To the Durham Planning Board

Comments/suggestions on landscape plan for Mill Plaza Development Plan - 12/1/21

From John Parry, 5 Denbow Rd., Durham, NH

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I would like to pass on the following questions, comments and suggestions related to tree protection and planting.

My apologies if I missed something in the plan that addresses these items – it is challenging to review the many large plan sheets on a computer screen.

Landscape Notes on Sheet G 101 – *My Comments in Bold Italics*

14. PARKING AREA PLANTED ISLANDS TO HAVE MINIMUM OF 1'-0" TOPSOIL PLACED TO WITHIN 3 INCHES OF THE TOP OF CURB ELEVATION. REMOVE ALL CONSTRUCTION DEBRIS BEFORE PLACING.

1 foot of topsoil as a tree planting medium is not adequate depth. Needs to be at least as deep as root balls. Also, If it is on existing compacted soil, this is not appropriate. Soil underneath needs to be firm but allow drainage from site.

15. TREES SHALL BE PRUNED IN ACCORDANCE WITH THE LATEST EDITION OF ANSI A300 "TREES, SHRUBS AND OTHER WOOD PLANT MAINTENANCE STANDARD PRACTICES".

The ANSI Standards are good, but there is also a companion publication developed for the ANSI Standards that provides more and better detail. "Pruning Best Management Practices, 3rd Edition". This should also be referred to. There are also ANSI Standards and BMPs written for other tree related issues, including Tree Planting and Tree Protection during Construction that could be references. The Planning Board Should acquire a set of these ANSI Standards for future reference.

16. ALL PLANTS SHALL BE WATERED THOROUGHLY TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL BE WATERED WEEKLY, OR MORE OFTEN, IF NECESSARY, DURING THE FIRST GROWING SEASON. LANDSCAPE CONTRACTOR SHALL COORDINATE WATERING SCHEDULE WITH OWNER DURING THE ONE (1) YEAR Guarantee period.

19. UPON EXPIRATION OF THE CONTRACTOR'S ONE YEAR GUARANTEE PERIOD, THE OWNER SHALL BE RESPONSIBLE FOR LANDSCAPE MAINTENANCE INCLUDING WATERING DURING PERIODS of drought.

An aggressive watering program for 2 to 3 years after planting is critical. It takes that long for new trees to become established. With projects the USFS funds we require a 3 year maintenance and watering plan.

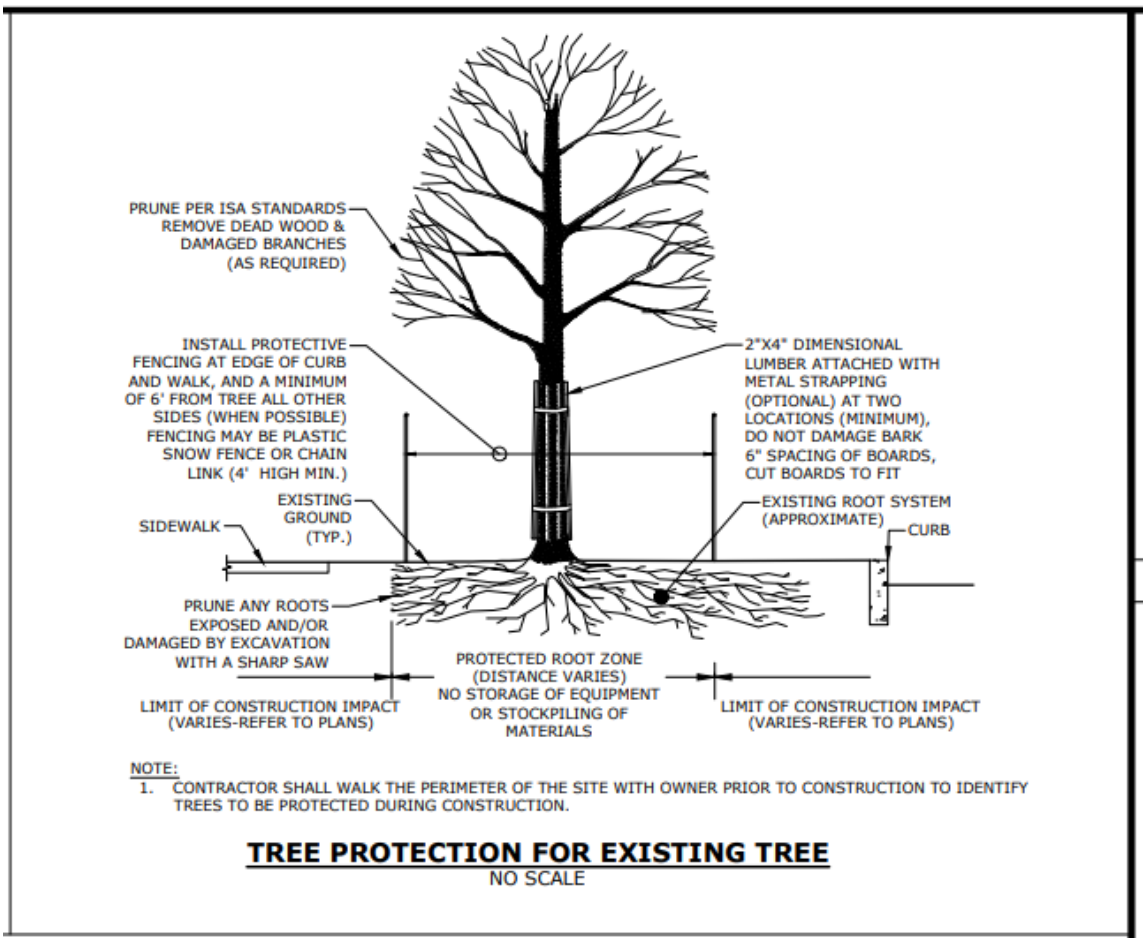
17. EXISTING TREES AND SHRUBS SHOWN ON THE PLAN ARE TO REMAIN UNDISTURBED. ALL EXISTING TREES AND SHRUBS SHOWN TO REMAIN ARE TO BE PROTECTED WITH A 4-FOOT SNOW FENCE PLACED AT THE DRIP LINE OF THE BRANCHES OR AT 8 FEET MINIMUM FROM THE TREE TRUNK. ANY EXISTING TREE OR SHRUB SHOWN TO REMAIN, WHICH IS REMOVED DURING CONSTRUCTION, SHALL BE REPLACED BY A TREE OF COMPARABLE SIZE AND SPECIES.

It is difficult to see on the plan which trees are identified for protection?

Protecting root zone around the tree is critical. Fencing at the drip line is an accepted industry standard. An alternative that is used is protecting a circle around the tree with a 1 foot for each 1 inch of tree diameter (measured at 4.5 feet above ground). The underlined wording above "or at an 8 foot minimum" is contradictory and not adequate for larger trees over 8" in diameter.

On Sheet C508 the figure below does not show or mention fencing? The protection standard for existing trees is unclear and needs to be confirmed.

Sites where multiple tree planting will occur should also be protected from soil compaction. Also, any setback or otherwise protected areas should be protected from all construction activities. I know in past projects, building was not allowed on wetland and shoreland setback areas, but developers were allowed to store supplies, park vehicles, pilef soil, etc. in those areas, and this "temporary use" did significant damage/compaction in those areas.



<u>Other General Comments/Suggestions</u>

Will there be no new trees planted along Mill Rd.? This seems like a good site for planting and a good buffer should be provided here.

The plan indicates tree boxes (tree pits) near the buildings (such as sidewalk in front of building A)? I did not see detail on this design in the plans. What is the size and how is underground rooting space designed for these tree boxes? Maples are planned for most of these spots and it is not a small tree. Needs adequate rooting space.

Some deer protection may be needed on trees planted in/near natural area near the brook.

Comments on Figure below that shows design for planting in parking lot islands.

> ***I am glad to see species were selected that will have a larger size at maturity, but I feel the width of the Islands should have been increased (to at least 8 feet) to allow adequate rooting space and branching space. Trees in the existing lot, and on main street are examples of what***

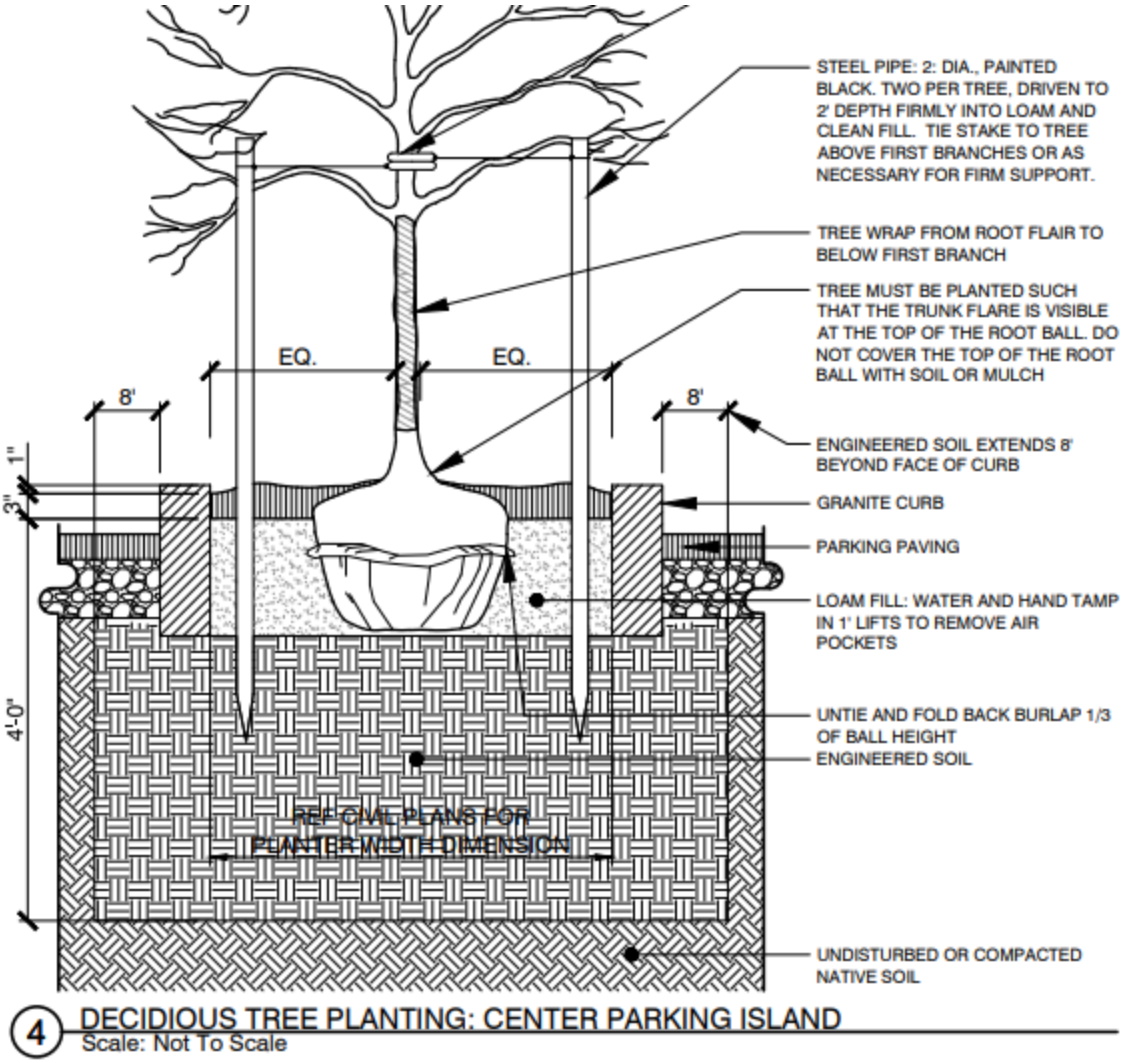
happens long term without adequate rooting space. Most roots naturally grow horizontally from the root ball. I see the engineered soil extends to 8 feet under the soil. This will help, but does not totally make up for the limited rooting space at ground level. Also note that some of the species selected have shallow rooting behavior, so need to keep an eye on damage to pavement.

The crown spread of some of these trees at maturity may be up to 30' plus. It would be good to plan more width in the parking lot islands to avoid branch conflicts with vehicles, delivery trucks, snowplows, etc. Branches can be pruned up over time, but trees must be allowed to gain height before too much lower branch pruning can be done. Good species selection can help. Also, when ordering trees from nursery, contract wording can specify the height to which trees should be free of branching.

Planting Specs. - I would require the burlap and basket to be cut away 2/3rd of the way down the root ball.

Depth of loam fill should be even with root collar. The figure seems to show the loam well below the root collar.

A concern I had from previous designs was that the existing compacted undersoil (underneath the loam fill) would not drain water from the islands. I see this new design includes 2 ' of engineered soil under neath the root ball. Will this provide adequate drainage?



4 DECIDIOUS TREE PLANTING: CENTER PARKING ISLAND
Scale: Not To Scale

Comments on Tree Species Selected

It is good to diversify species in case there is a insect or disease problem in the future that affects certain species.

There are too many Armstrong Maple (24) planned. I suggest planting no more than 12 Armstrong and 12 other appropriate species. Depending on rooting and overhead space some additional medium – lg. size trees to consider are: Honey Locust, Red Horse chestnut, Hedge Maple, Zelkova, European Hornbeam

There are too many redbud planned (25). These are not a bad choice, but are close to their northern range and do better with some shade. I suggest planting no more than 12 Redbud and substitute 12 other appropriate species.