
FOREST EVALUATION AND
STRATEGIC MANAGEMENT PLAN
FOR FIRST PRIORITY AREAS
LOWER GWYNEDD TOWNSHIP
AUGUST 26, 2025

Prepared for:
Lower Gwynedd Township
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ENGINEERING & CONSULTING SERVICES

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SUMMARY AND PURPOSE

In order to enable Lower Gwynedd Township to effectively manage forested areas along trails within the Township for the purposes of reducing liability, expanding forest cover, improving forest health, and developing and implementing policy regarding work prioritization and the expenditure of tree bank funds, the following report has been prepared. Evaluations within this report are focused on each of the 6 First Priority Areas selected by Lower Gwynedd Township. Included in this report are the following:

- Assessments of each of the First Priority Areas selected by Lower Gwynedd Township, which include a summary evaluation of each of the woodland areas and discussion of primary issues of concern.
- Recommendations for strategies for the Township to effectively manage, care for, and expand the woodland areas evaluated.
- Recommended priority rankings for tree removal and replanting, as recommended to be implemented through Traisr.
- Tree bank Expenditure recommendations for First Priority Areas which indicate high, medium and low priority recommendations for projects to address liability issues, maintain forest health, and generate healthy forest habitat.
- Recommended tree bank expenditure policy for areas other than First Priority Areas.
- Invasive species management and planting site maintenance recommendations.

PROJECT LIMITATIONS

This is an evaluation of trees on selected Township-owned properties. Only trees within view of an accessible trail were evaluated during the preparation of the report. Evaluations were performed from ground-level; only defects or issues visible from ground level at the time of assessment were able to be evaluated. Defects may be present in trees that were not able to be viewed from this perspective at the time of assessment. Some areas of the properties could not be accessed at the time of observation. Issues found on private lots were referred to Code Enforcement.

FIRST PRIORITY AREAS

As requested by Lower Gwynedd Township, the following trail segments were identified as First Priority Areas to be evaluated as part of this Forest Evaluation and Strategic Management Plan:

- Dager Road Trail
- Penn Oak Trail
- Trewellyn Trail (Estates and Reserve sections)
- Meadowcreek/Foxfield Equestrian Trail Easement
- Centennial Trail
- Pen Ambler Park

OBSERVATIONS AND RECOMMENDATIONS — DAGER ROAD TRAIL

The section of the Dager Road Trail that was evaluated runs from the trailhead across Dager Road from Bethlehem Baptist Church to the western Wissahickon High School parking lot. Extensive hazardous tree removal has been conducted since the initial site evaluation in September of 2024. Trees ages range from sapling to mature, but the majority of trees are estimated to be in the 16"-24" caliper size range, indicating a uniformity to the age of the woods in this area and poor forest structure. The area owned and maintained by the Township consists of a narrow strip along the length of the trail, with a meadow area preserved by the Natural Lands Trust lying to the south along a large portion of the trail. Tree species are predominantly Maple and dead/dying Ash (since removed), with some Oak, Beech, Walnut and Elm, indicating limited diversity. Understory vegetation ranges from dense invasive growth (Honeysuckle, Wineberry) to sparse growth within more shaded areas, and vine growth is notable in areas where canopy gaps from fallen or standing dead trees permit growth. Where present, this invasive growth limits the growth of more desirable native species. This area generally lacks both species and age diversity of trees, and where dense understory growth is present it is dominated by invasives, which all contribute to stunted regeneration of the forest area. Of primary concern for this trail segment at the time of evaluation was the number of hazardous trees, many of which consisted of standing dead Ash trees or other trees with significant structural or health issues. These trees have since been removed.



Dead Ash Trees



Invasive understory growth along trail near trailhead



Open understory areas



Adjacent Natural Lands Trust preserved property



Tree removal work on Dager Rd. Trail

- Recommendations:
 - An estimated 60-70 hazardous trees have been removed from along the trail. An annual evaluation should be conducted thereafter to determine if additional removals or other tree work would be advisable for this trail segment. Regarding any additional tree removal, where tree parts are small enough to chip, chips should be spread within the surrounding wooded areas. Stumps should be left in place to decompose. Some larger tree parts should be left in place to decompose, so long as large piles of logs are not created.
 - Due to the confined nature of the woodlands corridor along this trail segment, and the relatively confined location of dense stands of invasive understory species, this may be a good location for selective invasives removal and supplementary shrub and tree understory planting within more shaded areas which currently lack understory growth. Planting of shade-tolerant native species within more open, shaded understory areas would require relatively little removal of invasives.
 - Vine removal should be addressed in areas where it is an issue by cutting the vines at approximately 1' above ground level and returning several times during the next few growing seasons to re-cut new growth until the vines have used up their reserve energy and have died.
 - Some understory clearing at the trailhead across from Bethlehem Baptist Church may be advisable for the purposes of improving sight lines at this access point.
 - Benches and interpretive signage regarding the adjacent Natural Lands Trust meadow area, as well as new understory plantings, could be provided along this trail segment.

OBSERVATIONS AND RECOMMENDATIONS — PENN OAK TRAIL

The Penn Oak Trail segments evaluated are located throughout the Penn Oak neighborhood. Tree ages range from sapling to mature, but most are estimated to be within the 16"-24" caliper size range, indicating a uniformity to the age of woods in this area and poor forest structure. There are also notably large areas dominated by invasive shrubs and vines, which effectively compete against and outgrow more desirable native species. Tree species include Walnut, Catalpa, dead and dying Ash trees, Maples, Oaks, and a variety of residential landscaping which backs up to the trail. Species vary throughout the site based on site conditions, but these are the dominating species. The shrub understory is dominated by invasives including Honeysuckle and Multiflora Rose, demonstrating poor forest structure. A large number of hazardous trees exist throughout this area, including trees exhibiting decay and dead and dying Ash trees. Of note is a large area of dead/dying Ash at the northern end of the trail, along the northern boundary of the Penn Oak neighborhood. The healthiest wooded area can be found east of the bend in Penn Oak Rd. South where trail cross through this large wooded area. Even so, there are a number of hazardous trees in this location that should be removed. This area generally lacks both species and age diversity of trees, and where dense understory growth is present it is dominated by invasives, which all contribute to stunted regeneration of the forest area. Of primary consideration for this trail should be reforestation efforts.



Dead Ash Trees



Invasive shrubs along trail



Potential planting area



Potential planting area

- Recommendations:
 - Removal of hazardous trees along this trail should be top priority, due to the significant potential for failure of many of these trees. An estimated 50 trees along this trail present significant risk and should be removed as soon as possible. An annual evaluation should be conducted thereafter to determine if additional removals or other tree work would be advisable for this trail segment. Where tree parts are small enough to chip, chips should be spread within the surrounding wooded areas. Stumps should be left in place to decompose. Some larger tree parts should be left in place to decompose, so long as large piles of logs are not created.
 - Several relatively open potential replanting areas are highlighted in the map accompanying this report. This would be contingent upon a lack of utility structures or other conflicts. Some are within more manicured areas where lawn is currently maintained; others are in areas that are relatively free of trees, shrubs, and most importantly the invasive shrub layer.

OBSERVATIONS AND RECOMMENDATIONS — TREWELLYN TRAIL

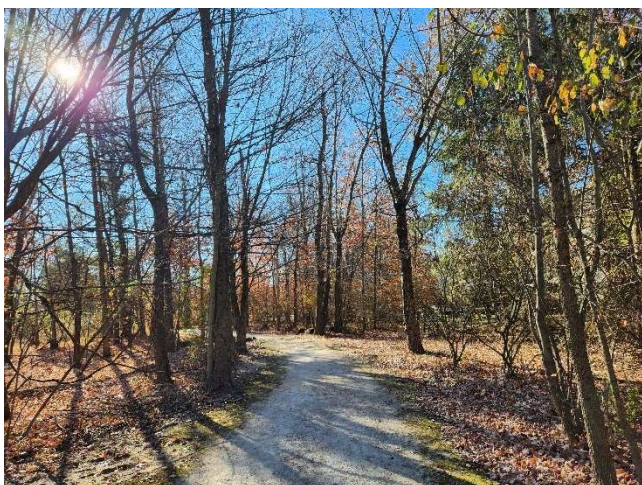
These trail sections are located within the Trewellyn subdivision, specifically within the Estates and Reserve sections. Much of the length of the trail is dominated by invasive understory vegetation, most of which consists of Honeysuckle and vines such as Grape and Wisteria. These vines have strangled a number of trees, and the Honeysuckle growth is dense enough to restrict the growth of desirable native species. A wide range of tree sizes exist on the site from saplings to 36" +/- DBH (diameter at breast height). However, the majority of trees on the site appear to trend toward the younger side, maxing out at 18-20" in diameter. This indicates uniformity to the age of the woodlands, and therefore poor forest structure. The trails wrap around the Estates and Reserve sections of the neighborhood, and connect to the adjacent shopping center. Tree species primarily include Oak, Maple and some dead Ash. There appears to be a greater concentration of Oak trees at this site than in other locations that were evaluated. The site lacks species and age diversity of trees, and due to dominant invasives regeneration is limited.



Tree with strangling vines



Honeysuckle growth along trail



Potential understory planting location



Potential understory planting location

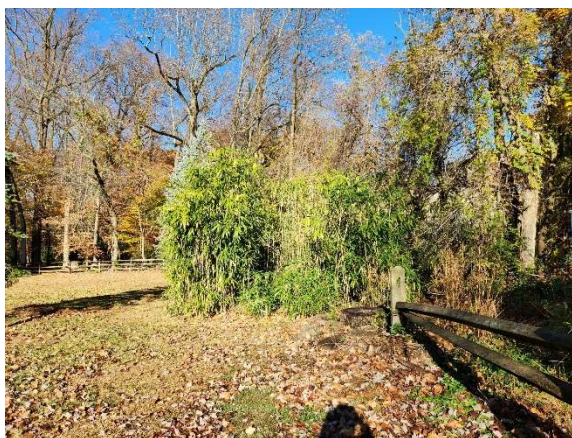
- Recommendations:
 - Removal of hazardous trees along these trail segments should be top priority, due to the significant potential for failure of many of these trees. An estimated 25-35 trees along this trail present significant risk and should be removed as soon as possible. An annual evaluation should be conducted thereafter to determine if additional removals or other tree work would be advisable for this trail segment. Where tree parts are small enough to chip, chips should be spread within the surrounding wooded areas. Stumps should be left in place to decompose. Some larger tree parts should be left in place to decompose, so long as large piles of logs are not created.
 - Several potential planting/reforestation areas are highlighted on the accompanying map. One is located within a wooded area where invasive understory vegetation is sparse, and therefore shade-tolerant native understory species would have a chance at success. The second is adjacent the intersection of Tintern Drive and N. Bethlehem Pike, where additional buffering could be provided between the neighborhood and N. Bethlehem Pike. The third is also between a cul-de-sac and N. Bethlehem Pike, where the wooded area is more open and therefore understory plantings such as shrubs would have a better chance at survival.
 - Due to the large amount of invasive shrubs on the site, wholesale removal would not be practical, feasible, or fiscally advisable. However, focus could be placed on the removal of vines that are strangling trees on the site. Vine removal should be addressed in areas where it is an issue by cutting the vines at approximately 1' above ground level and returning several times during the next few growing seasons to re-cut new growth until the vines have used up their reserve energy and have died.

OBSERVATIONS AND RECOMMENDATIONS — MEADOWCREEK/FOXFIELD EQUESTRIAN TRAIL

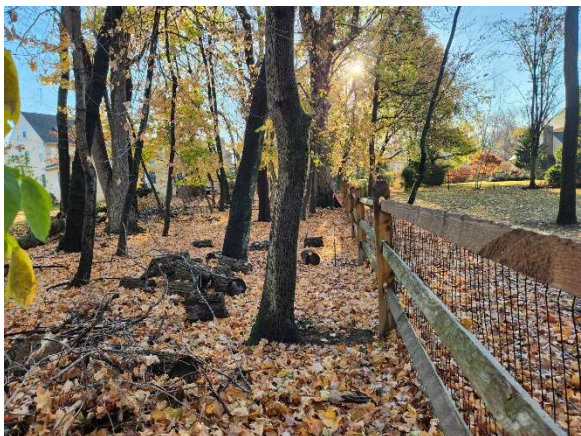
This is a natural, dedicated pedestrian/equestrian trail. At the time of evaluation, the easement was staked and vegetation within the staked easement was evaluated. In many locations where the easement backs up to other properties, there is encroachment by neighbors in the form of mowing, vegetation clearing, fencing, and landscaping. Only 10 or so hazardous trees were found within the easement itself; most trees of concern were noted on adjacent properties, and these concerns, along with encroachment issues, will need to be addressed with adjoining property owners. As with other evaluated trail locations, invasive vegetation in the form of Honeysuckle and Burning Bush shrubs was found in locations where the easement passes through wooded areas adjacent Penllyn Creek and the accompanying floodplain and wetlands, and Japanese Stiltgrass was found throughout the herbaceous layer. Bamboo has been planted on several properties and was noted to be encroaching the easement. Trees are predominantly Maple, and range in size from sapling to approximately 36" in diameter, with the majority ranging in size from 16-24" diameter. While there are a range of tree sizes, the woods appear to be fairly uniform in age. Due to this factor and accompanying invasive shrub growth, woodland structure is poor and diversity of species is extremely limited. While not particularly dense, the invasive shrub understory does limit the growth of desired native species. This may be an opportunity for selective invasives removal and replanting with more desirable native species, as the limited acreage for this easement would make management much more practical. Primary concerns appear to be encroachment by neighbors and hazardous trees on properties adjoining the easement, as well as invasive species and forest regeneration.



Wooded area adjacent Penllyn Creek



Bamboo encroaching easement



Fencing encroachment within easement



Fencing encroachment within easement

- Recommendations:
 - Removal of hazardous trees along this trail segment should be top priority, due to the significant potential for failure. Approximately 10 trees within the easement should be removed. These trees are located near property lines with adjoining neighbors. Coordination will be necessary with adjoining homeowners to remove hazardous trees on Township properties, along with encroaching fencing and vegetation. Where tree parts are small enough to chip, chips should be spread within the surrounding wooded areas. Stumps should be left in place to decompose. Due to the limited width of the easement, trunks that are not able to be chipped may need to be hauled off-site.
 - Due to more sparse understory growth and the small acreage of this site, this may be a good location for selective invasives removal and supplementary shrub and tree understory planting within more shaded areas which currently lack healthy understory growth.

OBSERVATIONS AND RECOMMENDATIONS — CENTENNIAL TRAIL

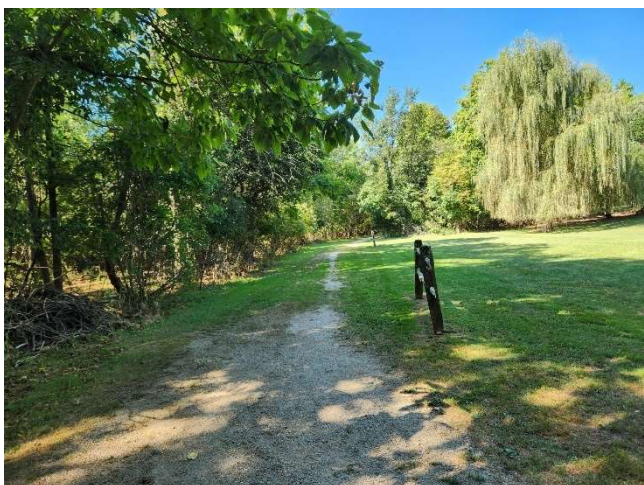
This trail section runs from trailheads at Kingsley Ct. and Red Barn Road south until it intersects with Old Bethlehem Pike. Trees range in size from sapling to very large (36"+) indicating a good variation in tree age and forest structure throughout the site and the potential for regeneration. As with other sites evaluated in the Township, the understory is dominated by invasive species (primarily honeysuckle) and in one location bamboo is encroaching from an adjacent property. These invasive shrubs leave very little open understory along the trail. Trees along this trail segment appear to be healthier than at other trail sections evaluated, but removal of 15-20 hazardous and declining trees is still recommended. Tree species include predominantly Oak and Maple, with some White Pine, Walnut, and dead/dying Ash. Species diversity on the site is limited. As with other locations, vine growth presents an issue. However, of primary concern in this location is encroachment onto Township property by residents whose properties back up to the Township-owned parcels where the trail is located. Instances of residents mowing and clearing on Township property, landscaping, and depositing yard waste were noted frequently. There are a number of hazardous trees located along adjoining property lines that were not evaluated in preparation of this report. These trees should be evaluated separately.



Encroachment by neighbors



Large dead tree, vine growth, and invasives



Neighbor maintaining lawn on Township property



Township property cleared by neighbor



Yard waste deposited by neighbors

- Recommendations
 - As with other trail segments evaluated, removal of hazardous trees should be top priority, for safety reasons. An estimated 15-20 trees along this trail present significant risk and should be removed as soon as possible. An annual evaluation should be conducted thereafter to determine if additional removals or other tree work would be advisable for this trail segment. Where tree parts are small enough to chip, chips should be spread within the surrounding wooded areas. Stumps should be left in place to decompose. Some larger tree parts should be left in place to decompose, so long as large piles of logs are not created.
 - A clear delineation of the property boundaries between the Township property and neighbors is recommended. Following a survey of the property boundaries, delineation of the property corners could be made by the planting of small shade trees or large shrubs at each of the property corners.
 - Vine removal should be addressed in areas where it is an issue by cutting the vines at approximately 1' above ground level and returning several times during the next few growing seasons to re-cut new growth until the vines have used up their reserve energy and have died.

OBSERVATIONS AND RECOMMENDATIONS — PEN AMBLER PARK

The area requested to be evaluated is the trail loop surrounding the amphitheater. No necessary tree removals or hazardous trees were noted with the exception of five (5) Ash trees, 2 of which have been removed since the site evaluation was conducted in October of 2024. Landscaping consists primarily of managed park landscaping including ornamental trees and shrubs, and would not necessarily be classified as a woodland area. A goal for this area would be the strategic planting of additional trees and shrubs.

Areas for potential planting are limited due to the nature of the amphitheater, which needs clear sight lines from viewing areas. The attached plan notes potential locations for the planting of 2-3 additional shade trees to the rear of the lawn seating area, as well as a location for shrubs which could serve as a 'backdrop' to the amphitheater stage.



Amphitheater



Amphitheater



Potential tree planting area to rear of amphitheater



Dying Ash tree

Recommendations:

- Plant ornamental shrubs to the rear of the amphitheater stage
- Remove remaining three (3) dead/dying Ash trees
- Plant 2-3 additional shade trees behind amphitheater lawn seating area

RECOMMENDED PRIORITY RANKINGS FOR TREE REMOVAL AND REPLANTING

Tree Removal

The following evaluation criteria are recommended to be used in the evaluation of individual trees and groups of trees within public properties in the Township, to determine priority for removal. The Township should consider generating the reports through Traisr, which is already in use in the Township for tracking work orders. Reports should be entered as preliminary and verified by senior staff as a second step. Reports should be exportable, sortable by priority, and marked for status (verified, complete, etc.)

All tree reports should collect the tree(s) location, species, and estimated height. A notes field should be available to enter other pertinent details.

Priority 1 – Remove

Trees or branches that are within striking range of populated locations or structures, could impact a utility, and /or are part of a verified complaint from a resident. They may have the following conditions:

- a. Disease is present which will likely result in death and/or spread to other trees
- b. Tree(s) are dead
- c. Decay or signs of decay observed in roots, root flare, trunk, or large branches
- d. Root uplift, splitting, or other condition indicating imminent failure
- e. Struck by lightning, wind, ice, or other significant damage

Priority 1 trees should be divided into the following designations, which will be determined by staff on a case-by-case basis:

- i. 1A – Township staff can remove
- ii. 1B – Contractor or additional equipment needed for removal
- iii. 1C – Work referred to appropriate utility company

Priority 2 – Monitor

Trees that are not located near populated locations or structures, and may have the following conditions:

- f. Large codominant stems, included bark, or other indicators of poor connection between large stems/branches
- g. History of large limb or other failure
- h. Hanging branches present that cannot be addressed with pruning

Priority N/A – Trees that are verified to not require action

These are tree reports that have been verified to not require action, or are located on private property, in which case the report would be referred to code enforcement.

Reforestation Opportunities

The following evaluation criteria and ranking protocol is recommended for use in prioritizing replanting locations and projects:

1. The planting area is unencumbered by easements, underground or overhead utility lines, rights-of-way or other conflicts – Y/N
2. The area available for planting is greater than 1 acre or multiple smaller planting areas are available close to each other – Y/N
3. Minimal invasive species are present – Y/N
4. Minimal site preparation is required – Y/N
5. Planting in the location will provide improved habitat, soil stabilization, water quality improvements, or other ecological benefit – Y/N
6. Revegetation or habitat needed – Y/N

1st priority planting areas – 5 to 6 “Yes” answers

2nd priority planting areas – 3 to 4 “Yes” answers

3rd priority planting areas – 1 to 2 “Yes answers

TREE BANK EXPENDITURE RECOMMENDATIONS FOR FIRST PRIORITY AREAS

Following are recommended work items/projects that can be completed using tree tank funds, ranked in order of suggested priority based on addressing liability issues, maintaining forest health, and generating healthy forest habitat:

Dager Road Trail

- High Priority Items
 - Ongoing monitoring of tree health along the trail, with any additional removals needed prioritized according to the Tree Removal Priority Rankings outlined in the previous section of this report. Annual visual inspections should be conducted for five (5) growing seasons post tree removal, with spot evaluations performed thereafter as concerns are noted.
 - Vine removal and subsequent removal of trees determined to be hazardous due to damage from vines.
 - Understory clearing at trailhead for greater visibility.
- Medium Priority Items
 - Supplementary understory reforestation planting projects within open shaded areas along the trail, for the purposes of promoting forest health and developing habitat.
 - Benches and interpretive signage adjacent the Natural Lands Trust meadow area.

Penn Oak Trail

- High Priority Items
 - Removal of hazardous trees along the trail. Estimated 50 trees.
 - Ongoing monitoring of tree health along the trail, with any additional removals needed prioritized according to the Tree Removal Priority Rankings outlined in the previous section of this report. Annual visual inspections should be conducted for five (5) growing seasons post tree removal, with spot evaluations performed thereafter as concerns are noted.
- Medium Priority Items
 - Tree, shrub and seed mix reforestation planting for forest regeneration and habitat development. Potential planting areas include those shown on the trail map accompanying this report, and the large area of dead ash trees indicated on the trail map (upon removal of those trees.)

Trewellyn Trail

- High Priority Items
 - Removal of hazardous trees along the trail. Estimated 25-35 trees.
 - Ongoing monitoring of tree health along the trail, with any additional removals needed prioritized according to the Tree Removal Priority Rankings outlined in the previous section of this report. Annual visual inspections should be conducted for five (5) growing seasons post tree removal, with spot evaluations performed thereafter as concerns are noted.
 - Vine removal and subsequent removal of trees determined to be hazardous due to damage from vines.

- Medium Priority Items
 - Tree, shrub and seed mix reforestation planting for forest regeneration and habitat development, including potential understory development. Potential planting areas include those shown on the trail map accompanying this report, and areas where hazardous tree removal has left larger open areas.

Meadowcreek Equestrian Trail

- High Priority Items
 - Removal of hazardous trees along the trail. Estimated 10 trees.
- Medium Priority Items
 - Ongoing monitoring of tree health along the trail easement, with any additional removals needed prioritized according to the Tree Removal Priority Rankings outlined in the previous section of this report. Categorized as medium priority as no trail exists yet in this location. Annual visual inspections should be conducted just prior to and for five (5) growing seasons post trail construction, with spot evaluations performed thereafter as concerns are noted.
- Low Priority Items
 - Selective invasives removal and reforestation with native shade trees and shrubs for the purposes of regenerating healthy forest and habitat development.
 - Supplementary shrub and tree understory planting for healthy forest and habitat development.

Centennial Trail

- High Priority Items
 - Removal of hazardous trees along the trail. Estimated 15-20 trees.
 - Ongoing monitoring of tree health along the trail, with any additional removals needed prioritized according to the Tree Removal Priority Rankings outlined in the previous section of this report. Annual visual inspections should be conducted for five (5) growing seasons post tree removal, with spot evaluations performed thereafter as concerns are noted.
 - Vine removal and subsequent removal of trees determined to be hazardous due to damage from vines.
- Medium Priority Items
 - Delineate Township property boundaries and coordinate with neighbors.
 - Small shade tree or large shrub plantings at property corners upon delineation of property boundaries.

Pen Ambler Park

- Medium Priority Items
 - Remove remaining three (3) dead/dying Ash trees. These trees are located within the treeline and do not pose a high risk.
 - Plant 2-3 additional shade trees behind amphitheater lawn seating area.
- Low Priority Items
 - Ornamental shrub planting to the rear of the amphitheater.

RECOMMENDED TREE BANK EXPENDITURE POLICIES FOR OTHER AREAS

Following are recommended policies for expenditure of tree bank funds for other projects:

- For tree removal projects, work should be classified as Priority 1 as ranked through the prioritization process on Traisr.
- Removal work should involve groups of five (5) trees or more.
- For reforestation projects, the location should be evaluated as a 1st or 2nd priority planting area per the reforestation opportunities evaluation criteria.
- Potential invasive species management projects should be in smaller to moderately-sized areas, maintainable long-term, and in areas where invasive species removal and replanting with native species will provide high ecological benefit.
- Planting projects should “fill in” forest gaps or expand forest areas and provide habitat and ecology benefit.

RECOMMENDED TREE REMOVAL POLICIES AND PROCEDURES

Following are recommended policies and procedures for tree removal:

- Where tree parts are small enough to chip, chips should be spread within surrounding wooded areas.
- Stumps should be left in place to decompose.
- Some larger tree parts should be left in place to decompose, so long as large piles of logs are not created.

INVASIVE SPECIES MANAGEMENT AND PLANTING SITE MAINTENANCE RECOMMENDATIONS

Invasive Species Management

Following are recommended steps for the management of invasive species within first priority trail areas:

1. Identify and map the infestations within areas prioritized for invasive species management. Identify invasive species to be removed within those areas. It is recommended that treatment areas be selected that are relatively isolated from large invasive species infestations, or constant treatment will likely be necessary to keep invasive species within the subject area managed.
2. Become familiar with the characteristics of the invasive species, proper identification, and effective methods of control. This information can be found in the Pennsylvania Department of Conservation and Natural Resources' Invasive Plant Fact Sheets, which can be found at the following link:
<https://www.pa.gov/agencies/dcnr/conservation/wild-plants/invasive-plants/invasive-plant-fact-sheets.html>
3. Minimize soil disturbance when conducting tree and other vegetation removal.
4. Determine desired methods of control:
 - a. Mechanical removal such as hand-pulling or digging, cutting/mowing, girdling or smothering
 - b. Chemical control through the use of herbicides
 - c. Biological control through use of natural predators or pathogens
5. Upon removal, properly dispose of plant parts as recommended in the Invasive Plant Fact Sheets.
6. Repeated treatments may be required for a number of years to effectively manage the infestation.
7. Regularly monitor the treated area for new growth or infestations and re-treat as needed.
8. Replace removed invasive species with native reforestation plantings.

Reforestation Planting and Maintenance Recommendations

Following are recommendations for planting and maintenance of reforestation plantings:

1. Consider planting shade trees at smaller sizes, such as 1" caliper in order to reduce the amount and length of time that watering will be required in order for the tree to become established. Smaller trees, because they require less time to become established, will grow at a faster rate than larger trees.
2. Provide trees with approximately 10 gallons of water per 1" DBH per week during the week, when no rain occurs, for the first two growing seasons. Irrigator bags may be used to provide slower irrigation that will soak into the ground, but these should be removed at the end of the summer so that rodents such as voles do not overwinter under them and girdle the trees. For trees 3" or larger, watering should occur for the first 3 growing seasons.
3. Use deer protection such as plastic mesh guards and organic deer repellent sprays such as Plantskydd on shrubs prior to leaf-out.
4. Maintain mulch over the root balls of the trees until they become established in order to reduce competition from herbaceous and other plants, and to protect tree trunks from mowing activities. Mulch should be maintained until a healthy canopy is established and mowing of the site is no longer required.
5. Do not use tree staking unless site or other conditions such as high winds mean the tree(s) may be unstable. Use of tree staking could inhibit bending and flexing of the tree, and therefore the development of trunk strength will be inhibited. Tree staking also makes mowing and other maintenance in reforestation or naturalized planting areas more difficult.

6. Use brightly colored flagging to mark the tops of trees and shrubs so that they are easily visible to maintenance crews mowing or performing other maintenance at the site. Use of biodegradable flagging is recommended so as not to girdle the trees but will need to be replaced every growing season.
7. During the growing season, monitor the site regularly for the growth of invasives, particularly of vines that could choke out plant material. Remove invasive vegetation/retreat the site as needed to effectively manage those invasive species. This may be necessary until a healthy forest canopy is established.
8. Mow herbaceous growth in the vicinity of the plant material once per year in order to reduce competition from less desirable plants, preferably in the late fall. If a seed mix is planted, follow the seed manufacturer's maintenance instructions.
9. Upon establishment of tree and shrub plantings, continue to perform annual mowing and invasive species monitoring and removal until a healthy canopy has been established.
10. Once mowing has ceased, monitor the site annually for new invasive species infestations and treat as needed.

QUALIFICATIONS

Valerie Liggett is a Registered Landscape Architect with 20 years' experience and has been an ISA Certified Arborist® since 2014 with TRAQ qualification since 2016. She is an experienced arboriculture consultant providing services including Tree Risk Assessments, tree inspections, tree protection plan preparation and review, preparation of shade tree ordinances, consultation with Shade Tree Advisory Commissions, and species recommendations.

APPENDIX I — TRAIL MAPS



Bethlehem Baptist Church

Hazardous Trees

Meadowcreek Cir.

Dager Rd.

Dense Understory
Invasives and Vine
Growth

Sparse Understory
Growth

Natural Lands Trust Preserved Property

Wissahickon High School
Parking Lot

Image Source: PEMA 2018

1 inch = 160 feet



Dager Road Trail

June 3, 2025



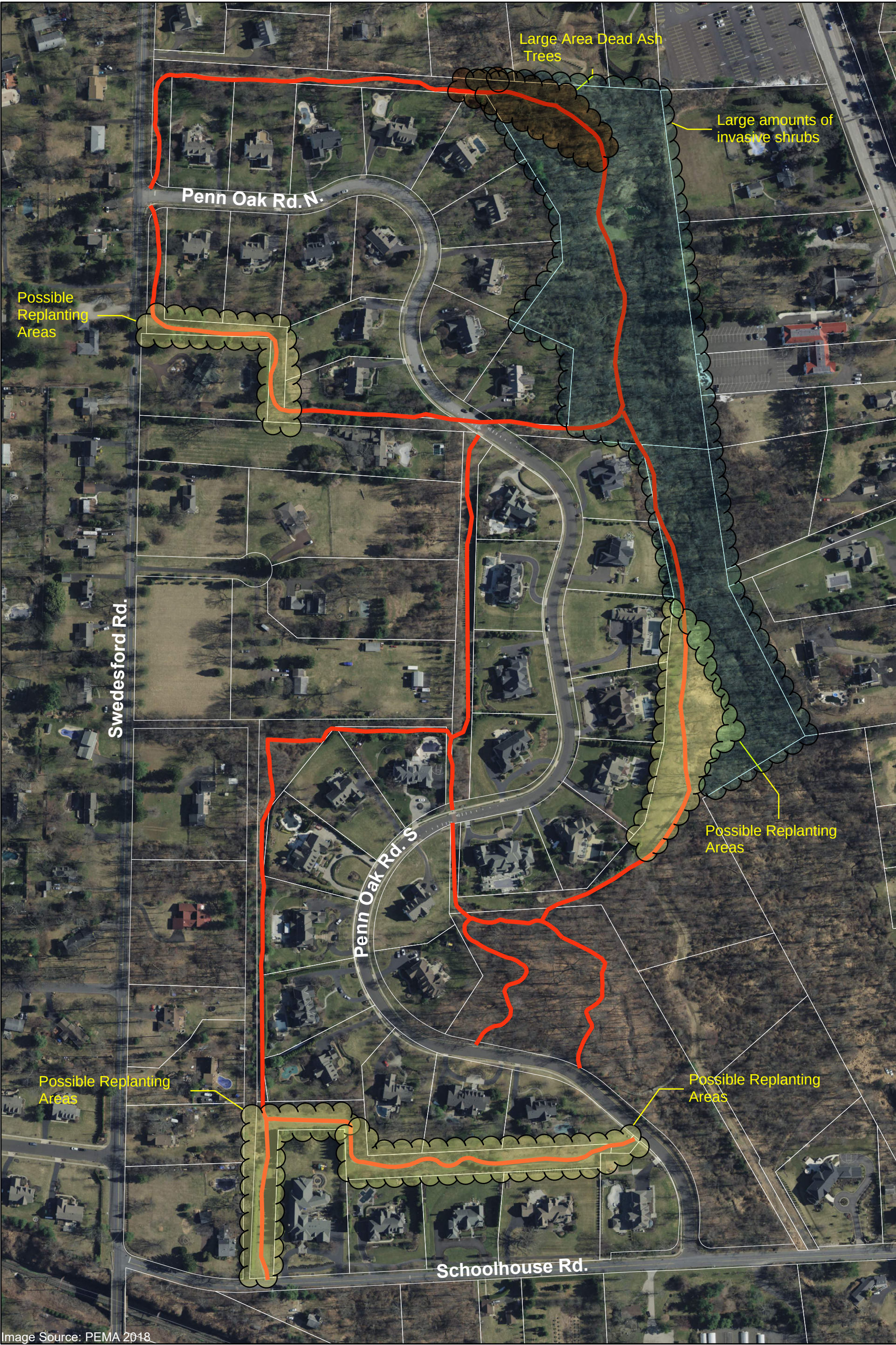
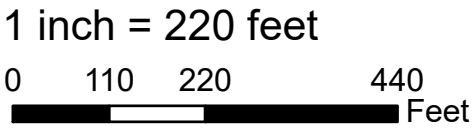


Image Source: PEMA 2018



Penn Oak Trail

June 3, 2025





Image Source: PEMA 2018

1 inch = 250 feet

0 125 250 500 Feet

Trewellyn Trail
Estates and Reserve

June 3, 2025





Image Source: PEMA 2018

1 inch = 120 feet



Meadowcreek/Foxfield
Equestrian Trail

June 3, 2025





Image Source: PEMA 2018

1 inch = 130 feet
0 65 130 260 Feet

Centennial Trail Estates and Reserve

June 3, 2025





Image Source: PEMA 2018



June 3, 2025

Pen Ambler Park

1 inch = 50 feet

