



August 8, 2014

Dave Baker  
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**Re: Deer Hill Tree Protection Plan**

**Grand Oak Initial Maintenance ASAP**

- I recommend as soon as possible, and well before construction, to irrigate the oak using a portable rotary or oscillating hose end sprinkler covering the entire area within the dripline as well as 20' beyond where soil access is available. Irrigate until the soil is wetted to a minimum depth of 24", and repeat in 6 week intervals until fall leaf drop. Note. A minimum radius of 10' out from the trunk must be kept dry.
- Immediately after the first watering, I recommend the same area be vertically mulched using a 5" drill auger to a depth of 15" on 3' centers and backfill holes with a registered compost such as "Grover Wonder Grow" from American Soils in Richmond.
- Follow vertical mulching with a top dressing of 4-5" of chipper mulch to complete the organic amending.
- Prune to clean crown of deadwood >2" in diameter, and selective crown reduction only where scaffolds are heavy and a risk of failing, to be directed by the project arborist.
- Aerial inspect for potential hidden weaknesses and address if necessary.
- Install three props under heavy laterals that extend horizontally off the self propping pointer branch. Propping to be 2 ½" diameter heavy gauge galvanized piping on a concrete base with the threaded caps lagged into the branch. Recommend painting flat black for aesthetics and longevity.
- Assuming first irrigation occurs in August 2014 (recommended), 2<sup>nd</sup> follow-up irrigation should occur in September.

**Pre-construction**

- Prior to any construction, a Tree Protection Zone 'TPZ' shall be established around all trees being retained. TPZ's shall be established at or beyond driplines, for tree #91 the "Grand Oak", the TPZ shall be established at 75' from the base of the tree 1.5 x's the dripline. Where soil is available the fencing shall be attached to metal stakes driven firmly (18"+-) into the soil. Staking should be no more than 8' on center. Where asphalt or concrete currently exists, posts on portable stands would be acceptable to allow for asphalt removal and then adjust back to driplines. See Tree Preservation Map for general location of TPZ fencing. PA *Project Arborist* to work with developer for exact locations prior to installation. Fencing shall be posted with signs stating *Tree Protection Zone, Notify Project Arborist Before Encroaching*.
- Any necessary clearance pruning shall be directed by the PA and performed by ISA certified tree workers or certified arborists. All pruning shall comply with ISA Pruning Standards, and Best Management Practices.
- Tree removals #'s 4-6, 12-14, 21, 22, 27, 28, 31-40, 59, 60, 69, 75-90, 93-98, 106, & 107 (48 total), shall be done in a manner to avoid damage to adjacent trees, no ripping out of

stumps with excavators where within the dripline of a tree to be retained. Those stumps must be ground out. Wood chips from removals shall be used as mulch under trees to be retained. Mulch thickness shall be 3-5" thick and kept at least 1ft. Clear of trunks.

- General, Demolition, and Grading contractors shall have an on site pre-construction meeting with PA to go over tree protection measures, and confirm TPZ's are in place.

### **Demolition Phase Grand Oak**

- Demo contractor shall be required to have the Project Arborist on site when removing the existing structures, asphalt, and pathways under the tree canopy and out to a minimum radius of 75' out from the base of the oak.
- The foundation and patio around the base of tree will need to be broken up with jack hammers and carefully pulled away from the tree under the Project Arborist's supervision.
- All equipment access within 75' of the tree must operate over trench plates or 1" plywood sheeting (if light enough equipment) on top of the 4" layer of chipper mulch to avoid re-compaction of the soil.
- East-west cross footings and under-story piers beyond 20' from the base of the tree may be utilized for future decking to allow for access under the north canopy without having to increase impact to root zone.
- After home and all necessary foundation is removed, all of the newly accessible soil areas within footings and out to 75' from the base of the tree shall be irrigated, vertically composted and mulched as was done for the initial maintenance phase. Recommend top mulch be 6" thick in this area under the proposed decking to support workman activities, and for longevity.
- Other than the allowed decking that must be able to utilize existing footings and piers, no other encroachments shall be allowed within 50' of the tree. If existing footing cannot be used, then no decking will be allowed within 50' of the tree.
- From 50' to 75' out from the Grand Oak, no grade changes, trenching or soil compaction is allowed. Section of bathroom pad on grade, and drilling for aerial bike path in this zone is acceptable under arborist supervision.

### **General Site Grading & Construction**

- Any adjustment of TPZ fencing, for asphalt & structure removal or grading, shall require confirmation with PA.
- To move forward without PA needed on site, TPZ fencing must be re-established at or outside the driplines, or at 75' for the Grand Oak.
- Peeling back asphalt over root zones of oaks along existing driveway shall be monitored by the PA, and done in a manner to avoid ripping or tearing shallow roots just under asphalt.
- Should any roots over 2" in diameter be damaged in the demolition or grading process, the project arborist shall be notified, and roots shall be cleanly pruned, covered and irrigated. If roots cannot be covered with soil, they shall be covered with burlap and wetted 2x's a day until they can be covered.
- TPZ's shall be kept clean and void of equipment, fuels and other toxic materials, with no storage of construction related materials, fill soils, or supplies.
- TPZ fencing shall remain in an upright and sturdy manner at all times.
- Recommend having the PA monitor soil moisture and conditions around trees on a monthly basis.

**Installation of Aerial Section of Bike Path Through TPZ for Grand Oak**

- Installation of piers for bike bridge over TPZ for Grand Oak to be monitored by PA. Drilling equipment must be supported by plating over a bed of mulch when within TPZ, and kept as far from the tree as possible.
- Piers for bridge shall remain outside the primary 50' radius from the tree.

**Installation of Storm Drain by Grand Oak**

- Storm drain will be 50' from the oak at the closest point. Ideally I would recommend adjusting to outside the 75' perimeter if possible.
- If pipe depth is below 3', horizontal boring would be another low impact possibility.
- If open trenching is the only alternative, than a combination of closely monitored backhoe trenching that may require some hand or airspade digging to get around any roots over 2" in diameter. Must be monitored by the PA.

**Installation of Decking Within TPZ for Grand Oak**

- The only acceptable location for decking under the Grand Oak is where the existing home is currently located and at least 20' north of the tree.
- Utilize the two parallel east to west footings at approximately 20 and 50' from tree for decking support. Existing piers within those footings may be utilized as well. Additional footings are not advised.
- Decking crew must meet with project arborist prior to installation.
- Working area for decking crew must be mulched prior to construction.
- The completed decking shall have a perimeter fence on the oak side that connects to a continual perimeter fence around the oak at the 75' radius to discourage activity off the decking and under the oak.
- **NOTE:** Portion of the canopy over decking seems to be less elongated and better structured for pedestrians to gather, however, other portions of the canopy to the southwest appear to be less reliable, making the perimeter fencing to control pedestrian traffic, not just for tree protection measures, but human protection as well. Tree will need to be monitored over decking periodically for maintenance.

**Landscaping Phase**

- Landscape contractor shall meet with the project arborist prior to working on site.
- No landscaping or irrigation shall be allowed within 50' of Grand Oak. Only mulch.
- Planting within the 50-75' radius shall be "Oak Compatible", consisting of natives, and drought tolerant plants. No ground covers, or turf. Planting in this zone should be well spaced and irrigated with a plant specific system such as drip or bubblers. Overhead spray nozzles are not recommended.
- For smaller oaks, recommend avoiding landscaping and irrigation within driplines.
- Pathways must be installed in a root friendly manner when within driplines. consider using a fine DG like gravel as opposed to pavers or concrete to avoid needing to grade and cut roots.

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