

Subject: Site walk on Mast Road to view proposed path for Peak Project.

Date: Thursday Dec. 20, 2012

Present: John Parry, Doug Bencks, Joseph Persechino

We spent about 45 minutes walking this area, where the trail layout is proposed. This may still be adjusted as needed. The trail will run along the west side from the driveway at the Forest Service building up to the drive way entrance for the new complex. Along the Forest Service property and the residence adjoining it, the path will run as close to the Mast Road right of way as possible. This area is open turf with some landscape trees in the area. Farther to the west, the roadside is a brushy, wooded area classified as wetland, and farther along the area is a better drained wooded area with a variety of tree species and sizes. There are utility poles along the edge of the ROW and a drainage ditch (in some places) between the poles and pavement. The ground generally slopes towards the ditch.

The path will be asphalt (not planned to be permeable), 8 feet wide. Lighting will also be installed along the north side of the path requiring another 2 feet of width. The construction of the trail will require excavation about 18 inches deep – the utility trench for the lighting will be about two feet deep.

There was some discussion on where the path should cross the road to join the existing path. NH DOT will not approve a pedestrian cross walk on this road. The path will cross just to one side or the other of the Forest Service drive. Changes to the drainage here may be needed, as it currently pitches away from the existing ditch. A small area here is classified as a wetland area.

I think the main questions for the Conservation Commission are; 1) How the path construction would impact the wetland areas, and 2) Impact of trees and other vegetation along the path that currently provide benefits to the environment and property owners.

1) How the path construction would impact the wetland area

Flagging is present that show the edge of the wetland. A stone wall runs along the edge of the road right of way. Stones from the wall were scattered and would be partially replaced where possible, as part of the path construction. Trees varied in size, but generally are smaller, with a few large scattered trees (up to about 16").

Comments/Suggestions:

The desired location for the path was to stay to the north of the stone wall, but keep the path as far as possible to the south of the wetland edge to reduce disturbance. Could consider an elevated boardwalk in some areas, if needed. Other members of DCC may have additional suggestions or comments on this.

2) Impact to trees and other vegetation along the path.

The proposed path location will require the removal of some trees and will pass closely to many other trees (both naturally growing and planted landscape trees). Construction can damage the root system by severing roots. If too much of the tree root system is removed or damaged by construction, the tree may decline or die, resulting in the loss of benefits, and possibly creating a public hazard with larger trees that could later fail. The general rule of thumb in the protection of open grown trees is to protect a circle (called the critical root zone) around the tree. The circle radius is equal to 1.5 feet per 1 inch of trunk diameter. If more than 40% of that critical root zone will be disturbed, the tree may be significantly impacted. This is more critical with larger trees, than small trees that more easily recover.

Soil compaction caused by equipment can also be a serious problem. This is especially true on wet soils. Compacted soils have less open pore space, and hence less space for moisture and oxygen needed to sustain tree health. Even one pass with heavy equipment can cause soil compaction.

Comments/Suggestions:

Identify the more desirable trees to save and protect. Larger trees in good condition are more desirable. Less desirable species are elm, willow, poplar, aspen. Lay out the path so that it winds around, and as far away as possible from the more desirable trees. Install temporary fencing to keep equipment away from the critical rooting zone of trees identified to protect.

Do some replanting to compensate for landscape trees that must be removed.

Where path will pass too close to large trees, consider the use of techniques to place above ground path segments (boardwalks, concrete slabs or rubber sidewalks) to avoid construction damage to roots.

If feasible, conduct construction during the winter or dormant season, when stress to trees will be less.

Where roots will be disturbed severing roots cleanly by hand or with a rock saw, causes less tree damage than tearing through root system with heavy equipment.

Provide replacements for landscape trees removed.

Trees that will have significant root damage, and are already in decline and considered high risk should be removed (the large maple on the corner of the Forest Service property is one such tree).

John Parry can provide additional information (such as the International Society of Arboriculture Best Management Practices for protecting trees during construction).