moderate potential for occurrence within or adjacent to the study area based on the habitats present. These species are discussed below. Species that have no likelihood to occur on site but are prominent in today's regulatory environment (e.g., amphibians) are also discussed below.

Amphibians: California red-legged frog (CRF), federally listed Threatened, foothill yellow-legged frog (FYF), California Specie of Concern

Breeding habitat for CRF includes ponds, slow moving streams, or deep pools in intermittent streams with emergent and shoreline vegetation. Breeding habitat for FYF includes perennial streams in woodland, chaparral or forests with little to no bank vegetation cover, preferring small to moderate sized streams with at least some cobble-sized substrate (Jennings and Hayes 1994).

Although no surveys were conducted of Russell Creek, no special-status amphibians are expected to occur in the creek. The closest reported sighting for CRF is 2 miles southeast of the project site and the closest reported sighting for FYF is in Porter Creek, more than 5 miles north of the project site (CNDDB 2009).

Based on the habitats within Russell Creek and the distance of reported sightings, neither of these species is expected to occur in Russell Creek.

Reptiles: Northwestern pond turtle, a California Species of Concern

The northwestern pond turtle is a medium-sized turtle that ranges in size to just over 8 inches (21cm) with a low carapace that is generally olive, brownish or blackish (Stebbins 1985, Jennings and Hayes 1994). Primary habits include permanent water sources such as ponds, streams and rivers. It is often seen basking on logs, mud banks or mats of vegetation, a behavior that allows for thermoregulation and territory establishment.

No surveys have been conducted for this species; however, there is a low likelihood that they may use Russell Creek and the grassland habitats on the south-facing slopes of The Arbors project site. Western pond turtle were reported occurring in the Nielsen Lake reservoir in 1989 (EIP Associates 1989), but the closest reported occurrence is located 0.84 miles northwest of the project site, with no hydrologic connection (CNDDB 2009). If western pond turtles still occur in Nielsen Lake reservoir, there is a low likelihood that they would use Russell Creek as a movement corridor.

Nesting Raptors: Birds of prey are protected under the federal Migratory Bird Treaty Act, Fish and Game Code 3503.5, and as a California fully protected species (white-tailed kite).

Raptors nest in a variety of substrates including, cavities, ledges and stick nests. For example, Cooper's hawks are small bird hunters, hunting on the edges of forests in broken forest and grassland habitats where passerines forage for seeds and insects. Nests occur in heavily forested areas near a water source. Research sites on nesting Cooper's hawks rarely show the nests more than a quarter of a mile away from water, whether it is a cattle tank, stream or seep (Snyder and Snyder 1975). Trees typically used by Cooper's hawks include cottonwoods, coast live oaks and black oaks (Call 1978), as well as second growth conifer stands or deciduous riparian areas. The breeding season occurs in late March-June, depending on the climate, with young fledging by mid-July.

No focused surveys for nesting raptors were conducted to determine the presence of such nests, since the time of the year of the survey, January, was too early to determine occupancy. Several large oaks occur on the site, and may support nesting habitat for raptors such as American kestrel, Cooper's hawk, sharp-shinned hawk and red-shouldered hawk. There is a moderate potential for these species to occur on the site. Please see below to avoid impacts to potentially nesting raptors.

Nesting Passerines: Perching birds are protected under the Federal Migratory Bird Treaty Act and the Fish and Game Code 3503.

Most habitats support a variety of nesting passerines, with the limiting factors being prey base and nesting structures. Passerines nest structures vary depending on the species and include everything from stick nests to cavities to mud ledges. Some species are solitary nesters, such as Anna hummingbirds, while others nest colonially, with family members helping to raise young, such as acorn woodpeckers.

No focused surveys for nesting passerines were conducted to determine the presence of such nests, since the time of the year, January, was too early to determine occupancy of any nests. However, several trees showed evidence of previous bird nest structures, as well as red-squirrel nests and early territory establishment by ground nesting birds were observed. Several passerine (perching birds) species observed on site, such as California towhee and scrub jays, nest in stick nests, while others, such as the acorn woodpecker and chestnut-backed chickadee, nest in tree cavities. Other species potentially nesting on the site include Anna's hummingbird and black phoebe. Please see below to avoid impacts to potentially nesting passerines.

Roosting Bats: Bats are protected as California Species of Concern and under the Fish and Game Code 5050.

Bats that use trees fall into three categories; 1) solitary, obligate tree-roosting bats that roost in the foliage or bark such as Western red-bat (*Lasiurus blossevillii*), a California Special Concern (CSC) species, or hoary bat (*Lasiurus cinereus*), 2) frequent tree-roosting bats that form colonies of varying size in tree cavities, such as silver-haired bats (*Lasionycteris noctivagens*), and 3) more versatile bat species that will use a wide variety of roosts from buildings to bridges to trees, such as various *Myotis* species, pallid bat (*Antrozous pallidus*), another CSC species, and others. Solitary-roosting bats consist either of single males or females either alone or with young. Colonial-roosting bats form maternity colonies in cavities or crevices where young are left behind while females forage, then return to nurse their young.

Although strongly associated with large leave trees such as cottonwood and sycamore riparian stands (Pierson, et. al. 2004, Bat Conservation International), *L. blossevillii* also roosts in the foliage of oaks, walnuts, orchard trees, and non-native vegetation. For example, we recovered a dead *L. blossevillii* in coast redwood habitat in a residential portion of Santa Rosa, and captured several individuals within oak woodland and savannah habitat in Lake County. It is possible that the large leaves of the madrones present on the site, and perhaps the dense canopy of coast live oaks, could provide suitable roost habitat for this solitary species. One other CSC species, *A. pallidus,* could potentially roost in the cavities and crevices in some of the trees.

Within The Arbors project site, a total of sixteen (16) trees have the potential to support cavity or crevice-roosting bats. Please refer to Table 2 for the tree numbers, species of tree and bat roost habitat type. No large cavities were observed, however some of those present could provide day and/or night roosting habitat for small colonies of several individuals.

Table 2: Potential Bat Habitat Trees and Locations

Tree Number	Species	Roost Habitat Type	Removal
615	Coast live oak	Cavities in limbs	No
626*	Coast live oak	Cavities in limbs	Yes
627	Coast live oak	Cavities in limbs	Yes
628	Coast live oak	Cavities in limbs	Yes
634	Coast live oak	Cavities in limbs	No
635	Coast live oak	Cavities in limbs	No
643	Coast live oak	Cavities in limbs	No
644	Coast live oak	Cavities in limbs	No
645	Coast live oak	Cavities in limbs	No
646	Coast live oak	Cavities in limbs	No
665	Coast live oak	Cavities in base, limbs; bark fissures	Yes
668	Coast live oak	Cavities in limbs, bark fissures	Yes
669	Coast live oak	Cavities in limbs, bark fissures	Yes
898**	Coast live oak	Cavities in limbs	No
5916	Coast live oak	Cavities in limbs	No
6288	Coast live oak	Cavities in base, limbs – snag limbs	No

*- Tag not visible, but corresponds to plan and tree data
** - Not shown on tree data report, but numbered

The trees in Table 1 were identified as supporting potential roosting bat habitat and, although not all of the trees will be removed they may be impacted by removal of adjacent trees. Please see below to avoid impacts to potentially roosting bats.

IMPACTS AND MITIGATION MEASURES

This section summarizes the potential temporary biological impacts from construction activities within the study area. The analysis of these impacts is based on a single reconnaissance-level survey of the study area, a review of existing databases and literature, and personal professional experience with biological resources of the region. Potential impacts to special-status biotic resources, namely to individual special-status animal species may occur from the proposed project. Mitigations for these biological impacts are provided below.

Project Direct Impacts 1: A total of 41 heritage trees occur on the site, of which 17 will be removed. The City of Santa Rosa defines a heritage tree as one that is native to Sonoma County and when their diameter or circumference is greater than 14 dbh. An additional 392 trees will be removed as part of the proposed project. Individuals nesting in the coast live oak woodland, or non-native grasslands on the site could be taken if construction occurs during the nesting season (February through August).

Project Mitigation 1: The following mitigation measures should be followed in order to avoid or minimize impacts to birds that may potentially nest in the trees:

1) Grading or removal of nesting trees and habitat should be conducted outside the nesting season, which occurs between approximately February 15 and August 15.
2) If grading between August 15 and February 15 is infeasible and groundbreaking must occur within the nesting season, a pre-construction nesting bird (both passerine and raptor) survey of the grasslands and adjacent trees shall be performed by a qualified biologist within 7 days of ground breaking. If no nesting birds are observed no further action is required and grading shall occur within one week of the survey to prevent "take" of individual birds that could begin nesting after the survey.
3) If active bird nests (either passerine and/or raptor) are observed during the pre-construction survey, a disturbance-free buffer zone shall be established around the nest tree(s) until the young have fledged, as determined by a qualified biologist.
4) The radius of the required buffer zone can vary depending on the species, (i.e., 75-100 feet for passerines and 200-300 feet for raptors), with the dimensions of any required buffer zones to be determined by a qualified biologist in consultation with CDFG.
5) To delineate the buffer zone around a nesting tree, orange construction fencing shall be placed at the specified radius from the base of the tree within which no machinery or workers shall intrude.
6) After the fencing is in place there will be no restrictions on grading or construction activities outside the prescribed buffer zones. The buffer zone shall remain in place until after the young have fledged.

This is a less than significant impact with the above mitigation measures incorporated.

Project Direct Impacts 2: Direct mortality of bats roosting in the trees on the site could result if construction occurs during the roosting season (April through August), or during winter torpor months (October through February). The greatest potential for mortality to bats exists with removal of trees containing cavities that could support colonies, particularly with non-volant young. Because many bats frequently switch tree roosts, relying on negative results from night emergence surveys may be ineffective. This is because night surveys of trees often need to be repeated several times on different nights to establish a reasonable confidence in negative results. Also, bats could begin roosting in trees previously established as unoccupied; removal of those trees without suitable precautions would then cause direct mortality. As a result, night surveys would be of minimal value and are therefore not recommended for this project. There is a smaller risk of direct

mortality to any solitary *L. blossevillii* that could be roosting on the site because this species roosts within the foliage, where disturbance from tree cutting is likely to cause abandonment before the tree has fallen.

Project Mitigation 2: To avoid or minimize risk of mortality to bats, tree removal must occur during specific seasonal periods when adult and young bats are actively flying in and out of their tree roost, and must follow certain procedures that cause bats to abandon the tree roost prior to tree removal. This method provides a level of disturbance that should be sufficient to cause any roosting bats to abandon the roost immediately, or choose not to return to the roost tree after night emergence and foraging activity due to alteration and disturbance of the tree.

The following mitigation measures should be followed in order to avoid or minimize impacts to bats that may potentially roost in the trees:

1) Conduct tree removal only during seasonal periods of activity; starting about March 1 (or when night temperatures are above 45F and when rains have ceased) until April 15 (prior to when females begin to give birth to young), or from August 15 (when young bats are self-sufficiently volant) until about October 15 (before night temperatures fall below 45F and rains begin, causing torpor).

2) Trees *not* identified as providing potential habitat that occur within a 50-foot radius of potential habitat trees listed in Table 1 shall be removed 1 day prior to removing potential habitat trees. This will cause noise and vibration disturbance around the roost trees that should help cause bats that may be roosting in habitat trees to either abandon immediately (though this rarely occurs in our experience), or avoid returning to the roost tree after nightly foraging activities.
    a. Removal of non-habitat trees may be accomplished using chainsaws or any other desired equipment. It should be noted that no removal of non-habitat trees may cause damage to habitat trees; so the applicant shall not allow falling trees, limbs or branches to fall onto habitat trees.

3) One day after removal of non-habitat trees within a 50-foot radius of habitat trees, those trees may be removed using a two-stage process. The two stage process must be conducted over two consecutive days.
    a. On Day 1 (e.g., Tuesday), under instruction and supervision of a qualified bat expert, selected branches and limbs not containing cavities are to be removed using only chainsaws (no excavators, etc.). The noise and vibration from this activity should be sufficient to cause bats roosting in those trees to abandon the roost immediately, or choose not to return to the tree after night emergence and foraging, as a result of the daytime disturbance and significant physical modification to the structure and appearance of the tree and surrounding area. Specifically, late in the afternoon on Day 1 only small branches (<4" dia.) not containing cavities or fissures are removed using chainsaws (no heavy equipment). Only branches with leaves should be removed, which can include the crown or perimeter leafy canopy of each tree.
    b. The following day (Day 2, e.g., Wednesday), the remainder of the tree is removed, either using chainsaws or other equipment. Supervision is required to provide identification of branches and limbs safe for removal and instruction to tree cutters in suitable procedures.

4) No diesel or gas-powered equipment shall be stored or operated directly beneath trees with potential roosts, except for chainsaws used for removal of those trees.

This is a less than significant impact to individual roosting bats with the above mitigation measures incorporated.

SUMMARY AND CONCLUSIONS

This report assessed the potential for occurrence of special-status species based on the habitats on the site and nearby. Although the late winter season is an inappropriate time to conduct occupancy surveys for either nesting birds or roosting bats, based on the high mobility and seasonal occurrence of these species, we were able to draw conclusions about previous occupancy based on the evidence left behind by these species, i.e., nesting material (birds), and fecal staining and guano (bats). Special attention was also paid to the habitats along Russell Creek and nearby reservoir for potential to support special status amphibians and reptiles. Again, a daytime survey in the winter is an inappropriate time to determine occupancy for many amphibians and reptiles, as the cold weather often stimulates seasonal hibernation or torpor.

Based on this assessment and with the above mitigation measures to prevent take of individuals adhered to, we feel that the proposed project The Arbors satisfies the CEQA review and no further studies are necessary.

Please call if you have any questions regarding this report.

Sincerely,

Trish Tatarian

Trish Tatarian

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Figure 1

Figure 2. Coast live oak grove.

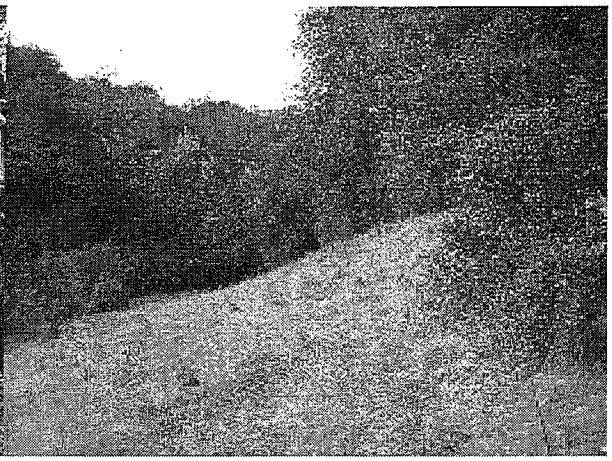


Figure 3. Non-native grasslands, southern portion of site.

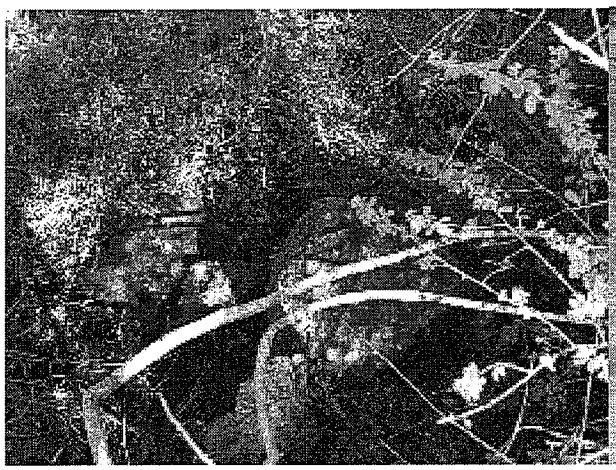


Figure 4. Russell Creek, west of site.

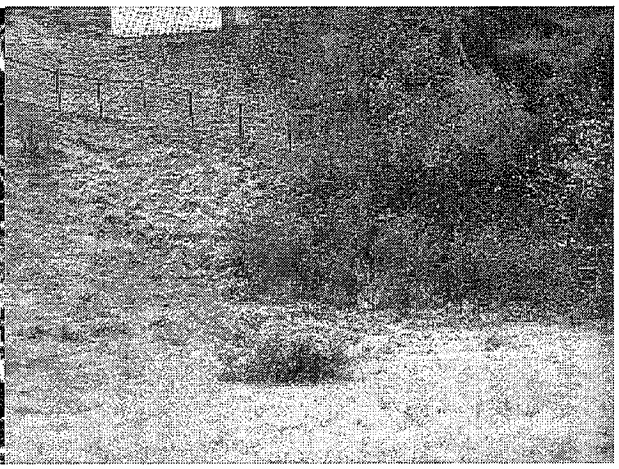


Figure 5. Culvert in Russell Creek, eastern portion of site.

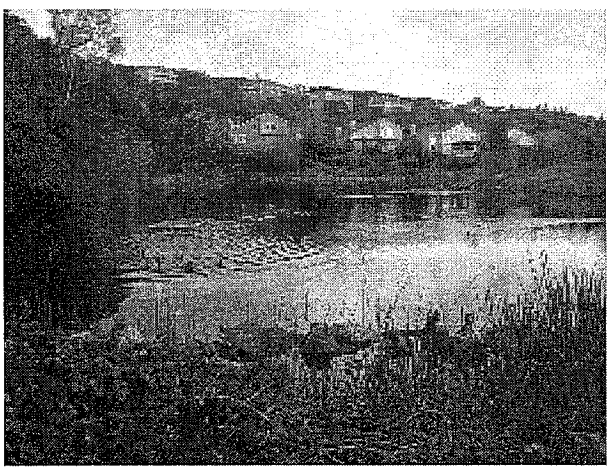


Figure 6: Nielsen Ranch Park Reservoir.

Ralph Osterling Consultants, Inc.

1650 Borel Place, Suite 204
San Mateo, CA 94402-3508

January 8, 2008

Mr. Jack Chamberlain
The Chamberlain Group
655 Skyway, Suite 230
San Carlos, CA 94070

RE: The Arbors - File MJ07-016CNPS E-mail Letter November 27, 2007

Dear Mr. Chamberlain:

Below are my response comments to Ms. Houser's letter, dated November 27, 2007, in which several issues are raised regarding the oak tree resources. The following are germane and reflect my professional perspectives:

1. The Arbors are part of a Neilson Ranch Master Plan previously approved by the City of Santa Rosa. The impacts of the entire project were discussed in the initial documents; apparently she does not have that information.

2. In Paragraph 2, she states "no effort was taken to optimize the design with respect to the oak resources." This, I believe, is simply false, for the lots are small and are focused to be adjacent to Lakepark Drive. In addition the plan calls for retaining walls to save trees growing adjacent to the proposed Arbors development.

3. With the design close to Lakepark Drive, a private open space reserve of 1.54 acres retains oak resources on the lower side of Arbors. This open space is contiguous with the Bicentennial open space parcel of 3.63 acres. All of these open space areas are open to the public and are maintained by the project. The oak resources and the other natural environmental features located on those acres are to be retained.

4. In Paragraph 3 of Ms. Houser's letter concerns are expressed regarding future vegetation management and impact to the remaining trees. Fuel management practices require only the removal of flashy light fuels and flammable brush concentrations. With proper fuel management, including brush removal and possibly control burns, the oak resources are fire safe and tree removal is not necessary nor required. If the development were not to go in and fuel management not be proposed, a wildfire could go through this area and readily consume these oak resources.

Phone: (650) 573-8733 **Fax: (650) 345-7890** **Email: roc@ralphosterling.com**

Regarding the Sudden Oak Disease (SOD), pruning and other activities have little or no impact on the spread, except for the removal of alternate host species. Alternate hosts in this area consist of primarily of bay trees but also some lesser species. I do recommend that where possible, the bays be removed since they have been clearly shown to be an alternate host to SOD plus being flammable.

The CNPS should recognize the acreage which includes oak resources being set aside as private open spaces and are open for public appreciation and enjoyment. The proposed Arbors private open space ties directly to the existing open space that extends all the way from Bicentennial Drive on the westerly side up through Neilson Ranch Park and Kirkridge Street.

I professionally feel the project is being sensitive to the oak resources and does provide for public access and enjoyment of those resources. If I can be of further assistance or responses are required by the City, I will be pleased to respond.

Sincerely,

Ralph S. Osterling
President
Registered Professional Forester #38

RSO:js

THE
CHAMBERLAIN GROUP

January 8, 2008

Erin Morris, Senior Planner
City of Santa Rosa
Department of Community Development
100 Santa Rosa Avenue
Santa Rosa, Ca 95402-1678

Re: The Arbors, 3500 Lake Park Drive, File No. MJPO7-016

Dr. Ms. Morris,

I am writing you in regards to the letter dated November 27, 2007 which you received from Lynn Houser of the California Native Plant Society. We believe that Ms. Houser's comments are unwarranted.

It is important that Ms. Houser's comments be weighed within the context of "The Arbors" as an integral component of the overall "Nielsen Ranch development which was approved many years ago. As you correctly noted in your November 30, 2007 e-mail to Chuck Regalia, "the Arbors project involves development of one of the last remaining parcels within the Nielsen Ranch subdivision in Fountaingrove". Specifically, " The Arbors" 5+ acre site is not a stand alone, isolated development proposal, and is not one of the last remaining parcels, but is, in fact, the last remaining parcel representing the last phase of our "Nielsen Ranch" effort, a 115+ acre development plan which has been under design development and construction since 1985.

Since 1985, and through out the course of design and construction of "Nielsen Ranch" we have expended a great deal of effort to preserve existing trees.

Our efforts have included:

Preserving as many trees as possible on each lot outside of the building structure area

Locating buildings to minimize the effects of construction on the surrounding vegetation

Clustering buildings to minimize the site coverage and to maximize lot open space

In addition to preserving trees within the residential development, we created and dedicated to the City of Santa Rosa "Francis Nielsen" Park, which:
- Preserved an additional 10 acres of trees
- created a small lake, and

655 SKY WAY, SUITE 230 ▪ SAN CARLOS, CA 94070
TELEPHONE: 650/595-5582 ▪ FAX: 650-595-5066

- has provided a hiking trail within this forested area open to the public through park dedication and privately maintained open space

Additionally, during the construction of much of the earlier phases, we contributed annually $10,000 and two hundred 15 gallon trees for a total of $60,000 and 1200 trees, to RELEAF for the planting of trees elsewhere with in the City of Santa Rosa.

Moreover, in addition to the above, we have planted at least two trees per improved lot. We have also planted and additional 189 trees spread throughout the development to further mitigate for the loss of trees which were removed pursuant to City of Santa Rosa approval during the residential construction.

Most of the residences which have been approved and constructed within" Nielsen Ranch" are single family detached dwelling units. Initially, it was anticipated that there would be 64 attached dwelling units within "The Arbors", providing some variety and diversity of dwelling unit types within the overall 115+ acre development. Accordingly, we had designed a development consisting of ten buildings housing 6 condominium dwelling units per building. However, the Hillside Development Standards adopted as part of the new Zoning Code in 2004 made it much more difficult for us to attain that density.

Working with our architects, engineers and City staff, we have altered our proposed development from the 60 unit condominium concept to a total of 37 attached single homes – the application that is currently on file and being processed by City Staff. Our current proposal includes clustering of dwelling units on very small lots and setting aside a 1 ½ acre open space reserve specifically to avoid and to preserve trees to the extent feasible. We believe that our current 37 dwelling unit development proposal satisfies all City standard and zoning requirements. .

In summary, it is clear that during the course of development and construction of the "Nielsen Ranch" we have gone to a great deal of effort to preserve the existing trees and to replace trees at a generous rate. Please note the enclosed Tree Exhibit plan and aerial photographs, which, I believe substantiate our efforts.

Also enclosed for your reference is a copy of the letter from Lynn Houser together with a response to her letter from our arborist Ralph Osterling.

I hope that the above discussion and overview of the "Nielsen Ranch" and "The Arbors" as an integral component thereof as well as the enclosed Arborist Letter is helpful to you in your evaluation of the CNPS comments.

Cordially,

Chamberlain Lakepark LLC.
Jack T. Chamberlain

Ralph Osterling Consultants, Inc.

1650 Borel Place, Suite 204
San Mateo, CA 94402-3508

September 18, 2007

Jack Chamberlain
The Chamberlain Group
P.O. Box 970
San Carlos, CA 94070

Re: Arborist Report for The Arbors

Dear Jack:

During July 2007 we completed a field update of the tree inventory data for The Arbors project in Santa Rosa. It had been a number of years since the original tree inventory was prepared so we have updated the inventory to reflect the current size, health and condition of the trees. In addition, a number of trees that did not meet the size requirement when the original report was prepared have since grown to meet the minimum diameter requirement (4"). These new trees have been added to the data. Data for all trees within the development area is included in the attached Table 1. Table 1 provides the individual tree tag numbers, species, removal/preservation status, heritage tree status, health/condition rating, and diameter measurements.

Using the May 2007 Site Plan prepared by Carlenzoli and Associates, we have updated the proposed tree removal for the project. A total of 409 native trees will be removed. Seventeen (17) of the trees to be removed are "heritage trees". There are a total of 861 trees in the project area. The trees to be removed have a combined total diameter of 4,529 inches. Using the City of Santa Rosa's mitigation formula (total combined diameter divided by 6 x 2) 1,510 15-gallon size trees are required to be replanted on site. If the site cannot accommodate all of the trees, then an in-lieu fee of $100 per tree may be submitted in place of the tree planting.

The following tree protection and preservation measures have been prepared for those trees to be retained in the project area. All protected tree fencing areas are shown on the Site Plan. The tree protection zone is shown as a bold dashed line and corresponds to the location of the tree protection fencing. The following measures will be implemented to provide protection to the trees during project construction:

Phone: (650) 573-8733 **Fax: (650) 345-7890** **Email: roc@ralphosterling.com**

1. **Tree Protection Fencing** - Prior to the start of construction, tree protection fencing will be installed in the locations shown on the final grading plan. Tree protection fencing shall be four (4') foot high orange plastic protection fencing. The fencing will be mounted on steel "T" drive posts driven into the ground to a depth of at least one foot with a spacing of no more than eight (8') feet.

   Tree fencing is to be erected and approved by the Project Forester before any demolition, grading, or construction begins and remain in place until final inspection of the project permit. A durable warning sign measuring 8.5" x 11.0" that reads, **"ENVIRONMENTALLY SENSITIVE AREA-NO ENTRY"**, will be prominently displayed on each fence.

2. **Tree Protection Zone or (TPZ)** - each tree to be retained to will have a designated TPZ identifying an area sufficiently large enough to protect the tree and roots from disturbance. The TPZ shall be shown on all site plans for the project. Improvement activities such as paving, utility and irrigation trenching and other ancillary activities shall occur outside of the TPZ, unless authorized by the Project Forester, or by project approval. The tree protection fencing will be used to delineate the extent of the TPZ.

   The following activities are prohibited within the TPZ:

   - Storage or parking vehicles, building materials, refuse, excavated spoils or dumping of poisonous materials on or around trees and roots. Poisonous materials include, but are not limited to, paint, petroleum products, concrete or stucco mix, dirty water or any other material that may be deleterious to tree health.
   - The use of tree trunks as a winch support, anchorage, as a temporary power pole, sign posts or other similar function.
   - Cutting tree roots by utility trenching, foundation digging, placement of curbs and trenches and other miscellaneous excavation without prior approval of the Project Forester.
   - Soil disturbance or grade change
   - Drainage changes

The following activities may be permitted in the TPZ:

- Mulching. During construction, wood chips may be spread within the TPZ to a 4-6-inch depth, leaving the trunk clear of mulch to help inadvertent compaction and moisture loss from occurring. The mulch may be removed if improvements or other landscaping is required.

- Root Buffer. When areas under the tree canopy cannot be fenced, a temporary buffer is required and shall cover the root zone and remain in place at the specified thickness until final grading stage.

- Irrigation, aeration, fertilizing or other beneficial practices that have been specifically approved for use within the TPZ.

3. **Tree Pruning, Surgery and Removal** - Prior to the start of construction, the contractor and Project Forester will conduct an onsite review of trees adjacent to the construction area to identify any pruning necessary for vehicle and equipment clearance. Where needed, limbs will be professionally pruned to provide the minimum necessary vehicle clearance. Pruning shall not be attempted by construction or contractor personnel, but shall be performed by a qualified tree care specialist or certified tree worker.

4. **Grade Limitations within the Tree Protection Zone**

- Grade changes outside of the TPZ shall not significantly alter drainage to the tree. Where drainage alteration is unavoidable, supplemental drip irrigation may be required for two growing seasons following the drainage alteration to mitigate for the loss of natural soil water.

- Grade changes within the TPZ are prohibited, except as previously noted for "line" trees that will be impacted, but preserved.

- Grade changes under specifically approved circumstances shall not allow more than six (6") inches of fill soil added or allow more than four (4") inches of existing soil to be removed from natural grade unless mitigated.

- Grade fills over six (6") inches or impervious overlay shall incorporate an approved permanent aeration system,

permeable material or other approved mitigation.

5. **Trenching, Excavation and Equipment Use** - Trenching, excavation or boring activity within the TPZ is restricted to the following activities, conditions and requirements if approved by the Project Forester.

- Notification. Contractor shall notify the Project Forester a minimum of 24 hours in advance of any activity in the TPZ.

- Root Severance. Roots that are encountered shall be cut to sound wood and repaired. Roots two (2") inches and greater must remain injury free.

- Excavation. Any approved excavation, demolition or extraction of material shall be performed with equipment sitting outside the TPZ. Methods permitted are by hand digging, hydraulic or pneumatic air excavation technology. Excavation in the TPZ should be avoided during hot dry weather.

  If excavation or trenching for drainage, utilities, irrigation lines, etc., the contractor shall tunnel under any roots two (2") inches in diameter and greater. Prior to excavation for foundations, footings, walls, grading or trenching within the TPZ, roots shall first be severed cleanly one (1') foot outside the TPZ and to the depth of the future excavation. The trench must then be hand dug and the roots pruned with a saw, sawzall, narrow trencher with sharp blades or other approved root pruning equipment.

- Heavy Equipment. Use of backhoes, steel tread tractors or any heavy vehicles within the TPZ is prohibited unless approved by the Project Forester. If allowed, a protective root buffer is required. The protective root buffer shall consist of a base course of tree chips spread over the root area to a minimum depth of six (6") inches, layered by 3/4-inch quarry gravel to stabilize 3/4-inch plywood on top. This buffer within the TPZ shall be maintained throughout the entire construction process.

- Structural Design. If injurious activity or interference with roots greater than two (2") inches in diameter will occur within the TPZ, plans shall specify a design of special foundation, footing, walls, concrete slab or pavement designs subject to Project Forester approval. Discontinuous foundations such as concrete pier and structural grade beam must maintain natural grade (not to exceed a four

(4") inch cut), to minimize root loss and allow the tree to use the existing soil.

6. **Injury Mitigation** - The following mitigation measures will be used as need to address project induced drought stress, dust ccumulation, or soil compaction to trees that are to be saved. To help reduce impact injury, one or more of the following mitigation measures will be implemented, as necessary and supervised by the Project Forester.

   - Irrigation Program. Irrigate to wet the soil within the TPZ to a depth of 24" to 30". Or, apply sub-surface irrigation at regular specified intervals by injecting on approximate three (3') foot centers, ten (10) gallons of water per inch of trunk diameter within the TPZ. Duration shall be until project completion or monthly until seasonal rainfall totals at least eight (8") inches of rain.

   - Dust Control Program. If grading occurs during the dry summer months, dust shall be controlled by wetting all disturbed areas as needed with a water truck.

   - Soil Compaction Damage. If a compaction event to the upper 12-inch soil horizon within the tree protection zone has or will occur by any means, then one or more of the following mitigation measures will be implemented.

     - Type 1 Mitigation. If an approved paving, hardscape or other compromising material encroaches within the TPZ, an aeration system shall be designed by the Project Forester and used within this area. **See Attached - Tree Protection Detail Drawings** for a typical aeration system design.

     - Type 2 Mitigation. If inadvertent compaction of the soil has occurred within the TPZ, the soil shall be loosened by one or more of the following methods to promote favorable root conditions: vertical mulching, soil fracturing, core-venting, radial trenching or other method approved by the Project Forester.

Damage to Trees requires reporting of any damage or injury to protected trees to the Project Forester and job superintendent within six (6) hours so that mitigation can take place immediately. All mechanical or chemical injury to branches, trunk or to roots over two (2") inches in diameter shall be reported in the weekly inspection report. In the event of injury, the following mitigation and damage control measures shall apply:

- Root Injury. When approved trenches within the TPZ are excavated and tree roots two (2") inches in diameter or larger are encountered, they must be cleanly cut back to a sound wood lateral root. The end of the root shall be covered with either a plastic bag and secured with tape or rubber band, or be coated with latex paint. All exposed root areas within the TPZ shall be backfilled or covered within one hour. Exposed roots may be kept from drying out by temporarily covering the roots and draping layered burlap or carpeting over the upper three (3') feet of trench walls. The materials must be kept wet until backfilled to reduce evaporation from the trench walls.

- Bark or Trunk Wounding. Current bark tracing and treatment methods shall be performed by a qualified tree care specialist within two days.

- Scaffold Branch or Leaf Canopy Injury. Within five days, remove broken or torn branches back to an appropriate branch capable of resuming terminal growth. If leaves are heat scorched from equipment exhaust pipes, consult the project arborist within six (6) hours.

Inspection Schedule

During grading activities, the Project Forester shall inspect the site twice each week to verify that protected trees have not been damaged. If any native tree greater than or equal to four (4") dbh is determined by the Project Forester to be damaged, the tree(s) will be replaced at a 2:1 ratio, and temporary fencing of the tree drip lines within the remaining construction area shall be required.

Inspection Reports will be submitted at the end of each week to the City of Santa Rosa summarizing the week's observations, problems or violations, and the corrective measures taken.

Due to the density of the preserved woodland areas, most mitigation planting will occur in areas devoid of trees or areas cleared for project construction. As a matter of procedure, any mitigation planting or landscape planting that may occur within the drip line of any native oak tree must be done in a manner that does not damage or weaken the preserved tree. Any irrigation within the drip line must be drip type irrigation. Area sprays are prohibited within the drip line of native oak trees. In addition, the area around the root collar (min. 6' radius) of the native oak trees must remain dry throughout the summer season.

Visual Impacts

Visual impacts will be limited to the interior portion of the project; primarily the view from Lake Park Drive. Offsite views from the south and west will be screened by the dense tree cover that will remain in these areas.

Should you have any questions or need additional information regarding the tree at The Arbors, please do not hesitate to contact me.

Respectfully,

Douglas E. Nix, RPF #2246
Vice President

Enc.

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
126	valley oak		X	good	14					
345	coast live oak		X	good	26	18	13	11		
346	coast live oak			fair	11	10				
347	coast live oak			good	15					
348	coast live oak			poor	7	5				
349	coast live oak			good	16					
389	coast live oak			good	14	14				
390	coast live oak			poor	12					
391	coast live oak			fair	11	6				
392	coast live oak			fair	13	11	10			
393	coast live oak			good	13					
394	coast live oak			good	13	8	7			
395	coast live oak			good	10	9				
396	coast live oak			fair	10	7				
397	coast live oak		X	fair	20	18	16			
398	valley oak		X	poor	21	10				
593	coast live oak			good	16	14				
594	coast live oak	X		good	17	12				
595	coast live oak			good	16	15				
596	coast live oak			good	14					
597	coast live oak			good	14					
599	coast live oak			poor	8	5				
600	coast live oak	X		good	11					
601	coast live oak	X		poor	14	11	11			
602	coast live oak	X		fair	14	12	11	6		
604	coast live oak	X		good	13	5	4			
605	coast live oak			good	11	9	6			
606	coast live oak			fair	10	5				
607	coast live oak			fair	16					
608	coast live oak			good	10	7	6			
609	coast live oak			fair	13					
610	coast live oak			fair	10					
611	coast live oak			good	16					
612	coast live oak			good	17	10	9	5		

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
613	coast live oak			fair	9	8	8	6		
614	coast live oak			good	11	6	6			
615	coast live oak			fair	9	5	5	5	4	
615	coast live oak		X	fair	20					
615	coast live oak		X	fair	24					
617	coast live oak			fair	11	9	8			
622	coast live oak			fair	17	14	12	9		
623	coast live oak		X	fair	21					
625	coast live oak		X	good	31	17	14			
626	coast live oak	X	X	fair	23					
627	coast live oak	X	X	fair	30	21	15			
628	coast live oak	X	X	fair	20	20	17			
629	coast live oak			good	11	11	10			
630	coast live oak			fair	12	11	8			
631	coast live oak			good	10	10	7	6		
634	coast live oak		X	fair	22	15	12			
635	coast live oak		X	good	22					
636	coast live oak		X	fair	23	16				
637	coast live oak			good	10	7	6			
638	coast live oak			good	14	6				
639	coast live oak			poor	10	6				
640	coast live oak			fair	11	6				
641	coast live oak			poor	14					
642	coast live oak			good	12					
643	coast live oak			poor	15	10				
644	coast live oak			good	16	15				
645	coast live oak		X	fair	37					
646	coast live oak			good	17					
648	coast live oak			poor	17	10				
649	coast live oak			poor	8	7				
650	coast live oak			poor	10	7				
651	coast live oak		X	good	18					
652	coast live oak			poor	11					
653	coast live oak		X	good	20	19	14			

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
654	coast live oak		X	fair	18					
655	coast live oak		X	good	36					
656	coast live oak		X	fair	22					
657	coast live oak			fair	14					
659	coast live oak	X	X	good	20					
661	coast live oak	X	X	good	18	17	15	15	10	
663	coast live oak	X		good	14					
664	coast live oak	X		good	12	12				
665	coast live oak	X	X	poor	27					
666	coast live oak			good	11					
668	coast live oak	X	X	good	21					
669	coast live oak	X	X	good	27					
670	valley oak	X	X	good	31					
683	coast live oak	X		good	15	7				
685	coast live oak	X		fair	14					
687	coast live oak	X		DEAD	11					
688	coast live oak	X		fair	9					
689	coast live oak	X		fair	11	11				
690	coast live oak	X		good	17	5				
899	coast live oak			fair	13					
902	coast live oak			good	15	13	13			
903	coast live oak			fair	13					
904	coast live oak			good	14	12				
5798	madrone		X	good	14	13	8			
5799	madrone	X		poor	5					
5800	coast live oak	X		poor	7					
5803	coast live oak	X		poor	6					
5807	coast live oak	X		good	6					
5809	coast live oak	X		good	11					
5812	coast live oak	X		good	7					
5813	coast live oak	X		poor	5					
5814	coast live oak			poor	6					
5815	coast live oak	X		poor	9	7				
5816	coast live oak	X		fair	7					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5817	coast live oak	X		poor	7					
5818	coast live oak			good	9					
5819	coast live oak			poor	6	6				
5820	coast live oak			good	9					
5821	coast live oak			good	8					
5822	coast live oak	X	X	good	22					
5823	coast live oak	X		good	17					
5824	coast live oak	X		poor	6					
5825	coast live oak	X		poor	7					
5826	coast live oak	X		good	8					
5827	valley oak	X	X	good	9					
5828	coast live oak	X		fair	7					
5829	coast live oak	X		good	9					
5830	coast live oak	X		good	13					
5831	coast live oak	X		poor	6	5				
5832	coast live oak			good	13					
5833	coast live oak	X		good	14					
5834	coast live oak	X		fair	10					
5835	coast live oak			good	10					
5836	coast live oak	X		fair	9					
5837	black oak	X		good	6	6				
5838	coast live oak	X		good	11					
5839	coast live oak	X		good	10	8				
5840	coast live oak	X		poor	9					
5841	coast live oak	X		good	9					
5842	coast live oak	X		poor	4					
5843	coast live oak	X		good	7	7				
5844	coast live oak	X		good	12					
5845	coast live oak	X		good	8	6				
5846	coast live oak	X		poor	6					
5847	coast live oak	X		fair	10					
5848	coast live oak	X		good	8	5				
5849	coast live oak			fair	7	6				
5850	coast live oak	X		good	9					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5851	coast live oak	X		good	9	8	4			
5852	coast live oak	X		fair	10					
5853	coast live oak	X		good	7	4				
5854	coast live oak	X		good	10	7	7			
5855	coast live oak	X		good	9	9				
5856	coast live oak	X		good	8					
5857	coast live oak	X		fair	10					
5858	coast live oak	X		good	12	9				
5859	coast live oak	X		good	10	8				
5860	coast live oak	X		poor	6	6				
5861	coast live oak			poor	7					
5862	coast live oak	X		fair	6					
5863	coast live oak	X		poor	8	6				
5864	coast live oak	X		good	14					
5865	coast live oak	X		good	11					
5866	coast live oak			poor	7					
5867	coast live oak	X		poor	8					
5868	coast live oak	X		good	8	7				
5869	coast live oak	X		poor	9					
5870	coast live oak	X		good	11	9				
5871	coast live oak	X		good	11					
5872	coast live oak	X		fair	8	6				
5873	coast live oak	X		good	8					
5874	coast live oak	X		poor	6					
5875	coast live oak	X		fair	7					
5876	coast live oak	X		good	11					
5877	coast live oak	X		fair	7					
5878	coast live oak	X		good	8	8	6			
5879	coast live oak	X		good	13	12	7			
5880	coast live oak	X		fair	9					
5881	coast live oak	X		good	9					
5882	coast live oak	X		good	9					
5883	coast live oak	X		fair	6					
5884	coast live oak	X		good	14					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5885	coast live oak	X		fair	8					
5886	coast live oak	X		poor	9					
5887	coast live oak	X		good	16	8				
5888	coast live oak	X		good	9	5				
5889	coast live oak	X		poor	6	6	4			
5890	coast live oak	X		good	9					
5891	coast live oak	X		fair	7					
5892	coast live oak	X		good	11	9				
5893	coast live oak	X		good	10	7				
5894	coast live oak	X		poor	6					
5895	coast live oak	X		good	8					
5896	coast live oak	X		good	9					
5897	coast live oak	X		good	9					
5898	coast live oak	X		fair	7					
5899	coast live oak	X		fair	6					
5900	coast live oak	X		fair	13	8				
5901	coast live oak			fair	7	5				
5902	coast live oak			good	11	10	6			
5903	coast live oak			fair	11	9	8			
5904	coast live oak			fair	10					
5905	coast live oak			fair	8					
5906	coast live oak			good	7					
5907	coast live oak			good	10	10	6			
5908	black oak			good	6	6	4	4		
5909	coast live oak			good	10					
5910	coast live oak			fair	10					
5911	coast live oak	X		good	14	11	7			
5912	coast live oak	X		fair	9					
5913	coast live oak			poor	7	6	6			
5914	coast live oak			good	8					
5915	coast live oak			fair	11					
5916	coast live oak		X	fair	33					
5917	madrone	X		good	11	5				
5918	madrone	X		good	7					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5919	coast live oak	X		good	8	6				
5920	coast live oak	X		good	10					
5921	coast live oak	X		good	7					
5922	coast live oak	X		good	8					
5923	madrone	X		good	11	8				
5924	coast live oak			poor	7					
5925	coast live oak	X		good	13					
5926	coast live oak	X		poor	6					
5927	coast live oak	X		fair	7					
5928	coast live oak	X		fair	9					
5929	coast live oak	X		good	6	6	4			
5930	coast live oak	X		good	8					
5931	coast live oak	X		good	12	8				
5932	coast live oak	X		poor	6					
5933	madrone	X	X	good	12					
5934	coast live oak	X		good	9					
5935	coast live oak	X		good	7					
5936	coast live oak	X		fair	6					
5937	coast live oak	X		fair	6					
5938	coast live oak	X		good	7					
5939	coast live oak			poor	6					
5940	coast live oak	X		fair	6					
5941	coast live oak	X		good	8					
5942	coast live oak	X		good	8	7				
5943	coast live oak	X		good	11					
5944	coast live oak	X		poor	8					
5945	coast live oak	X		poor	6					
5946	coast live oak			good	16					
5947	coast live oak			fair	14	9				
5948	coast live oak	X		good	10					
5949	coast live oak	X		good	11					
5950	coast live oak	X		poor	12					
5951	coast live oak	X		good	10	6				
5952	coast live oak	X		good	9					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5953	coast live oak	X		good	9					
5954	coast live oak	X		poor	9					
5955	coast live oak	X		poor	7	6				
5956	coast live oak	X		good	15					
5957	coast live oak			good	10					
5958	coast live oak	X		poor	8					
5959	coast live oak	X		fair	12					
5960	coast live oak	X		poor	5					
5961	coast live oak	X		poor	8					
5962	coast live oak	X		poor	7					
5963	coast live oak	X		good	12					
5964	coast live oak	X		good	11					
5965	coast live oak	X		good	12					
5966	coast live oak	X		good	13					
5967	coast live oak	X		good	10					
5968	coast live oak	X		good	12					
5969	coast live oak	X		fair	8					
5970	coast live oak	X		good	14					
5971	coast live oak	X		good	8					
5972	coast live oak	X		poor	7					
5973	coast live oak			good	16					
5975	coast live oak	X		good	10					
5976	coast live oak	X		good	12					
5977	coast live oak	X		good	14	6				
5978	coast live oak	X		good	12	6				
5979	coast live oak	X		good	8	7				
5980	coast live oak	X		good	10					
5981	coast live oak	X		good	10					
5982	coast live oak	X		fair	11					
5983	coast live oak	X		fair	8	7				
5984	coast live oak	X		good	8					
5985	coast live oak	X		fair	9					
5986	coast live oak	X		good	10					
5987	coast live oak	X		good	11					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
5988	coast live oak	X		poor	6					
5989	coast live oak	X		poor	5					
5990	coast live oak			fair	10					
5991	coast live oak	X		good	13	9				
5992	coast live oak	X		poor	7					
5993	coast live oak	X		poor	6					
5994	coast live oak	X		poor	8					
5995	coast live oak	X		poor	11					
5996	coast live oak	X		fair	7					
5997	coast live oak	X		good	9					
5998	coast live oak	X		good	8					
5999	coast live oak	X		poor	6					
6000	coast live oak	X		good	10					
6001	coast live oak	X		fair	8					
6250	madrone	X		fair	9					
6259	madrone			good	10					
6260	madrone	X		good	8					
6261	coast live oak	X		good	15	12	11			
6262	coast live oak	X		fair	10					
6263	coast live oak	X		fair	8					
6264	coast live oak	X		good	12					
6265	coast live oak	X		fair	7					
6266	coast live oak	X		good	10					
6267	coast live oak	X		poor	6					
6268	coast live oak	X	X	good	19	17	8			
6269	coast live oak	X		good	12	11	0			
6270	coast live oak	X		poor	6					
6271	madrone	X	X	fair	13					
6272	coast live oak	X		fair	8					
6273	coast live oak	X		fair	7	6				
6274	coast live oak	X		good	12					
6275	coast live oak	X		good	10					
6276	valley oak	X	X	fair	7	5	double tag 6637			
6277	coast live oak	X		poor	6					

Table 1. The Arbors Tree Data Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6278	coast live oak	X		good	9					
6279	coast live oak	X		good	12	8				
6280	coast live oak	X		fair	6					
6281	coast live oak	X		poor	6					
6282	coast live oak	X		poor	6					
6283	coast live oak	X		good	10					
6284	coast live oak	X		good	13					
6285	coast live oak	X		fair	7					
6286	coast live oak	X		good	7					
6287	madrone			good	11	4				
6288	coast live oak		X	fair	30	20	12			
6289	coast live oak			fair	6					
6290	coast live oak			good	9					
6291	coast live oak	X		good	7					
6292	coast live oak	X		poor	7					
6293	coast live oak			good	7					
6294	coast live oak		X	good	19	13				
6295	madrone		X	good	17	16				
6296	madrone			good	11					
6297	coast live oak			fair	6					
6298	coast live oak			fair	6					
6299	coast live oak	X		good	8					
6300	coast live oak	X		good	8					
6501	coast live oak			fair	8					
6502	coast live oak			good	7					
6503	coast live oak	X		fair	8					
6504	coast live oak	X		poor	6					
6505	coast live oak	X		good	9					
6506	coast live oak	X		good	7					
6507	coast live oak			fair	7	6				
6508	coast live oak	X		good	10	7				
6509	coast live oak	X		good	8					
6510	coast live oak	X		good	13	9				
6511	coast live oak	X		good	9	9	5			

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6512	coast live oak	X		good	8	6				
6513	coast live oak	X		good	11	10				
6514	manzanita	X		poor	7	7	6			
6515	coast live oak			fair	7					
6516	coast live oak	X		good	10					
6517	coast live oak	X		good	10					
6518	coast live oak	X		good	9	6				
6519	coast live oak	X		good	12					
6520	coast live oak	X		fair	9					
6521	coast live oak	X		good	15					
6522	coast live oak	X		good	11	7				
6523	coast live oak	X		good	9					
6524	madrone	X	X	good	15					
6525	coast live oak	X		good	12					
6526	coast live oak	X		good	8					
6527	coast live oak	X		fair	6					
6528	coast live oak	X		good	8	7				
6529	coast live oak	X		good	13					
6530	coast live oak	X		good	10					
6531	coast live oak	X		fair	6					
6532	coast live oak	X		good	8					
6533	coast live oak	X		good	12					
6534	coast live oak	X		fair	8					
6535	coast live oak	X		fair	8					
6536	coast live oak	X		good	9					
6537	coast live oak	X		good	8	8				
6538	coast live oak	X		good	12	10	7			
6539	coast live oak	X		good	13	10	5			
6540	coast live oak	X		good	8					
6541	coast live oak	X		good	11					
6542	coast live oak	X		good	9	8				
6543	coast live oak	X		good	9					
6544	coast live oak	X		good	11					
6545	coast live oak	X		good	14					

Table 1. The Arbors Tree Data Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6546	coast live oak			good	16					
6547	coast live oak			good	10					
6548	coast live oak	X		good	9					
6549	manzanita	X		poor	6	6	6			
6550	madrone	X	X	good	12					
6551	coast live oak	X		good	9					
6552	madrone	X		good	9	4				
6553	coast live oak	X		good	16					
6554	coast live oak	X		good	15					
6555	coast live oak	X		good	6	6				
6556	black oak	X		good	11	8				
6557	coast live oak	X		fair	9					
6558	coast live oak	X		good	9					
6559	coast live oak	X		good	7					
6560	coast live oak	X		good	10					
6561	coast live oak	X		poor	5	3				
6562	coast live oak	X		good	7	7				
6563	coast live oak	X		good	10					
6564	coast live oak	X		good	10					
6565	coast live oak	X		good	12	7				
6566	coast live oak			fair	7					
6567	coast live oak	X		good	9					
6568	coast live oak			good	7					
6569	coast live oak	X		good	13					
6570	coast live oak	X		good	7	5				
6571	coast live oak	X		good	6					
6572	coast live oak	X		good	8					
6573	coast live oak	X		good	9	8				
6574	coast live oak	X		good	8	8				
6575	coast live oak	X		good	8					
6576	coast live oak	X		fair	6					
6577	coast live oak	X		good	7	7				
6578	coast live oak	X		fair	10					
6579	coast live oak	X		good	7					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6580	coast live oak	X		good	7	6				
6581	black oak	X		good	7	5				
6582	coast live oak	X		good	8					
6583	coast live oak	X		good	9					
6584	coast live oak			good	8	7				
6585	coast live oak	X		good	8	6				
6586	madrone			good	9	0				
6587	madrone			poor	5					
6588	coast live oak			fair	7	6				
6589	coast live oak			fair	7					
6590	coast live oak			good	9					
6591	coast live oak			good	8	7	5			
6592	coast live oak			good	13	9				
6593	coast live oak			fair	9					
6594	coast live oak			good	6					
6595	coast live oak			good	10	9				
6596	coast live oak			good	10					
6597	coast live oak	X		good	9					
6598	coast live oak			good	9	9	9	8	6	
6599	madrone			good	10					
6600	MISSING									
6601	coast live oak			poor	9					
6602	coast live oak			good	10	9				
6603	coast live oak			poor	8					
6604	coast live oak			fair	7					
6605	coast live oak			good	10	9	9			
6606	coast live oak			good	7	5	5			
6607	coast live oak	X		good	7	7				
6608	coast live oak			fair	11	8				
6609	coast live oak	X		good	5	5	5			
6610	coast live oak	X		good	6	5	4			
6611	coast live oak	X		good	10	8	6			
6612	coast live oak	X		poor	6					
6613	coast live oak	X		good	8					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6614	coast live oak			fair	7	6				
6615	coast live oak	X		good	6	5				
6616	coast live oak	X		good	7					
6617	coast live oak	X		good	6					
6618	coast live oak	X		good	5	5				
6620	coast live oak			good	10	9	6			
6621	coast live oak			poor	4	4				
6622	coast live oak			good	9	7				
6623	coast live oak			good	8	5				
6625	coast live oak			good	7					
6626	coast live oak			good	7					
6627	coast live oak			poor	4					
6628	coast live oak			poor	5					
6629	coast live oak			poor	8	4				
6631	coast live oak			poor	4					
6632	coast live oak			poor	6					
6633	coast live oak			poor	5					
6634	coast live oak			poor	4					
6635	coast live oak			poor	5					
6636	coast live oak			good	8					
6637	valley oak		X	fair	7	5				double tag 6276
6638	coast live oak			poor	5	4				
6639	madrone			good	4					
6640	coast live oak			fair	5	5	4			
6641	coast live oak			fair	6					
6642	coast live oak			good	7	6				
6643	coast live oak			good	7					
6644	coast live oak			good	4					
6645	coast live oak			fair	6					
6646	coast live oak			poor	4					
6647	coast live oak			fair	5					
6648	coast live oak			good	6					
6650	coast live oak			poor	7					
6651	coast live oak			poor	4	0	2	2		

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6653	coast live oak			poor	4	0				
6654	coast live oak			poor	4					
6655	coast live oak			poor	4					
6656	coast live oak			fair	7					
6657	coast live oak			poor	5					
6658	coast live oak			poor	5					
6659	coast live oak			poor	5					
6660	coast live oak			good	5					
6661	coast live oak			poor	7					
6662	coast live oak			fair	6					
6663	coast live oak			good	7					
6664	coast live oak			good	6					
6665	coast live oak			poor	4	3	3	2		
6666	coast live oak			poor	6					
6667	coast live oak			poor	6					
6668	coast live oak			poor	6					
6669	coast live oak			poor	6					
6670	coast live oak			fair	6					dia 20 on map
6671	coast live oak			good	5	4				
6672	coast live oak			fair	6					
6673	coast live oak			fair	6					
6674	coast live oak			fair	7					
6675	coast live oak			good	7					
6676	coast live oak			poor	4	3				
6677	coast live oak			poor	4					
6678	coast live oak			poor	5					
6679	coast live oak			good	5					
6680	coast live oak			poor	7	5	4			
6681	coast live oak			poor	4	3	3	2		
6682	coast live oak			poor	4					
6683	coast live oak			poor	6					
6684	coast live oak			poor	6					
6685	coast live oak			poor	6	5				
6686	coast live oak			poor	4	0				

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6687	coast live oak			good	6					
6688	coast live oak			poor	4					
6689	coast live oak			poor	5					
6690	coast live oak			fair	6					
6691	coast live oak			poor	6					
6692	coast live oak			fair	5					
6693	coast live oak			good	4					
6694	coast live oak			fair	4					
6695	coast live oak			fair	5					
6696	coast live oak			poor	4					
6697	coast live oak			poor	4					
6698	coast live oak			good	6					
6699	coast live oak			poor	5					
6700	coast live oak			fair	6					
6701	coast live oak			poor	5					
6702	coast live oak			poor	6	5				
6703	coast live oak			poor	9					
6704	coast live oak			fair	6					
6705	coast live oak			fair	6					
6706	coast live oak			fair	7	3				
6707	coast live oak			fair	7					
6708	coast live oak			poor	6					
6709	coast live oak			poor	5					
6710	coast live oak			fair	10					
6711	coast live oak			fair	9					
6712	coast live oak			fair	8					
6713	coast live oak			fair	6					
6715	coast live oak			fair	4					
6716	coast live oak			fair	4	4				
6717	coast live oak			fair	6					
6718	plum			DEAD	4					
6719	coast live oak			poor	6					
6720	coast live oak			poor	5					
6721	plum			fair	4	1				

Table 1. The Arbors Tree Data Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6722	coast live oak			poor	5	2	1			
6723	coast live oak			poor	5					
6724	coast live oak			poor	5					
6725	coast live oak			fair	4					
6726	coast live oak			poor	5					
6727	coast live oak			poor	4					
6728	coast live oak			poor	6					
6729	coast live oak			poor	5	2				
6730	coast live oak			poor	4					
6731	coast live oak			fair	4					
6732	coast live oak			fair	7					
6733	coast live oak			poor	5					
6734	coast live oak			poor	5	2				
6735	coast live oak			fair	5					tag 617
6736	coast live oak			fair	7					
6737	coast live oak			fair	6					
6738	coast live oak			poor	5					
6739	coast live oak			fair	6	2				
6740	coast live oak			good	9					
6741	coast live oak			poor	5					
6742	valley oak		X	fair	7					
6743	coast live oak			fair	5					tag 621
6744	black oak			fair	6					
6745	coast live oak			fair	6					
6746	coast live oak			fair	3	3	3			
6747	coast live oak			fair	5	3	1			
6748	coast live oak			poor	5					big tree
6749	coast live oak			fair	6					
6750	coast live oak			good	7	5				
6751	coast live oak			fair	7					
6752	coast live oak			fair	6	3				
6753	coast live oak			fair	4					
6754	coast live oak			poor	4					
6755	coast live oak			fair	8					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6756	coast live oak			poor	4					
6757	coast live oak			poor	5					
6758	coast live oak			fair	7	4	2			
6759	coast live oak			good	7					
6760	coast live oak			fair	8	6	2	1		
6761	coast live oak			poor	5					
6762	coast live oak			poor	4					
6763	coast live oak			poor	5					
6764	coast live oak			good	9	8				
6765	coast live oak			fair	6	1				
6766	coast live oak			poor	5					
6767	coast live oak			fair	9					
6768	coast live oak			fair	7					
6769	coast live oak			good	9	3				
6770	coast live oak			fair	7					
6772	coast live oak			poor	5					
6773	coast live oak			fair	4	3	1			
6774	coast live oak			poor	7					
6775	coast live oak			poor	5					
6776	coast live oak			fair	6					
6777	coast live oak			poor	7					
6778	coast live oak			fair	7					
6779	coast live oak			fair	6					
6780	coast live oak			poor	5					
6781	coast live oak			poor	4					
6782	coast live oak			fair	5					
6784	coast live oak			fair	5					
6785	coast live oak			fair	6					
6786	coast live oak			good	6	1				
6787	coast live oak			good	10	6	5			
6788	coast live oak			good	4					
6789	coast live oak			fair	6					
6790	coast live oak			poor	7	6				
6791	coast live oak			fair	7					

Table 1. The Arbors Tree Data Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6792	coast live oak			poor	7	5				
6793	coast live oak			poor	10	10				
6794	coast live oak			good	7	6				
6795	coast live oak			good	8	6	4			
6796	coast live oak			fair	7					
6797	coast live oak			fair	6					
6798	coast live oak			fair	8					
6799	coast live oak			good	7					
6800	coast live oak			good	9					
6801	plum			good	5					
6802	coast live oak			fair	7	4				
6803	coast live oak			fair	6	3				
6804	coast live oak			fair	5					
6805	coast live oak			good	7					
6806	coast live oak			good	7					
6807	coast live oak			poor	4					
6808	coast live oak			fair	7					
6809	coast live oak			good	8					
6810	coast live oak			good	6					
6811	coast live oak			fair	5					
6812	coast live oak			fair	8	4				
6813	coast live oak			good	5					
6814	coast live oak			good	7					
6815	coast live oak			good	7					
6816	coast live oak			good	7	6				
6817	coast live oak			good	9					
6818	coast live oak			good	7					
6819	coast live oak			good	7	6	4	4		
6820	coast live oak			good	7					
6820	coast live oak			good	8					
6821	coast live oak			good	8	5	3			
6822	coast live oak			good	8					
6823	manzanita			poor	5					
6824	coast live oak			good	7					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6825	coast live oak			good	6	6				
6826	coast live oak			good	5					
6827	coast live oak			good	5					
6828	coast live oak			fair	6	6				
6829	coast live oak			good	5	3	2			
6830	coast live oak			good	7					
6831	coast live oak			good	3	3	3			
6832	coast live oak			good	5					
6833	coast live oak			good	3	3	3			
6834	coast live oak			good	4	3				
6835	coast live oak			good	6	4				
6836	coast live oak			good	5					
6837	coast live oak			good	8					
6838	coast live oak			good	5					
6839	coast live oak			good	7					
6840	coast live oak			good	4	3	3			
6841	coast live oak			fair	5	4				
6842	coast live oak			good	6	5	5			
6843	coast live oak			fair	4					
6844	coast live oak			good	5					
6845	coast live oak			good	7					
6846	coast live oak			good	6	3	2			
6847	coast live oak			good	6	5				
6848	coast live oak			good	6	5				
6849	coast live oak			good	7	3				
6850	coast live oak			fair	6					
6851	coast live oak			good	7					
6901	coast live oak			fair	4					
6902	coast live oak			good	8	5	2			
6903	coast live oak			poor	6					
6904	coast live oak			fair	9					
6905	coast live oak			fair	6					
6906	coast live oak			good	8					
6907	coast live oak			poor	5					

Table 1. The Arbors Tree Data Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
6908	coast live oak			good	9					
6909	coast live oak			fair	6					
6910	manzanita			dead						
6911	coast live oak			poor	4					
6912	coast live oak			poor	5					
6913	coast live oak			good	10					
6914	coast live oak			fair	5	5	2			
6915	coast live oak			fair	4	3				
9000	coast live oak			fair	5					
9001	coast live oak	X		fair	7					
9002	coast live oak			fair	7					
9003	coast live oak			fair	11	7	5			
9004	coast live oak			fair	7					
9005	coast live oak	X		good	8					
9006	black oak			good	7					
9007	coast live oak			good	5					
9008	coast live oak			good	5					
9010	coast live oak			good	6					
9011	coast live oak			fair	5					
9012	coast live oak	X		good	10	10	8			
9013	coast live oak	X		fair	5					
9014	coast live oak			fair	5					
9015	coast live oak			fair	5					
10000	coast live oak	X		fair	7					
10001	madrone			good	6					
10002	coast live oak			good	6					
10003	coast live oak			poor	5					
10004	coast live oak	X		fair	6					
10005	coast live oak	X		fair	6					
10006	coast live oak	X		fair	7					
15214	coast live oak			fair	5					
15215	madrone			good	5					
15216	coast live oak			fair	5					
15217	coast live oak			fair	5					

Table 1. The Arbors Tree Data Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
15218	coast live oak			fair	5					
15219	coast live oak			fair	4	4	4			
15220	coast live oak	X		fair	4					
15221	coast live oak	X		good	8					
15222	coast live oak			good	5					
15223	coast live oak			good	5					
15224	coast live oak			good	5					
15225	coast live oak			good	4					
15226	coast live oak	X		fair	6					
15227	coast live oak			fair	4					
15228	coast live oak	X		good	5					
15229	coast live oak			good	5					
15230	coast live oak			poor	12	9				
15231	coast live oak			fair	5					
15232	coast live oak	X		fair	5					
15233	coast live oak			fair	4					
15234	coast live oak	X		good	12					
15235	coast live oak	X		fair	8					
15236	coast live oak	X		poor	8					
15273	coast live oak	X		fair	4					
15274	coast live oak	X		fair	4					
15275	coast live oak	X		fair	5					
15276	coast live oak	X		fair	4					
15277	coast live oak	X		fair	5					
15278	coast live oak			fair	4					
15279	coast live oak			poor	5					
15280	coast live oak			fair	4					
15281	coast live oak	X		fair	5	4	4			
15282	coast live oak			fair	4					
15283	valley oak	X		fair	4					
15284	coast live oak			poor	4					
15285	madrone	X		fair	5					
15286	coast live oak			poor	4					
15287	coast live oak			poor	5					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
15288	coast live oak	X		fair	5					
15289	coast live oak	X		fair	5					
15290	coast live oak	X		fair	5					
15291	coast live oak	X		fair	5					
15292	coast live oak	X		fair	4					
15293	coast live oak			poor	5					
15294	coast live oak			fair	5					
15295	coast live oak			fair	4					
15296	coast live oak			poor	4					
15297	coast live oak	X		fair	5					
15298	coast live oak			poor	4					
15299	coast live oak	X		poor	5					
15300	coast live oak	X		fair	4					
15301	coast live oak			fair	4					
15302	coast live oak	X		fair	4					
15303	coast live oak	X		poor	5					
15304	coast live oak	X		poor	4					
15305	coast live oak	X		poor	4					
15306	coast live oak	X		fair	4					
15307	coast live oak			fair	4					
15308	coast live oak	X		poor	5					
15309	coast live oak	X		poor	4					
15310	coast live oak	X		fair	5					
15311	coast live oak	X		poor	5					
15312	coast live oak			fair	4					
15313	coast live oak			fair	5					
15314	coast live oak	X		good	5					
15315	coast live oak	X		good	6					
15316	coast live oak	X		good	5					
15317	coast live oak	X		good	6					
15318	coast live oak	X		good	4					
15319	coast live oak	X		good	6					
15320	coast live oak	X		good	7	4				
15321	coast live oak	X		fair	4					

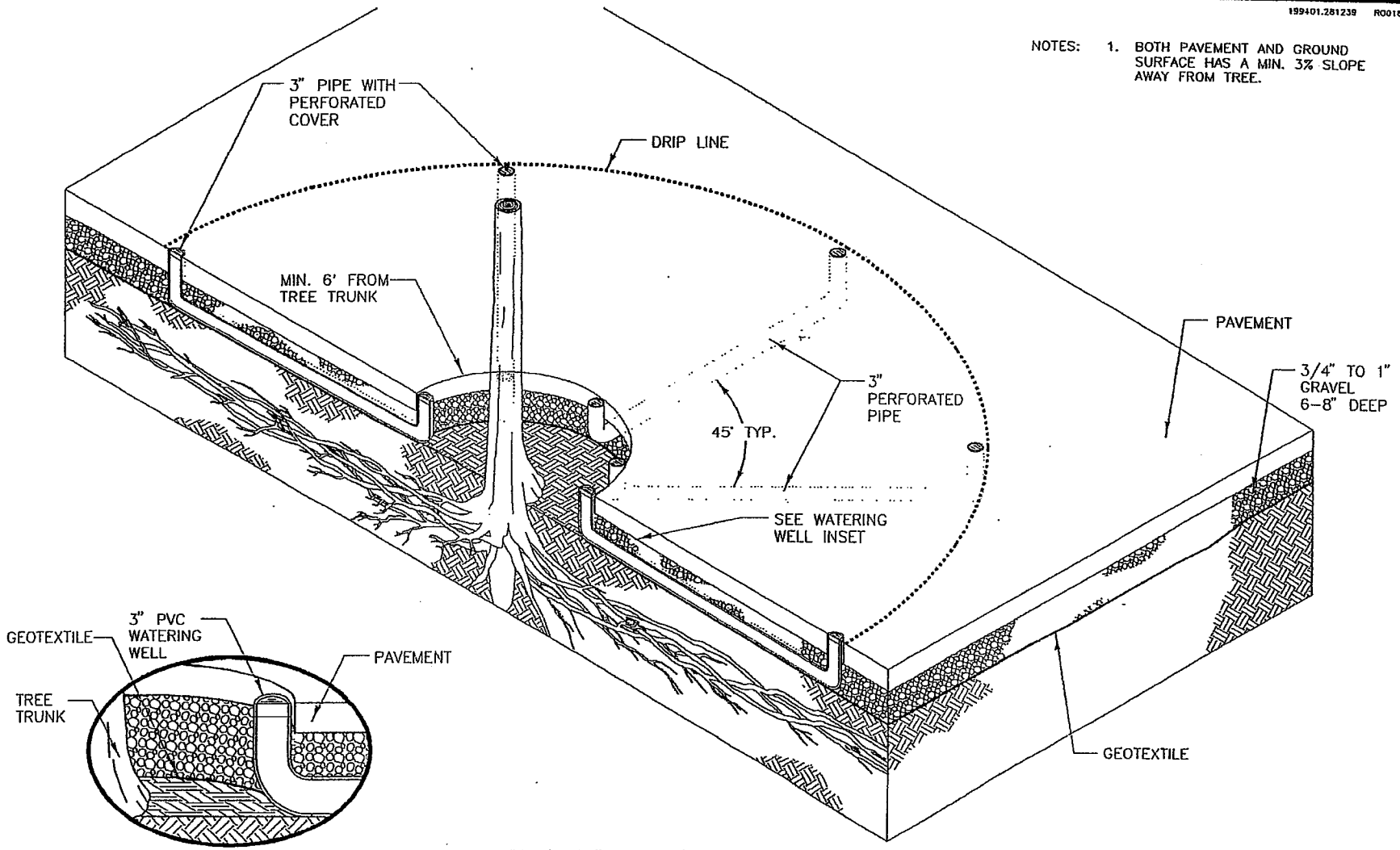
Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
15322	coast live oak	X		good	6					
15323	coast live oak	X		good	5					
15324	coast live oak	X		good	5					
15325	coast live oak	X		good	5					
15326	coast live oak	X		fair	4					
15327	madrone	X		good	4					
15328	coast live oak	X		fair	4					
15329	coast live oak	X		good	5					
15330	coast live oak	X		fair	4					
15331	coast live oak	X		fair	5					
15332	coast live oak	X		fair	5					
15333	coast live oak	X		fair	5					
15334	coast live oak	X		fair	5					
15335	coast live oak	X		poor	4					
15336	coast live oak	X		fair	5					
15337	coast live oak			fair	4					
15338	coast live oak	X		fair	4					
15339	coast live oak			fair	4	4				
15340	not used									
15341	coast live oak			good	4					
15342	coast live oak			fair	4					
15343	coast live oak			good	4					
15344	coast live oak			fair	6	5				
15345	coast live oak			fair	4					
15346	coast live oak			good	7					
15347	coast live oak			good	7					
15348	coast live oak			good	6					
15349	coast live oak			good	5					
15350	coast live oak	X		good	5					
15351	coast live oak	X		good	4					
15352	coast live oak			fair	5					
15353	coast live oak			fair	5					
15354	coast live oak	X		good	6					
15355	coast live oak			good	5					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
15356	coast live oak			fair	6	5				
15357	coast live oak			fair	6	4				
15358	coast live oak	X		fair	6					
15359	coast live oak	X		fair	5					
15360	coast live oak			fair	12	11				
15361	coast live oak			poor	7					
15362	coast live oak			fair	5					
15363	coast live oak			fair	8					
15364	coast live oak	X		fair	5					
15365	coast live oak	X		fair	8					
15366	coast live oak	X		good	13	5	4			
15367	coast live oak	X		good	10					
15368	coast live oak	X		good	10	9	6			
15369	coast live oak			fair	13					
15370	coast live oak			fair	16					
15371	coast live oak	X		poor	6					
15372	coast live oak	X		good	7	7				
15373	coast live oak	X		good	9					
15374	coast live oak	X		good	8					
15375	coast live oak	X		fair	11					
15376	coast live oak	X		fair	7					
15377	coast live oak	X		poor	5					
15378	coast live oak	X		fair	6					
15379	coast live oak	X		fair	6	6				
15380	coast live oak	X		poor	4	4				
15381	coast live oak	X		good	11					
15382	coast live oak	X		good	7					
15383	coast live oak	X		good	8					
15384	coast live oak	X		good	11					
15385	coast live oak	X		poor	7					
15386	coast live oak	X		poor	5					
15387	coast live oak	X		fair	8	7				
15388	coast live oak	X		fair	7					
15389	coast live oak	X		fair	7					

Table 1. The Arbors Tree Data										
Updated 07-17-07										
Tree No.	Species	Removed	Heritage Tree	Health	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5	Comments
15390	coast live oak	X		poor	5					
15391	coast live oak	X		fair	7	5				
15392	coast live oak	X		fair	6					
15393	coast live oak	X		poor	8					
15394	coast live oak	X		fair	4					
15395	coast live oak	X		fair	5					
15396	coast live oak	X		fair	13					
15397	coast live oak	X		good	8	5				
15398	coast live oak	X		fair	7					
15399	coast live oak	X		fair	9					
15400	coast live oak	X		fair	8					

199401.281239 R0015

NOTES: 1. BOTH PAVEMENT AND GROUND SURFACE HAS A MIN. 3% SLOPE AWAY FROM TREE.



WATERING WELL INSET

IRRIGATION DETAIL

not to scale

January 27, 1994

RALPH OSTERLING CONSULTANTS, INC.
1650 Borel Place, Suite 204
San Mateo, California 94402
(415) 573-8733

TYPICAL AERATION AND IRRIGATION SYSTEM

• Drawn By: NORTH GRAPHICS • San Mateo, California • (415) 572-8690 • Fax: (415) 345-1858 •

Ralph Osterling Consultants, Inc.
1650 Borel Place, Suite 204
San Mateo, CA 94402-3508

June 17, 2007

Jack Chamberlain
The Chamberlain Group
P.O. Box 970
San Carlos, CA 94070

Re: Tree Removal for The Arbors

Dear Jack:

I have reviewed the May 2007 Tree Exhibit for The Arbors prepared by Carlenzoli and Associates. Attached is a table containing a list of the significant and Heritage Trees to be removed. The City of Santa Rosa tree ordinance requires the replacement of 2 trees for every six inches of trunk diameter removed. The Arbors tree removal has a combined total trunk diameter of 882 inches. Two hundred and ninety-four 15-gallon size trees will be required to mitigate the tree loss. If all of the trees cannot be accommodated onsite, an in-lieu of $100 per tree may be required.

Should you have any questions, please give me a call at 415-269-0337.

Respectfully,

Douglas E. Nix, RPF #2246

Enc.

Phone: (650) 573-8733 **Fax: (650) 345-7890** **Email: roc@ralphosterling.com**

The Arbors Tree Survey Data
Revised June 14, 2007

Tree No.	Species	Removed	Heritage Tree	Health	Combined Dia.	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5
394	coast live oak	y		good	27	12	8	7		
626	coast live oak	y	y	fair	20	20				
627	coast live oak	y	y	fair	48	30	18			
628	coast live oak	y	y	fair	57	20	20	17		
659	coast live oak	y	y	fair	19	19				
661	coast live oak	y	y	good	79	18	18	17	16	10
664	coast live oak	y		good	24	12	12			
665	coast live oak	y	y	fair	27	27				
668	coast live oak	y	y	good	20	20				
669	coast live oak	y	y	good	24	24				
670	valley oak	y	y	good	24	24				
689	coast live oak	y		fair	16	8	8			
690	coast live oak	y		good	21	16	5			
5801	coast live oak	y		good	8	8				
5802	coast live oak	y		good	6	6				
5822	coast live oak	y	y	good	18	18				
5827	valley oak	y	y	good	7	7				
5870	coast live oak	y		good	11	11				
5884	coast live oak	y		good	12	12				
5887	coast live oak	y		good	21	13	8			
5888	coast live oak	y		good	8	8				
5892	coast live oak	y		good	16	8	8			
5893	coast live oak	y		good	13	7	6			
5911	coast live oak	y		good	30	12	10	8		
5933	madrone	y		good	9	9				
5943	coast live oak	y		good	11	11				
5944	coast live oak	y		fair	6	6				
5970	coast live oak	y		good	12	12				
5971	coast live oak	y		good	6	6				
5974	coast live oak	y		good	10	10				
6268	coast live oak	y		good	42	16	15	11		

The Arbors Tree Survey Data
Revised June 14, 2007

Tree No.	Species	Removed	Heritage Tree	Health	Combined Dia.	Dia. 1	Dia. 2	Dia. 3	Dia. 4	Dia. 5
6276	valley oak	y	y	poor	6	6				
6509	coast live oak	y		good	7	7				
6510	coast live oak	y		good	17	9	8			
6511	coast live oak	y		good	14	8	6			
6512	coast live oak	y		good	7	7				
6513	coast live oak	y		good	15	8	7			
6519	coast live oak	y		good	11	11				
6520	coast live oak	y		good	9	9				
6522	coast live oak	y		good	9	9				
6524	madrone	y	y	good	13	13				
6529	coast live oak	y		good	11	11				
6538	coast live oak	y		good	24	10	8	6		
6539	coast live oak	y		good	18	10	8			
6545	coast live oak	y		good	14	14				
6553	coast live oak	y		good	13	13				
6554	coast live oak	y		good	13	13				
6556	black oak	y		good	20	10	10			
6565	coast live oak	y		good	9	9				
Total Combined Diameter (in.)					**882**					
Mitigation Trees Required					**294**					