



Grading Details

It is proposed to excavate the mitigation area in order to establish pools and flow paths as shown on the grading plan. These areas will be accessed for purposes of the wetland mitigation construction from the proposed road. If suitable, topsoil removed from excavated area will be used within the new wetlands as replacement of organic material for surface preparation.

Soil erosion and sediment control fencing will be installed at the outer and down slope limits of the proposed wetland expansion. The location of the proposed mitigation will be cleared as necessary, but with an eye toward preserving any trees or shrubs adjacent to the work area, some may be removed and stockpiled for replanting after completion of grading.

Where available, the upper one foot of topsoil will be stripped from the site and set aside from other site grading materials. The temporary storage area will be an upland site either removed from wetlands by 100 feet or separated from same by a soil erosion and sediment control fence.

All excavations will be to finished grade elevations as indicated in the mitigation drawings. Per the above, topsoil will be stripped from the site and stockpiled for use in finishing grading. The stockpiled topsoil will be returned to the site to create a planting surface four to six inches deep for the wetland mitigation plantings as described above. Finished soils at the invert of the mitigation sites will be of landscape quality.

The finished surfaces of the planting area will be smooth within specified tolerances in uniform levels or slopes between points where elevations are indicated or between such points and existing grades. The accepted grading tolerance will be a smooth and even surface, free of voids, and within 0.25 feet of the specified elevation. Leaving the surface rough, crating mounds and kettles for a variable microtopography can be beneficial. During the course of earthwork, inspections will be scheduled at a frequency to be determined by the engineer/environmental consultant but no less than weekly. Some changes to the grades may be appropriate to establish flow paths and preserve trees. These determinations will be made by the wetland specialist supervising the grading.

Planting Details

Plant choices for the wetland expansion were made according to existing site conditions and locally common species.

All planting will proceed by hand. Materials will be brought to the site in good condition (see below) and then placed in central drop locations. The materials will then be hand-carried to their planting locations and in turn, planted by hand. Only rounded, shallow planting shovels will be used in this effort.

Criteria for selecting plant material will include (1) the plant's ability to withstand the expected light and saturation conditions; (2) its demonstrated survival on this site and other nearby sites; (3) the plant must be native and non-invasive; and (4) whether the plant material is available at nurseries in the same region as the site. See Table 1 for complete plant species list. Seed mix was chosen based on the species' ability to survive in moist areas adjacent to the road with some sun.

Planting will be done in spring or early summer (between April 1 and July 1). Shrubs may also be planted in the late summer to early fall (September 1 to October 30). In all cases, a hole will be dug twice as deep as the root ball. The only shovels allowed are rounded, shallow spades. The hole will then be backfilled with a thin layer (two to four inches) of rich, organic topsoil, the plant placed inside, the hole backfilled to the top and then gently tamped down.

Container-grown plant material delivered to the job site will be inspected to assure moist soil/rock masses. Any dry and light weight plants will not be accepted. If not planted immediately the container will be stored out of the sun and wind and kept moist (i.e., a means of watering will be provided and watering will occur daily). When removed from the containers, the plants will be the size of the specified container. If in leaf, the plants will appear healthy with no spots, leaf damage, discoloration, insects or fungus. If not in leaf, the buds will be firm and free of damage, discoloration, insects or fungus. Containers will be a minimum of quart size for shrubs and gallon size for trees.

Plants not having an abundance of well developed terminal buds on the leaders and branches will be rejected. The stems and branches of all plants will be turgid and the cambium healthy or the plants rejected.

Seeding within wetland areas should not be completed when there is more than two inches of standing water, or in areas that are likely to be flooded. Seeds should be broadcast by hand or knapsack seeder using the proper seeding rate (13 pounds per acre), and carefully proportioning seed for the entire area. Cover with a light layer of straw mulch following seeding.

Plan Notes

1. Prior to commencement of site work, silt fence is to be placed at limit of disturbance.
2. Regrade area and spread topsoil four to six inches deep using existing stockpiles. Final grading is to be generally completed as shown on this plan. Some field adjustment to achieve desired flow paths is acceptable.
3. Trees to remain will be identified prior to the commencement of site grading. These trees will be flagged in the field prior to the commencement of any clearing or excavation. Leave smaller existing trees in assumed area of disturbance to the extent practicable. Field adjustments to the grading plan may be necessary in order to ensure minimal impacts to roots of trees to be saved.
4. Hay and seed area of wetland expansion with Pinelands Riparian Buffer Mix or equivalent. Companion seed with annual ryegrass as per grower's recommendations.
5. Trees and shrubs will be planted within the proposed wetland creation area as specified on the plan and the table above.

Monitoring and Maintenance

Monitoring and maintenance efforts for the mitigation plantings will take place over a five year period following construction. This will include bi-weekly visits for the first growing season, and then twice a year for the next two years, with additional inspections as required depending on conditions. The applicant's environmental monitor will conduct a survey of the site and site conditions will be noted and adjusted as necessary. An annual report will be provided to the Town of Yorktown at the end of the growing season for each of the three years. These reports will include the following information:

1. All plant species, along with their estimated relative frequency and percent cover, shall be identified by using plots measuring 10 feet by 10 feet, with at least one representative plot located in each of the habitat types within the mitigation site. For this proposal, there are two plots identified on the plan view planting plan.
2. Vegetation cover maps, at a scale of one inch equals 100 or larger, shall be prepared for each growing season.
3. Photographs showing all representative areas of the mitigation site shall be taken at least once each year during the period between 1 June and 15 August.
4. Surface water and groundwater elevations in representative areas of the mitigation site shall be recorded twice a month during April through September of each year. The location of the monitoring wells are shown on the plan view grading plan.

Plantings will meet or exceed 85 percent survival rate by the end of the second growing season. If this goal is not met, the site will be re-evaluated, and re-grading and/or replanting will be completed as necessary. Invasive species (i.e., *Lythrum salicaria* and *Phragmites australis*) will not constitute more than 10 percent of the vegetative community. If this goal is exceeded, measures will be taken to eradicate the invasive species.

Basemap: "Site plan prepared for Nikolla Grishaj, 3319 Stony Street, by Site Design Consultants, date 10/7/21"

Plant Species Choices for Street Trees/Tree Replacement

Map Symbol	Quantity*	Scientific Name	Common Name	Size
Street Trees				
Aru	8	<i>Acer rubrum</i> 'October Glory'	Red Maple 'October Glory'	2-1/2" - 3" cal
As	7	<i>Acer saccharum</i> 'Legacy'	Sugar maple 'Legacy'	2-1/2" - 3" cal
Pa	7	<i>Platanus acerifolia</i>	London Plane Tree	2-1/2" - 3" cal
Qp	8	<i>Quercus palustris</i>	Pin Oak	2-1/2" - 3" cal
Yard Trees				
Qr	7	<i>Quercus rubra</i>	Red oak	1-1/2" - 2" cal
Aru	6	<i>Acer rubrum</i>	Red maple	1-1/2" - 2" cal
Op	7	<i>Quercus palustris</i>	Pin oak	1-1/2" - 2" cal
Ls	7	<i>Liquidambar styraciflua</i>	Sweetgum	1-1/2" - 2" cal

* Plant quantities will be held, but final locations will be determined in the field following removal of invasive and dead plant materials and preservation of existing trees.

Plant Species Choices for Wetland Expansion

Map Symbol	Quantity*	Scientific Name	Common Name	Size
Trees				
Aru	19	<i>Acer rubrum</i>	Red Maple	5' - 6'
Shrubs				
CSe	24	<i>Cornus sericea</i>	Redstart dogwood	3' - 4'
LB	5	<i>Lindera benzoin</i>	Spicebush	3' - 4'
IV	22	<i>Ilex verticillata</i>	Winterberry holly	3' - 4'
VC	21	<i>Vaccinium corymbosum</i>	Highbush blueberry	4' - 5'
VD	28	<i>Viburnum dentatum</i>	Arrowwood	4' - 5'
Herbaceous Plants				
CS	150	<i>Carex stricta</i>	Tussock sedge	2" plug
CC	100	<i>Carex crinita</i>	Fringed sedge	2" plug
JE	100	<i>Juncus effusus</i>	Soft rush	2" plug
OC	50	<i>Osmunda cinnamomea</i>	Cinnamon fern	quart
Seed Mix				
RBM	8 pounds	Pinelands Riparian Buffer Mix or equivalent		

* Plant quantities will be held, but final locations will be determined in the field following removal of invasive and dead plant materials and preservation of existing trees.