



Memo

To: The Atherton Planning Commission
From: Sally D Bentz-Dalton, Town Arborist
CC: Sean Manalo, Associate Planner
Date: 9/30/24
Re: Tree Protection Zone (TPZ) Exception 64 Winchester

I have reviewed the application at 64 Winchester and offer the following observations and recommendation for your review:

The applicant is applying for Planning Commission TPZ exceptions for the following tree:

Tree #5 –neighbor’s tree
 Tree #43- neighbor’s tree

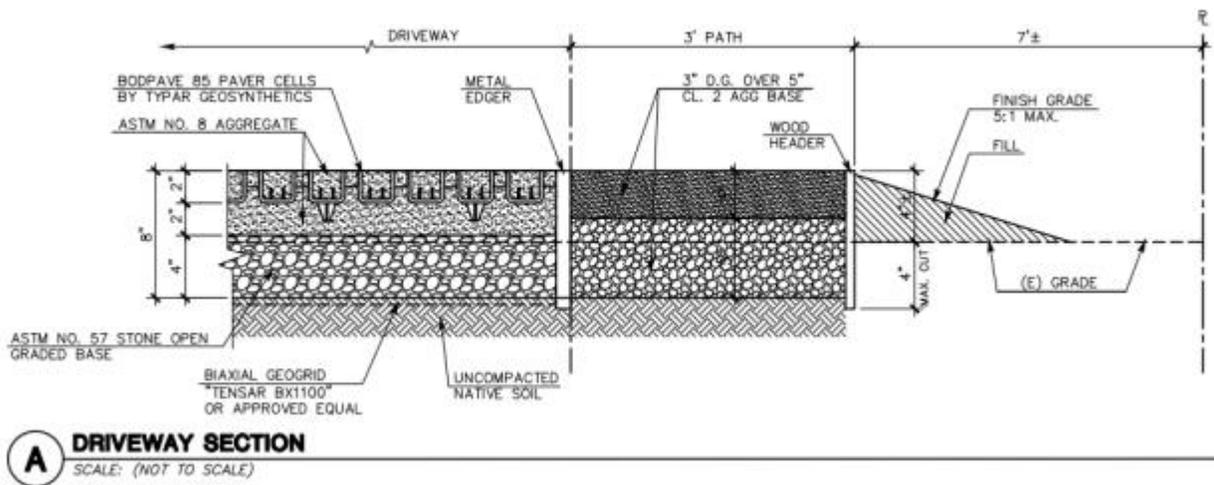
On August 19th, 2024, an Arborist report and inventory was conducted for the tree by Kielty Arborist Services LLC.

5'	Yes	(P)	coast live oak <i>Quercus agrifolia</i>	\$42,000	36 est.	36	18	24	30.0	45/50	Fair	Fair	Fair	Fair	65%	Neighboring tree, minor deadwood in canopy, leans into site, limited visual inspection.	
43'	Yes	(P)	redwood <i>Sequoia sempervirens</i>	\$13,800	25		12.5	16.7	20.8	65/30	Fair	Fair	Fair	Fair	50%	Neighboring tree, limited visual inspection.	

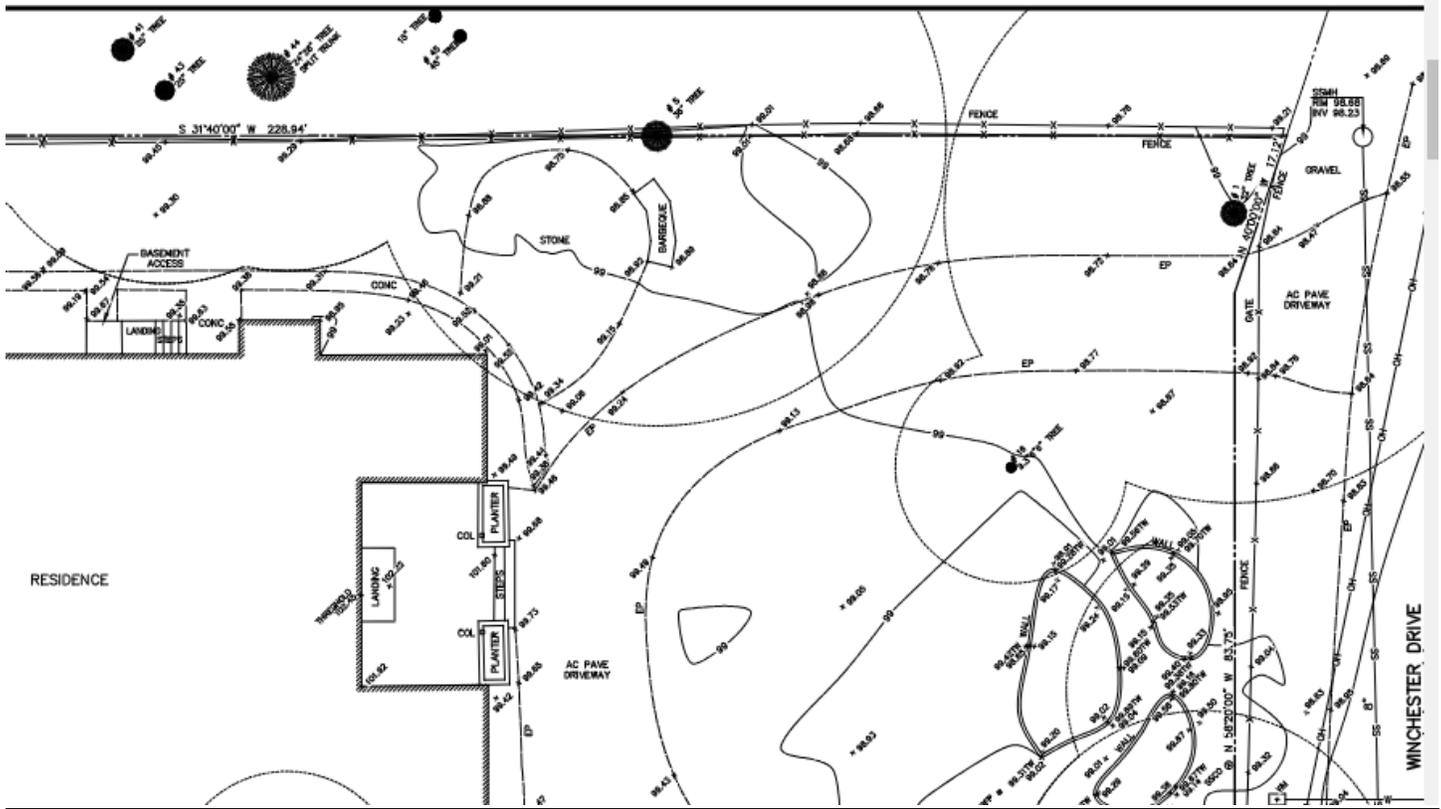
The applicant is proposing a new driveway and garage which require 2 TPZ requests.

Request 1: Tree #5 Coast Live Oak – 36” dbh, 3.33x for a new driveway – 10’ away
 Request 2: Tree #43 – Redwood – 25” dbh, 7x for a garage – 14.5’ away

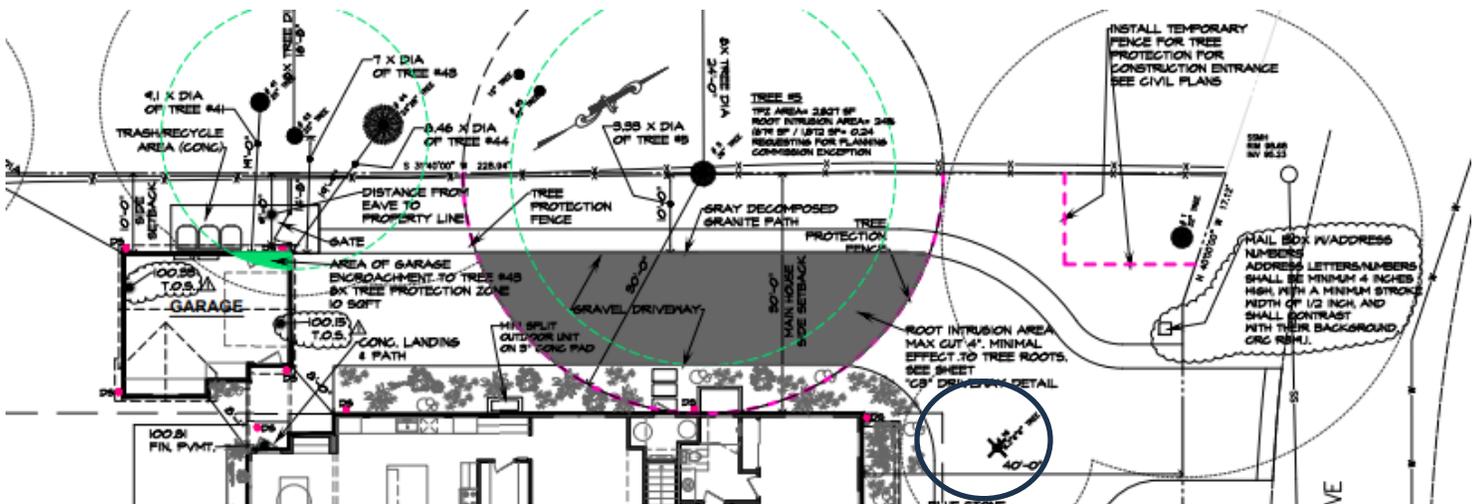
Mr. Kielty in his report wrote that for tree #5 in order to construct the driveway with minimal impacts to the tree, it is recommended to construct the driveway using Biaxial Geogrid (Tensar BX-1100 or equivalent). Biaxial Geogrid can be used as a subgrade layer below aggregate for reinforcing the driveway. The Geogrid allows for pinning down of the surrounding soil and can be constructed over tree root zones. Using the Geogrid material will improve filtration, reduce the base thickness needed allow for compaction of underlying parent soil to be no greater than 85-90%, reduce incidents of tire ruts and soil migration, and relieve the roots from strain/compaction caused by vehicles. No more than 4" of excavation (mostly for rough grading and scarifying the soil) shall be allowed for the driveway construction when working within 30 feet (10x diameter) from tree #5. The existing grade and proposed driveway grade will need to be nearly identical to allow for this work to take place with minimal impacts to the tree. The civil engineer has placed the driveway slightly above the existing grade by 4" so that the driveway allows for a slightly thicker base section. After minor grading and scarifying of the soil has been completed (4"), the Geogrid material shall be laid directly on top of the soil, and the driveway shall be constructed entirely on top of the root zone. Edging for the driveway construction is recommended to be supported by individual pins, as excavating for a continuous edge would nullify the use of Geogrid. By building the driveway using the techniques described above, the impact to tree #5 would be minor.



Topo map



Proposed



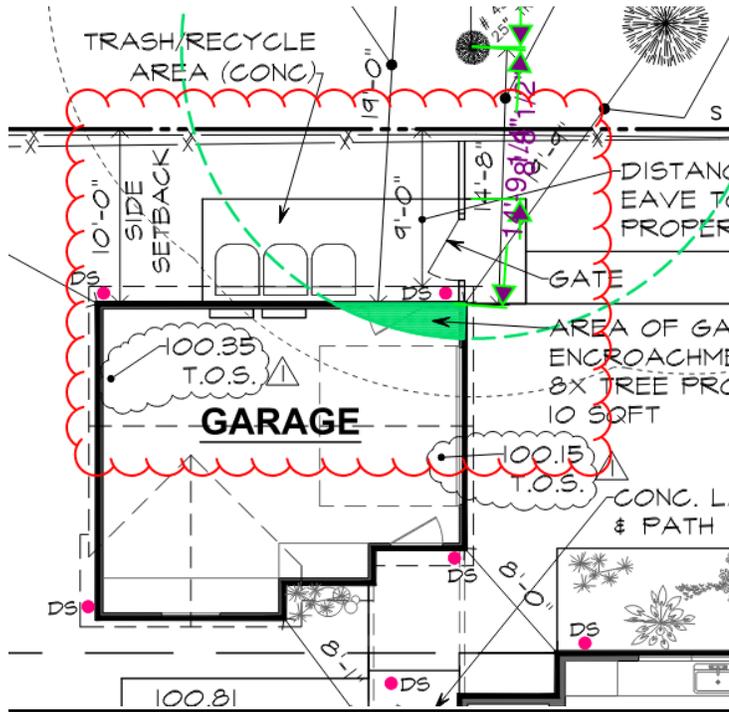
Request #1- #5- Coast Live Oak – 36” dbh – 3.33x TPZ

This coast live oak is in fair condition and is the neighbor’s tree. The applicant is proposing to build a new driveway 10’ away from this tree. Per the regulations a new driveway location is required to be 8x away. However, this applicant is proposing to build it 3.33x away. The arborist stated that with the 3.33x tree protection zone that 24% of the roots will be impacted. However, if the Biaxial geogrid is required than the

root impacts will be much lower than 24%. With Biaxial geogrid the roots can be maintained. The driveway will be raised as to affect less roots with grading.

Request #2- #43- Coastal Redwood- 25" dbh – 7x TPZ

This redwood is in fair condition and is the neighbor's tree. The applicant is proposing to build a new garage 14'8" away from this tree. Per the regulations a new garage would need to be 10x away and can go down to 8x for a staff exception. Redwood trees have a good tolerance to construction impacts and the percentage of the tree's root zone impacted is very low.



Analysis:

A letter written by 64 Winchester and signed by the neighbor agreeing to the project was submitted. The applicant did not submit alternative locations for a garage and driveway. However, based on this current design it looks like another garage location wouldn't work. Only if the design is changed could another location be viable.

Coastal Redwoods Coast Live Oaks have a good tolerance to construction impacts. I feel that the garage at 7x is fine for tree #43. There will be minimal impact with only 10 square feet of encroachment being affected. 7x is just under the threshold.

For tree #5 at 3.33x is the critical root zone. Roots are found in the first 3' of the soil. I can only allow 3.33x for this tree because of only 4" of soil will be excavated by hand. The project arborist must be on site for all work 10x away. If this driveway was proposed and not raised Biaxial, I would not be able to approve it at 3.3x times due to the amount of grading that close to the structural roots.

The Planning Commission must meet one or more of the below findings to approve:

5. The Planning Commission may approve or reject such applications as submitted in Section 2.2 B 3 or Section 2. B 4, based on the following criteria:

- a. The criteria as listed in 2.2.B.2.
- b. The probability of failure which is a function of heritage tree and site conditions such as, but not limited to, structural defects, presence of disease, species history, age or remaining life span, and varying weather conditions.
- c. The probability of a public safety hazard, personal injury or significant property damage as a function of proximity to existing structures and objects of value and interference with utility services
- d. The number, species, size and location of existing trees in the area and the effect of the requested EXCEPTION upon shade, noise buffers, protection from wind damage, air pollution, historic value, scenic beauty, health, safety and general welfare of the area and town as a whole.
- e. The necessity to allow reasonable use or other enjoyment of the property when there is no demonstrated feasible alternative to the EXCEPTION while meeting other adopted goals and policies of the general plan to the greatest extent feasible.

In conclusion:

No other locations were explored for a garage/driveway. I did not receive a report on exploratory trenching. A letter was signed by the neighbor that they were okay with the project. I would have liked to have a report of the exploratory trenching so we can discuss what was found and mitigate it.

I can recommend the below two requests based on neighbor's approval, that any roots 2" and greater can be protected, that the driveway uses Biaxial Geogrid with only 4" of rough grading, and Mr. Kielty's recommendations are followed, and less than 26.5% of roots will be affected.

I can recommend the below 2 requests with the below requirements:

Request #5- Oak - 3.33x for a new driveway

Request #43 – Redwood- 7x for a garage

The following are requirements:

- Required to be installed and **shown on G&D plans** - Biaxial Geogrid (Tensar BX-1100) as an underlayment to be placed on top of the parent soil. Minor rough surface grading not to exceed more than **4"**. Biaxial Geogrid (Tensar BX-1100 or equivalent) to be placed on the soil with only hand-tamped compaction preparation used. Edging needed is recommended to be supported above ground by individual stakes.
- Any work 10x of the neighbor's trees, driveway and pathway built with hand work only. Project arborist to be on site.
- **Show on quarterly report**. Redwood tree #43- The area between the tree and the foundation (tree protection zone) is required to be irrigated every other week during the dry season until the top foot of the soil is saturated. This tree is also to be deep water fertilized with Nutri Root.
- **Show on quarterly report** – Redwood tree #43- The entire proposed foundation, when within 10x the diameter of the tree (20.8'), is recommended/required to be excavated by hand in combination with hand tools such as an air knife, rotary hammer with clay spade attachment, or shovels, while under the direct supervision of the Project Arborist. All roots encountered within the foundation area measuring

1.5" in diameter or larger are recommended to be retained for the Project Arborist to inspect before being cleanly cut. Once inspected and documented, the roots will need to be cleanly cut using a hand saw or loppers. It is recommended that the cut root ends on the tree side be covered by 3 layers of wetted-down burlap to help avoid root desiccation. The contractor shall wet down the burlap daily while exposed.

- **Show on quarterly report.** Deep water fertilizing the tree with Nutriroot should take place before the work has started and again the following spring.
- **Show on G&D and quarterly report.** Exposed roots will be required to be documented by the Project Arborist. Before the driveway work is to start, the tree protection zone is recommended to be deep water fertilized with 300 gallons of water mixed with Nutriroot. The top foot of the soil within the tree protection zone is recommended to be saturated. A decomposed granite pathway is proposed to follow the edge of the driveway near oak tree #5. The pathway is recommended to be built with a minimal 4" cut into grade. This work will need to be done by hand under the project arborist supervision when working within 30' from the tree. No roots shall be cut for the pathway work. Any root encountered must be retained within the granite itself or base rock layer.
- **Show on quarterly report** - Because the driveway work is to take place within the tree's tree protection zone, the work will require the direct supervision of the Project Arborist. Grading and scarifying the soil will need to be done by hand under the Project Arborist's supervision when working within 30 feet of tree #5. Any exposed roots during the driveway work will need to be kept moist by covering roots in layers of wetted-down burlap to help avoid root desiccation.
- No roots over 2" to be cut per Town code.
- All excavation is to be done by hand under the Project Arborist supervision when within 10x the tree's diameter.
- Sufficient tree protection installed.

The information included in this memo is believed to be true and based on sound arboricultural principles and practices.

Sincerely,

Sally Bentz

Town Arborist- Certified Arborist WE#9238AM