



Village of Brightwaters
40 Seneca Drive
Brightwaters, NY 11718
Attn: Donna M. Barnett, Clerk-Treasurer

RE: Summary of Findings and Recommendations

Dear Ms. Barnett:

The following narrative summarizes my observations and recommendations from the various Village sites that we inspected earlier today.

Seneca Park (Adjacent to Village Hall):

Many of the Norway spruce (*Picea abies*) located in Seneca Park and Wohseepee Park have been impacted by birds (yellow-bellied sapsuckers) and insect pests, such as black turpentine beetles. However, southern pine beetle did not cause the damage found on these Norway spruce trees as the diagnostic "popcorn"-sized pitch tubes were not observed. Many of the small holes (about the same diameter of a lead pencil) on these trees were arranged on horizontal or vertical rows, this is indicative of sapwells dug by yellow-bellied sapsuckers. Other randomly arranged holes and pitch tubes observed may be the result of black turpentine beetle, which produce larger pitch tubes with more copious amounts of sap than southern pine beetle and are typically located on the lower section of the tree.

Eastern redcedar (*Juniperus virginiana*) is recommended for planting on the interior (southern side) of the row of white pine (*Pinus strobus*) and mulberry (*Morus sp.*) along the southern Sunrise Highway service road. Eastern redcedar is salt tolerant and would provide a visual screen between the park and roadway. The limbs on the southern sides of the existing white pines should be pruned to reduce competition and crowding when the redcedars are installed. Note that white pine is listed as a salt-sensitive or salt intolerant species. Accordingly, road salt may be contributing to the poor growth of the white pine trees at this location (along with the pruning needed to maintain the utility lines). The white pines along the service road are highly crowded. Some trees should be removed and/or thinned to reduce crowding and competition between trees.

Wohseepee Park

All pitch pines (*Pinus rigida*) in Wohseepee Park were healthy and exhibited no signs of southern pine beetle infestation. Norway spruce with various damage from yellow-bellied sapsuckers and other insect pests were observed. The Village should routinely inspect the pitch pine and Norway spruce in Wohseepee and Seneca Parks to identify any future southern pine beetle outbreaks.

Village representatives identified several locations in Wohseepee Park where future tree plantings were desired or are being considered. Recommended species for future tree plantings at Wohseepee Park include white oak (*Quercus alba*), red oak (*Quercus rubra*), black oak (*Quercus velutina*), and scarlet oak (*Quercus coccinea*). All tree plantings should be well watered and maintained until the trees become established. The Village has recently planted red maple (*Acer rubrum*), tulip poplar (*Liriodendron tulipifera*), Japanese zelkova (*Zelkova serrata*), and little-leaf linden (*Tilia cordata*). The zelkova and little-leaf linden are not native to North America and should not be used for future restoration plantings in natural areas.

Mirror and Lagoon Lakes

Pitch pines at the margins of Mirror and Lagoon Lakes exhibited some sapsucker damage, but no signs of southern pine beetle. The margins of the lakes have many medium- to large-sized trees, but there are several gaps where additional trees could be planted if desired. Recommended trees for the margins of these lakes, or any freshwater bodies or wetlands in the Village, are red maple (*Acer rubrum*) and black gum/black tupelo (*Nyssa sylvatica*). Shrub plantings may be more appropriate for installation in places where there is insufficient space for a tree. Suitable shrubs for the margins of these lakes include sweet pepperbush (*Clethra alnifolia*), highbush blueberry (*Vaccinium corymbosum*), northern arrowwood (*Viburnum dentatum*), winterberry holly (*Ilex verticillata*), inkberry (*Ilex glabra*), and bayberry (*Morella pensylvanica*). Survivorship of previous plantings and abundance of naturally occurring shrubs indicates that sweet pepperbush (*Clethra alnifolia*), bayberry (*Morella pensylvanica*), highbush blueberry (*Vaccinium corymbosum*), and inkberry (*Ilex glabra*) have performed well at these sites. It should be noted that bayberry is an upland plant; accordingly, it should not be planted at the water's immediate edge, but is growing very nicely in the drier margins of the ponds setback slightly from the water.

An invasive aquatic plant, Brazilian elodea (*Egeria densa*), was observed from the shoreline of Lagoon Lake. Brazilian elodea is not as prolific as many other aquatic invasive plants commonly observed in Long Island's south shore ponds (such as fanwort, variable-leaf milfoil, and hydrilla). However, freshwater ponds similar to Mirror and Lagoon Lakes are very susceptible to these hard-to-eradicate invasive plants and the Village should be on alert for growing beds of invasive aquatic plants that appear to fill the water column.

Four Corners Area:

The Village is undertaking a Street Revitalization project that may involve plantings on Windsor Avenue and Orinco Court. Future planting should strongly consider potential conflicts with utility wire due to the potential for service disruptions, safety hazards to maintenance crews and pedestrians, increased maintenance costs, and the disfigurement of trees. The existing Bradford pears (*Pyrus calleryana*) on Windsor Avenue conflict with the low utility wires with adverse consequences to both trees and utility lines. Clearly, this conflict and the resulting need for maintenance will only continue as these trees grow. Accordingly, removal of these trees is recommended as part of the any Street Revitalization project. Replacement small trees could be installed, but only if the maximum height of the trees is at least 5 feet less than the existing height of the utility lines. Otherwise, the Bradford pears should be replaced by planting beds or boxes.

Gilbert Beach:

Exposure to wind-blown salt and salt spray from waves crashing into the bulkhead appears to be preventing healthy growth of turfgrass adjacent to the bulkhead. In addition, sediment loss is occurring due to erosion when waves overtop the bulkhead during storms and/or settling of fill placed after Hurricane Sandy. Placement of fill to replace lost/eroded material may not require an NYSDEC permit, as the park's bulkhead was built prior to 1977. However, a Non-Jurisdiction Letter from the NYSDEC should be obtained to confirm this.

It is recommended that the Village establish a buffer of native beach vegetation adjacent to the bulkhead in locations where turf grasses are unable to tolerate the salt exposure. A drawback to this recommendation is that walking in these areas would need to be restricted. However, a buffer consisting of native grasses would be more aesthetically beneficial than the existing bare sand and stunted grass currently present adjacent to the bulkhead. A low (1.0-1.5 foot tall) timber rail fence or slightly taller rope post fence would be sufficient to restrict access without impacting views.

This buffer could be most easily (and inexpensively) established by planting American beach grass (*Ammophila breviligulata*), as dormant bare root culms, in the late winter/early spring (prior to March 30). Other plant species could also be included in this buffer area. Seaside goldenrod (*Solidago sempervirens*) is an extremely hardy plant that typically establishes very well from plantings and adds large yellow flowers in the late summer and early fall. Salt hay (*Spartina patens*) and spikegrass (*Distichlis spicata*) are two grasses of Long Island's high marshes that often grow at the upper edges of bay beaches seaward of American beach grass. These grasses may thrive immediately landward of the bulkhead, if the salt exposure and inundation is too frequent for beach grass. Unfortunately, seaside goldenrod, salt hay, and spike grass are not available as bare root culms. Accordingly, they would need to be planted as 2" live plugs in mid-to late spring and would require irrigation through their first growing season. Coastal native shrubs, such as groundsel bush (*Baccharis halimifolia*), could also be included in this buffer area.

Once established, the buffer area would not require any irrigation. However, routine maintenance (i.e. hand-pulling or selective herbicide application) would be needed to prevent the establishment of weeds and invasive plants such as mugwort (*Artemisia vulgaris*), common reed (*Phragmites australis*), and autumn olive (*Elaeagnus angustifolia*). The frequent mowing of Gilbert Park now keeps these invasive plants from becoming established.

Due to the exposure to salt spray, most native trees will not grow well at Gilbert Park. Survivorship will increase with increasing distance from the shoreline. The most salt tolerant trees for this site would include Eastern redcedar (*Juniperus virginiana*), post oak (*Quercus stellata*), black oak (*Quercus velutina*), white oak (*Quercus alba*), black gum (*Nyssa sylvatica*), and pitch pine (*Pinus rigida*).

Recommended Trees for Future Planting at Village Parks:

White oak (*Quercus alba*)

Red oak (*Quercus rubra*)

Black oak (*Quercus velutina*)

Scarlet oak (*Quercus coccinea*)

Post oak (*Quercus stellata*)

Red maple (*Acer rubrum*)

Black gum (*Nyssa sylvatica*)

Eastern redcedar (*Juniperus virginiana*)

Kindly contact me at (631) 727-2400 or wbowman@landuse.us if you have any questions or require any further information. Thank you.

Sincerely,

William P. Bowman, PhD
Senior Ecologist