

North Woods subdivision buffer narrative, August 2020

The North Woods subdivision will have a seventy-five foot deep vegetative perimeter buffer extending from the edge of the subdivision entry drive area, continuing north along South Road, then turning west at the end of the subdivision property, running parallel to the fieldstone wall past the neighboring pasture. A good percentage of this perimeter buffer includes a several decades old planting of evergreen trees which are now tower over the site. These trees, planting in clearly defined rows, consist primarily of Norway Spruce along with a large population of Larch, and a few Canadian Hemlock.

This narrative begins at the north edge of the subdivision entry drive area along South Road, takes a sharp left at the end of the property, and ends deep in the woods beyond the neighboring pasture.

### **South Road perimeter buffer** of the North Woods subdivision

The South Road perimeter buffer of the North Woods subdivision is 75 feet deep and extends about 460 feet from the North Woods subdivision entry drive area, northward past a fieldstone wall lined earthen lane known as the cow path, a historic cemetery, called the Holly-Oatley Lot, RIHC #SK029, continuing until it meets the 75 foot deep Northern Perimeter buffer. The South Road perimeter buffer consists of a mixture of mature deciduous and evergreen canopy trees, developing canopy trees, understory trees and shrubs, and ground cover/vines. The majority of this vegetation is native and naturalized vegetation along with few invasive species. The South Road perimeter buffer is broken down into two sections.

#### **Existing**

South Road perimeter buffer, section one / existing:

Section one of this buffer, extends from the entry drive area of the subdivision, north to the fieldstone wall at the north edge of the cow path, including the cow path. This is a distance of about 170-180 feet.

Existing canopy trees included in this second section of the South Road perimeter buffer include Norway Spruce, Eastern Red Cedar/Juniper, Red Maple, Wild Black Cherry, Black Oak, and Scarlet Oak. There are young White Pine, Holly and Norway Spruce present in this section as wells Northern Arrowwood. The following invasive species are also present on this section of the South Road perimeter buffer: Japanese Barberry, Oriental Bittersweet, Burning Bush, Autumn Olive, and Multiflora Rose.

South Road perimeter buffer, section two / existing:

Section two of this buffer begins at the fieldstone wall along the north edge of the cow path and continues to the point where it meets the Northern perimeter buffer. Along the way, it passes included an area behind a historic cemetery, the Holly-Oatley Lot / RIHC #SK029.

Existing canopy trees included in this first section of the South Road perimeter buffer include Norway Spruce, (*Picea abies*), along with some Red Maple, (*Acer rubrum*), Wild Black Cherry, (*Prunus serotina*), Eastern Red Cedar/Juniper (*Juniperus virginiana*), Red Oak, (*Quercus*

*rubra*), Scarlet Oak, (*Quercus coccinea*), Black Oak (*Quercus velutina*), White Oak (*Quercus alba*), and American Dogwood, (*Cornus florida*).

Within the understory of this section of the South Road perimeter buffer, there are several young Norway Spruce, some young American Holly, (*Ilex opaca*), and Northern Arrowwood, (*Viburnum dentatum*). In addition, the following invasive species are present: Japanese Barberry (*Berberis thunbergii*), Autumn Olive, (*Elaeagnus umbellata*), Oriental Bittersweet (*Celastrus orbiculata*), and Burning Bush, (*Euonymus altus*). There are open areas within this section of the buffer zone that easily lend themselves to infill planting.

### **Proposed**

Planted across the entire back of the South Road perimeter buffer there will be a row of 20 Green Giant Arborvitae planted 20 feet apart. They will be planted 8-10' from the back line of the buffer, as they will fill that space. These plants will help enhance the visual screen, serve as a sound barrier, and also delineate the back edge of this buffer. They are planted in a straight line for two reasons. First, to develop a strong linear visual line to give clear definition to the back of the perimeter, and second, the Green Giant Arborvitae will provide a considerable screen of green, mitigating views of North Woods homes. These trees will form and serve as a backdrop for the remainder for the 75 foot deep buffer. The area between the Arborvitae and the South Road side fieldstone wall will continue to build understory cover in addition to canopy coverage.

All new trees, shrubs, and transplants will be watered regularly-as needed throughout their first growing season in their newly planted locations.

South Road perimeter buffer, section one / proposed new plants:

3 Norway Spruce, (*Picea abies*) 4'-5' tall

8 Green Giant Arborvitae, (*Thuja plicata* 'Green Giant') 5'-6' tall

South Road perimeter buffer, section two / proposed new plants:

13 Green Giant Arborvitae, (*Thuja plicata* 'Green Giant') 5'-6' tall

### **Northern Perimeter Buffer** of the North Woods subdivision

The northern perimeter buffer of North Woods is 75' deep, extending from the fieldstone wall near South Road, well past a second fieldstone wall, to 40' beyond a third fieldstone wall. This woodland segment consists of a mixture of mature canopy trees, developing canopy trees, understory trees and shrubs, as well as ground cover and vines. The vast bulk of this is native and naturalized vegetation with few invasive species. Due to the differing nature of two portions of the northern perimeter buffer, they will be explained separately, in two sections below.

### **Existing**

northern perimeter buffer, section one / existing:

From the initial fieldstone wall by South Road, to the second stone wall, a distance of 230 feet, this buffer consists of mature Norway Spruce, (*Picea abies*), Larch, (*Larix decidua*), and a couple Hemlock, (*Tsuga canadensis*). These trees, planted most likely in the 1930's, are

spaced very close together, much too close for the general health of the trees, and they create an umbrella of dense shade with virtually no understory.

Within this expanse there are three locations that have at least some plant growth. One area consists of native grasses which likely exist due to an availability of sunlight reaching this spot. Another nearby smaller area consists of a developing colony of the invasive species Japanese Barberry, (*Berberis thunbergii*). The third area of understory in this portion of the buffer is the uphill side of the northern buffer as it nears the second fieldstone wall. This corner of section one is more open, and has an abundance of growth including several young American Holly, *Ilex opaca*.

northern perimeter buffer, section two / existing:

From the second stonewall wall, to the end of the northern perimeter buffer, a distance of about 596 feet, there are numerous large trees, mostly deciduous. There are also several tall Junipers aka Eastern Red Cedar, (*Juniperus virginiana*), in this section of the buffer. I have made note of five of them. These five are healthy and are growing close to the open pasture, where they receive enough sunlight to sustain themselves. These five may live for many more years, provided the pasture remains open.

Below is a list of larger trees found within section two of the northern perimeter buffer:

- 34 Red Maple, (*Acer rubrum*), min. 6" in diameter or greater trunk (one is 74" in diameter)
- 9 Scarlet Oak, (*Quercus coccinea*), min. 6" in diameter or greater trunk
- 5 Red Oak, (*Quercus rubra*), min. 6" in diameter or greater trunk
- 5 Juniper, (*Juniperus virginiana*), min. 5" in diameter or greater trunk
- 4 White Oak, (*Quercus alba*), min. 6" in diameter or greater trunk
- 2 Pitch Pine, (*Pinus rigida*), min. 6" in diameter or greater trunk
- 1 Black Oak, (*Quercus velutina*), min. 6" in diameter or greater trunk

The above list does not tell the whole story of the existing tree canopy of the northern buffer. There are numerous trees, not counted above, that have a trunk diameter of less than six inches and contribute to the breadth of the copy beyond what is shown on the plan.

In addition to the canopy trees mentioned above, there are numerous understory trees and shrubs, many of which are evergreen. American Holly is the most abundant understory tree present in this buffer zone. There are more than 60 young Holly in the northern perimeter buffer that are tagged with ribbon. In terms of natural forest secession, this section of buffer may be developing into what the Rhode Island Natural Natural Heritage Program designates as a Oak-Holly Woodland.

There is also an abundance of Bayberry, (*Myrica pensylvanica*), and High Bush Blueberry, (*Vaccinium corymbosum*), as well as some Clethra, (*Clethra alnifolia*), and Northern Arrowwood, (*Viburnum dentatum*), several of which are five feet tall or taller. These contribute to the development of the understory canopy and serve as a visual screen during the growing season.

There are also a few young White Pine, (*Pinus strobus*), and European Larch, (*Larix decidua*), in this section of the northern perimeter buffer worth noting. All of the above previously mentioned species are valuable to the healthy of the understory plant community and should be protected and encouraged to grow.

Bull Briar, (*Smilax rotundifolia*), which is abundant in much of the northern perimeter buffer, is a native plant species to our region of the United States. Bull Briar is not an invasive species, though it can appear to be aggressive. It's roots travel underground, and its vines can climb trees. There have been instances where Bull Briar has been known to climb through and cover tall Juniper, aka. Eastern Red Cedar. In this scenario the Juniper can/will die as a result of a significant volume of Bull Briar blocking out the much of the available sunlight, vital for the sustainability of the Juniper. However, Bull Briar is not the same as the menacing invasive species known as Oriental Bittersweet, (*Celastrus orbiculatus*).

According to professor Gary L. Hightshoe landscape architect and the author of the book: Native Trees, Shrubs, and Vines for Urban and Rural America, Bull Briar grows at a slow rate and is a short lived species, (pages 776 and 777). Rick Enser, of the Rhode Island Natural Heritage Program, includes Bull Briar as part of the natural plant community that normally occurs in an Oak-Holly woodland.

Bull briar, may not be a particularly desirable plant in a residential backyard setting, but as a buffer plant, it provides food and shelter for animals. The leaves are eatable for humans as well as animals. It also serves as a physical barrier for most people which will help keep areas of this buffer intact. Bull Briar provides needed shade for young plants as they germinate, such as Holly. These plants will grow through the bull briar once they establish themselves. Below you will see a management plan developed for the Bull Briar located in this area.

## **Proposed**

The following section is a maintenance schedule for the Bull Briar, follows by proposed plantings for both sections of the northern perimeter buffer.

### **management plan for bull briar in the northern perimeter buffer:**

Bull Briar, as aforementioned, is present in much of the northern perimeter buffer. The northern perimeter buffer plan shows that there is currently a strong Bull Briar presence between infill stakes six and eight, which represents a distance of about 140'. To the east of infill stake six, there is a moderate presence of Bull Briar extending from about infill stake six until infill stake number four, a distance of about 105'. East of that point, the Bull Briar has a minor or sporadic presence. To the west of infill stake eight, again, the Bull Briar begins to subside and has an increasingly minor and sporadic presence.

The management plan to control existing Bull Briar in the northern perimeter buffer will be carried out through mechanical means, while minimizing disruption to other plants within the buffer. This is a management plan, not an eradication plan. Above-ground portions of this plant will be cut to the soil line and disposed of in such a way that the health of plants underneath and around the Bull Briar will not be jeopardized. This being said, it is recommended that the Bull Briar be removed by hand rather than by machine. The roots will be allowed to remain in the ground in order to minimize the impact on roots systems of other plants nearby. The cutting and removal of Bull Briar will be a seasonal harvest, occurring twice a year, as needed. Once in the Fall at the end of it's growing season, and once again in the late Spring/ early Summer, when the Bull Briar growth is at it's most aggressive. The initial removal of Bull Briar will be the most labor intensive and challenging removal. Subsequent removals will be increasingly minimal. The area between infill stakes 6 and 8 is the most desirable location to begin this process, then proceeding to the second most prevalent areas, the sections between infill stakes 4 and 6, and between infill stakes 8 and 10. The areas east of infill stake 4 as well as west of infill stake 10 also need to be addressed, but these areas are currently less of a

priority and can be more easily controlled. Not each an every Bull Briar stem can be expected to disappear, as new stems may emerge from the roots within several weeks time of the initial removal. The subsequent Bull Briar removals will continuously deplete the plants of their stored energy. This regular removal, coupled with the fact that this is not a long-lived plant to begin with, will substantially help keep it under control over time. Bull Briar removal needs to take place prior to the planting of additional buffer plants in this area, section two of the northern perimeter buffer. The management of Bull Briar will be transferred to the home owners association at some point.

In order to carry out the successful removal and control of Bull Briar, as well as the planting and watering of proposed additional trees, a maintenance service path will need to be developed and maintained within the 75' wide and several hundred foot long northern perimeter buffer.

northern perimeter buffer, section one / proposed planting:

Within the last row of existing spruces along the back of this section of buffer, eight Thuja plicata 'Green Giant' will be planted, twenty feet apart. Presently, this last row consists of combination of healthy Norway Spruce and culls, or trees in decline. Culls should be eliminated from this row in order to allow the healthy existing spruces to more successfully compete. The eight Thuja plicata will be planted approximately 20 feet apart. Exact planting locations may vary a few feet left or right in order to minimize the impact on existing root systems. These additional trees will add to the visual screen as seen by southbound travelers along South Road, serve as a sound barrier, and delineate the back edge of the perimeter buffer.

As previously mentioned, there are three areas within section one of this buffer where there currently is plant growth occurring on the woodland floor. This means adequate sun is reaching these areas. In order to capitalize on this I suggest the following:

1. In area one, which is from where the Barberry will be removed, plant one new Norway Spruce.
2. In area two, which is the grassy area, plant two new Norway Spruce.
3. In area three of section one, which has a quantity of small Holly as well as weeds and other miscellaneous underbrush, carefully remove and dispose of the underbrush to encourage the continued growth of the several Holly already located in this area. As line of Arborvitae extend through this space, there will be two trees planted within this space. See plan for clarification.

The total number of new trees to be planted in section one of the northern perimeter buffer:

3 Norway Spruce, (*Picea abies*) 4'-5' tall

8 Green Giant Arborvitae, (*Thuja plicata* 'Green Giant') 5'-6' tall

northern perimeter buffer, section two / proposed:

The plantings for section two will consist of Norway Spruce, (*Picea abies*), and Green Giant Arborvitae, (*Thuja plicata* 'Green Giant'). The Norway Spruce will be set within a grid pattern, (see plan). The Arborvitae will be planted 20 feet apart, eight to ten feet inside the buffer from the back line of the 75 foot deep northern perimeter buffer. Section two of this buffer extends from the fieldstone wall at the end of section one of the northern perimeter buffer, to point about 40' beyond the next fieldstone wall, a distance of about 596 feet. The Arborvitae will be planted approximately 40' apart, give or take. A tree may need to be planted closer or farther from the next in order to avoid major impact of the root system of an existing

neighboring plant. As shown on the plan, eight Arborvitae have been eliminated from this grid because they will greatly impact the root system and in some cases, the trunks of trees that are already in close proximity to that location. This applies to existing trees.

If there happens to be a Holly or other desirable understory plant in the close vicinity of where one of the new Spruces or Arborvitae will be planted, the Holly or other plant will be carefully salvaged and transplanted to a new location within the buffer zone. This statement applies to all areas of both the Northern perimeter buffer and the South Road perimeter buffer.

The total number of new trees to be brought in and planted in section two of the northern perimeter buffer:

23 Norway Spruce, (*Picea abies*) 4'-5' tall

25 Green Giant Arborvitae, (*Thuja plicata* 'Green Giant') 5'-6' tall

There will not be any Rosebay Rhododendron or Mountain Laurel planted in either northern perimeter buffer or the South Road perimeter buffer. Both of these species are extremely toxic to livestock. It is best to eliminate and potential future issue by avoiding the inclusion of these plants from this buffer. Both of these species are also both slow growing.

### **Additional**

Along the rear of Lot Ten, there will be ten Green Giant Arborvitae planted twenty feet apart. These trees will be planted about ten feet back, behind the Lot Ten. The exact planting location may vary in order to avoid impacting the root systems of existing trees. These ten Arborvitae are primarily specified in order to screen views into the North Woods neighborhood. They will also serve as a sound barrier, and help delineate the rear property line of Lot Ten.

The total number of new trees to be brought in and planted behind the rear fo the Lot Ten. property line:

10 Green Giant Arborvitae, (*Thuja plicata* 'Green Giant') 5'-6' tall

### **Miscellaneous**

the total number of proposed new trees:

29 Norway Spruce, (*Picea abies*) 4'-5' tall

64 Green Giant Arborvitae, (*Thuja plicata* 'Green Giant') 5'-6' tall

All new trees and transplants will be watered regularly-as needed throughout their first growing season in their newly planted locations.

The encroachment of and Bull Briar or other plant species onto and around the new plantings will be curtailed through pruning and removal.

The half dozen of so standing dead trees within the northern perimeter buffer will remain as they are and become home to wildlife. A healthy habitat is good for the environment.

All newly planted trees should be properly staked. Any stakes and lines should be removed after one year.