

Township of Berkeley Heights
Fourth Five-Year
Community Forestry Management Plan
2018-2023

Prepared by
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In Cooperation with the
Berkeley Heights Environmental Commission

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Municipal/County Information Form

Municipality Berkeley Heights
County Union
Address 29 Park Avenue, Berkeley Heights, NJ 07922
Contact Name and Title Thomas Bocko, Tree Inspector/Zoning Official
Phone # 908-464-2700, Ext. 2115
Fax # 908-464-8150
E-mail tbocko@bhtwp.com
Organization Name Township of Berkeley Heights
Mayor/County Freeholder's
Signature _____
Date of Management Plan
Submission _____
Time Period Covered in
Management Plan 2018-2023

- Community Stewardship CSIP #1 Training
Incentive Program (CSIP) CSIP #2 Community Forestry Ordinance Establishment
Practices Identified in CSIP #3 Public Education and Awareness
Management Plan CSIP #4 Arbor Day
 CSIP #5 Tree Inventory
 CSIP #6 Hazard Tree Assessment
 CSIP #7 Storm Damage Assessment
 CSIP #8 Tree Maintenance and Removals
 CSIP #9 Insect and Disease Management
 CSIP #10 Wildfire Protection
 CSIP #11 Tree Planting
 CSIP #12 Tree Recycling
 CSIP #13 Sidewalk Maintenance Program
 CSIP #14 Storm Water Management
 CSIP #15 Other

Official Use Only Certification

The above named municipality/county has made formal application to the New Jersey Forestry Service. I am pleased to advise you that after our review, the NJ Forestry Service has concluded that this plan meets the standards set forth by the State and the NJ Community Forestry Council and is approved for the period covered.

Signed _____
State Forester Approved date _____

II. Introduction

A. Scope

This plan has been designed to demonstrate the continued manner in which the Township of Berkeley Heights, Union County, currently manages the community tree resources under its jurisdiction to include trees within road rights-of-way and on other township holdings, such as municipal parks, the municipal complex and vacant township land. This plan will also outline how Berkeley Heights intends to further improve this system over the next five years, and explore expanding community forestry programs to additional lands – such as County roads and New Jersey Transit railroad lands – to benefit the entire community.

B. Mission Statement

Berkeley Heights desires to maintain and promote a healthy, safe and sustainable tree resource that will physically and aesthetically benefit the community and its residents in the most cost-effective manner possible.

C. Goals and Objectives

The following is a list of goals of the fourth five-year Berkeley Heights Community Forestry Management Plan. Achievement of these goals will depend on the availability of funding from the township or grants.

1. Continue to introduce a diversity of trees and shrubbery that will provide for the long-term coverage of public lands, parks and recreation areas.
 - a.) Expand a yearly planting program along local streets (municipal), on recreation lands and other Township holdings, following the guidelines of an established list of trees developed with consideration of the size of the plant at maturity, the local climate and environment (clay soil, rocky or wetland conditions).
 - b.) Continue to participate in a cooperative planting program with Union County in conjunction with the municipal efforts. Explore expanding planting efforts to include other ‘public’ lands NOT belonging to the Township. Example would be the right-of-way and green areas along the New Jersey Transit railroad corridor.
 - c.) Selectively prune all newly installed trees for the first two years after installation to develop a healthy architectural growth habit.
2. Continue to follow an established ongoing maintenance program for the trees under township jurisdiction and coordinate with county, state and utility company maintenance divisions to ensure that their procedures are compatible with ours.
 - a.) Explore ‘shared services’ types of programs to maximize work within budgetary constraints
 - b.) Develop and publicly bid annual tree removal and large tree pruning contracts, with emergency response clauses, to reduce in-house costs and manpower.
 - c.) Continue treatment of ash trees for emerald ash borer.
3. Review Inventory of tree resources on all local, lands and parks.
 - a.) Identify maintenance deficiencies and propose corrective action.
 - b.) Establish a priority list for the implementation of corrective action.
4. Review and revise tree ordinances as necessary to define responsibility for maintenance, removal, replacement and to enhance tree resources.
 - a.) Develop policies for the ongoing maintenance of community tree resources. Establish where the greatest liabilities lie and address these areas.
 - b.) Propose policies based on the need to promote the safety and welfare of the community.
 - c.) Review and revise as necessary the current approved tree list used for planting new trees.

5. Educate the public about trees and their importance to the entire community.
 - a.) Continue to update a list of community tree resources and locate important points of interest, i.e. significant trees by virtue of size, history or beauty.
 - b.) Establish an educational document updated yearly that reinforces the goals and objectives of the Environmental Commission's tree resource efforts in the community and encourage public participation in all events.
 - c.) Continue to develop educational programming to be used in the Berkeley Heights school system.

6. Develop Berkeley Heights tree resource and take a more proactive role in establishing the aforementioned goals.

7. Continue to identify hazardous trees, and develop and implement a plan to remediate hazardous tree conditions.
 - a.) Retain a professional tree contractor on an annual basis for large tree removal and pruning
 - b.) Retain a New Jersey Licensed Tree Expert on an 'as need' basis for routine inspections and post-storm evaluations.
 - c.) Monitor and record calls from property owners; inspect, evaluate and develop list of municipal trees in need of removal.

8. Ensure that the goals of the Community Forestry Management Plan are compatible with the Master Plan and Open Space and Recreation Plan. Provide input into future revisions of the Master Plan.
 - a.) Review and update annually compliance with these documents

9. Expand the educational opportunities and training available for Environmental Commission members and Public Works employees.
 - a.) Send 1 or 2 members for CORE training annually.
 - b.) Hold in-house training for proper pruning, pesticide application, tree identification and hazard tree identification, invasive and exotic species training, etc.

10. Enhance trees and other plantings along the Passaic River Pathway in cooperation with Union County.

D. Liability Statement

Berkeley Heights recognizes the benefits provided to the community by its tree resource. As trees are living entities, it is inevitable that as they mature they eventually require care, maintenance, removal and replacement. Berkeley Heights must, however, work within a reasonable budget and may not be able to meet every demand. Therefore it is the intent of this plan to focus available resources to reduce tree hazards.

Since it is impossible to predict or prevent all hazardous conditions that may arise, Berkeley Heights is developing this plan to become more proactive in its tree maintenance. Proactive tree management should reduce the occurrence of unexpected events.

Following this plan will demonstrate Berkeley Heights' commitment to proper tree management within the Township's rights-of-way and public holdings.

III. Community Overview

Five Years of Progress

Achievements during the previous Five-Year Plan

Objective 1. Introduce a diversity of trees and shrubbery that will provide for long term coverage of public lands, parks and recreation areas.

- a) Continued a yearly planting program along local streets (municipal) and on local recreation lands following the guidelines of an established list of trees developed with consideration of the size of the plant at maturity, the local climate and environment (clay soil, rocky or wetland conditions).
- b) Continued a cooperative planting program along Union County and State rights-of-way in conjunction with municipal efforts.

Street tree planting programs were run each year assisted by grant funding from Union County, partially under the 'Greening Union County' program. Approximately 125 trees were planted in the 5 year period mainly on streets but a few trees were planted on municipal properties. Species were diversified compared to the existing street tree populace, which is mostly maples, and new introductions included cherries, oaks, dogwoods, maples, maackias, and lindens. Planting was done by DPW employees and outside contractors. Flyers were distributed to home owners advising on proper care for the newly planted trees.

Each year about 200 seedlings of native trees - pin oak, silky dogwood, white pines, and white spruce - were distributed to fourth grade students and other interested students for planting. Students in the Environmental Club at Governor Livingston High School participated in planting trees on the high school campus. A list of recommended trees for planting under overhead utilities was provided to the Planning Board for review.

Objective 2. Establish an ongoing maintenance program for the trees along township rights-of-way and coordinate with county, state and utility company maintenance divisions to ensure that their procedures are compatible with ours.

The Tree Inspector responds to residents' concerns about possible hazard trees. If a hazard is confirmed, the inspector places it on an abatement list. For hazardous trees on public property, the list is prioritized and vendors are contracted to remove the trees.

The Township received a CSIP grant for removing hazard trees in 2013. The work was completed in 2016. JCP&L and/or its contractor meet with the Tree Inspector before beginning routine pruning cycles.

Objective 3. Inventory tree resources on all local, county, and state roads, and in public lands and parks. Trained volunteers completed an inventory of trees along Township road right of ways and entered the data gathered into the i-tree program. This inventory included trees of any size identified as hazardous or dying and in need of removal. This inventory was the basis for applying for grants to remove hazard trees and treat ash trees for emerald ash borer.

Objective 4. Revise tree ordinances as necessary to define responsibility for maintenance, removal, replacement and to enhance tree resources.

The Tree Officer, town engineer, and Environmental Commission representatives visit development sites before construction starts and discuss tree removal plans. Certain aspects of the current tree ordinances appear to be problematic, so a revision is being developed for review within the next two years.

Objective 5. Educate the public about trees and their importance to the entire community. Berkeley Heights qualified as a "Tree City USA" at the beginning of the 5 year period and has maintained that qualification. Tree City signage has been placed at the entrances to town. Several articles on trees or tree related subjects have been published each year in the township newsletter, the local newspaper (Independent Press), and now the

online newspaper TAPintoBerkeleyHeights.com as well as the Berkeley Heights Community Facebook site. These are on subjects like the benefits of trees, the effect of deer on trees, the role of trees in the water cycle, and local tree-planting activities. The Township also announced the program to treat ash trees on local public media.

The Mayor continues to proclaim Arbor Day each year, and Arbor Day programs are held at the schools. Tree seedlings were distributed to all fourth graders in town each year, along with planting instructions. Seedlings were also distributed at the town library to interested youth. Also, in connection with Arbor Day, assemblies were held in local schools and trees were planted on all six schools. Tree trails were established behind two of the local schools and students were led on tree walks each year.

An initial list of specimen trees in town has been established and is part of the 2005 update of the "Natural Resources Inventory".

The deer exclosure fence, erected in the Passaic River Park as an educational tool to show the harmful effect of deer on the forest under story, continues to be maintained by volunteers.

Objective 6. Develop Berkeley Heights' tree resource and take a more proactive role in establishing the aforementioned goals.

In addition to the achievements listed above, the town has established a new 17-acre park area, with the cooperation of Union County on Snyder Avenue, close to the downtown.

The Berkeley Heights Natural Resources Inventory includes sections on the tree resource, forested areas, water recharge areas, etc. It also includes a table of "Terrific trees" in town.

Objective 7. Identify hazardous trees, develop and implement a plan to remediate hazardous tree conditions. The Environmental Commission supported the inclusion of funds for hazardous tree removal and stream de-snagging in the Township's annual budget.

The Township applied for and received a CSIP Grant to remove hazardous trees.

Objective 8. Ensure that the goals of the Community Forestry Management Plan are compatible with the Master Plan and Open Space and Recreation Plan. Provide input into future revisions of the master plan. The Natural Resources Inventory discussed above has been incorporated into the master plan. The Environmental Commission uses it for advice on the suitability of Development Projects in town. A new Master Plan will be issued in 2018.

Recommendations from the Environmental Commission will include:

- a) Recommendation to discourage "flag lots" which are often highly wooded areas.
- b) Recommendation to preserve and secure greenbelt land along the entire Passaic River corridor.
- c) Recommendation to "Protect and preserve environmentally sensitive areas, including flood plains, recharge areas, wetlands, steep slopes, rock outcrops, and concentrations of hardwood forested areas."
- d) Recommendation to "Locate, plant and maintain more street trees at consistent intervals, where feasible, along all roadways in the Downtown Business Districts".
- e) Recommendation to include storm water management for the construction or installation of an impervious surface of 250 square feet or more .

Some of these recommendations were included in the previous Master Plan. The Environmental Commission should review these recommendations prior to the commencement of the next revision of these plans.

Objective 9. Expand the educational opportunities and training for Environmental Commission members and Public Works employees.

The Environmental Commission authorized funding for this training from both its own budget and the Tree Fund for training related to tree maintenance. Members of the Environmental Commission and DPW participated in training each year. CEU's are obtained by both volunteers and DPW employees. Currently seven (7) individuals are CORE trained.

Objective 10. Enhance trees and other plantings along the Passaic River Pathway in cooperation with Union County.

The Environmental Commission consults with the Union County Environmental Specialist to plant native trees and shrubs in the Passaic River Park.

Volunteers from L'Oreal Corporation, along with Environmental Commission members and County personnel continue to remove invasive exotics from Passaic River Park...an ongoing challenge,

11. Build awareness of options and increase measures for Storm Water Management

(a) The Environmental Commission worked with Rutgers Water Resources on green infrastructure projects for the Township. Two rain gardens were built, one at the high school and one at the middle school. These projects were published in local news media.

(b) The Commission also supported green infrastructure in the Township's redevelopment plans for the municipal complex.

Problems Encountered During Third Five-year Plan

The biggest challenge facing Berkeley Heights in fulfilling the Goals of its third five-year plan has been budget constraints. The need control Township budget has been a hurdle preventing the purchase of equipment to maintain trees. Similarly, a systematic pruning program was not started due to lack of funds.

The long-range effect of the deer population on the wooded understory continues to be a concern. The Environmental Commission reviewed possible deer control methods and discussed them with the Township Committee liaison. However, no program has been started.

More funding was needed to provide not only additional CORE trained individuals, but also provide professional training to DPW personnel. Most CEU's are obtained by volunteers.

New housing development has resulted in pressure to remove mature trees on lots.

Benefits to the Community of the CFMP

During the past five years the school age population has continued to acquire an appreciation of the importance of trees. Adults too have learned more about trees and storm water management primarily through a program to install rain gardens, through the annual local street fair and through articles written by Environmental Commission (EC) members in the news media.

Tree removal requests – primarily based on fear and expectations of future storms – continue to be a concern. The Environmental Commission continues to try to educate the public to abate these fears. The EC meetings are open to the public. Citizens who have attended have come to voice concerns about trees, wetlands and stream de-snagging to avoid flooding. The EC has reported these concerns to Township officials.

The Town Council and Planning Board have supported increased tree planting on the main downtown street, Springfield Avenue, which is a county road. There have been several recent large new developments along Springfield Avenue, and the community understands the need to 'soften' these by new tree planting. With an updated CFMP there is the desire to expand cooperation with Union County to address these concerns.

A description of the municipal tree resource now and how it has changed over the last 5 years

As discussed above, the biggest changes have been loss of trees due to severe storms, tree removal for development and tree removal out of fear. Tree loss, either entirely or as a result of damage necessitating removal, has far exceeded new tree replacement. Limited funding prevents a one to one, or 'no net loss, replacement program. One Goal of the next five-year CFMP is to increase new tree plantings.

Discussion of the link between CFMP and Master Plan

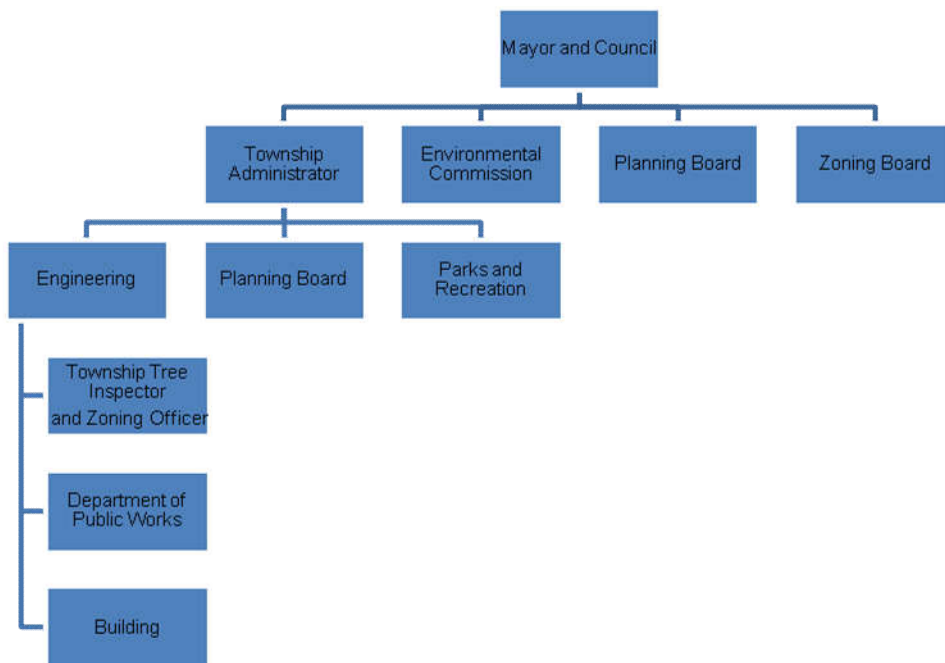
The new Master Plan incorporated several tree related elements. It recommends tree planting downtown, discourages development of flag lots (which usually involve wooded areas behind houses), supports maintaining the Passaic River frontage as a passive park, and incorporates a Natural Resources Inventory (NRI)

which identifies the wooded assets and recharge areas (generally wooded). There is not a lot of undeveloped land in town but the NRI needs to be used more as a tool in evaluating future developments many of which involve acquiring older homes on large plots of land, then subdividing the lots.

In light of its role, the Environmental Commission has been assured an opportunity to review now the next ten-year Master Plan and propose recommendations to expand new tree planting, and possibly require developers to provide funding for existing tree maintenance. This may be novel but it is an option to simply planting new trees. The EC will also advocate strongly for green infrastructure.

IV. Community Forestry Program Administration

The Berkeley Heights Environmental Commission advises the Mayor and Council, Planning Board, and Zoning Board on tree concerns on public property, conservation easements and along public right-of-ways. The following chart depicts the relationship of those involved in the tree management process. There has been no change in this administration since the previous plan.



A. The Mayor and Council

- 1) The Mayor is responsible for appointing the members of the Berkeley Heights Environmental Commission.
- 2) The Mayor and Council review the policies and plans of the Berkeley Heights Environmental Commission.
- 3) The Mayor and Council approve annual budgets for the Berkeley Heights Environmental Commission and the Department of Public Works.

B. Township Administrator

- 1) Reviews plans and policies submitted by the Berkeley Heights Environmental Commission and makes recommendations to the Mayor and Council
- 2) Recommends the annual budget of the Environmental Commission to the Mayor and Council.

C. Berkeley Heights Environmental Commission

The Berkeley Heights Environmental Commission is a seven-member volunteer board appointed by the Mayor and Council. It is the advisory agency for all community trees on municipal streets, right-of-ways, parks, or other properties. Its duties may include:

- 1) Provide advice regarding the planting, removal and general maintenance of Township trees.
- 2) Develop and recommend the policies and goals that will preserve and develop Berkeley Heights' tree resource.
- 3) Perform public outreach to foster better understanding and care for Berkeley Heights' trees on both public and private properties.
- 4) Propose tree related items for inclusion in the annual township budget.
- 5) Review site development plans and provide advice to the Planning Board and Board of Adjustment regarding trees, and other environmental issues.

D. Department of Public Works and Township Tree Inspector

- 1) Reviews requests for tree planting, removal or maintenance and makes the necessary inspections in conjunction with the Environmental Commission.
- 2) Inspects work performed by private contractors for the township.
- 3) Develops annual plans and budget requests for tree maintenance.
- 4) Maintains through public employees and private contractors all trees on public property concerning tree hazards and other problems.
- 5) Is responsible for tree removal, pruning and brush clean-up along municipal roadways and on township properties.
- 6) Grants permits for tree removal.
- 7) Reports to Engineering Department.

E. Township Engineer

- 1) Oversees the Environmental Commission budget, which is a line item account placed through the Engineering Department.
- 2) Inspects all the work performed by utility contractors on Berkeley Heights properties.
- 3) Oversees the Department of Public Works and the Township Tree Inspector.

F. Planning Board

- 1) Makes, adopts and from time to time amends a Master *Plan* for the physical development of the Township
- 2) Reviews and grants or denies applications for major and minor subdivisions.
- 3) Reviews landscaping and tree planting plans for applications before the Planning Board.
- 4) A member of the Planning Board serves on the Environmental Commission by ordinance.

G. Department of Public Works

- 1) Is responsible for upkeep of newly planted and young trees in Township Parks, i.e. mulching, watering, fertilizing, trimming.
- 2) Is responsible for the cleanup of fallen trees in the right of way.

H. Private Tree Contractors

Generally, most tree care and maintenance activities are done by outside vendors except emergency situations as they arise, which may be handled by the Department of Public Works, Union County or utility tree crews.

Private contractors are responsible for the following:

1. Provide proof of appropriate insurance, certifications and licenses as necessary to the appropriate department heads.
2. Report prior to and following all work performed to the appropriate department supervisor.
3. Complete all work in a safe and timely manner according to all applicable safety standards set by OSHA or ANSI, as they pertain to tree care operations.
4. Follow all current arboricultural practices and recommendations
5. Report all hazards or problems directly to appropriate department head immediately.

I. Utility Contractors

1. Must notify the Berkeley Heights Director of Public Works prior to the start of any non-emergency work in the township.
2. Must follow all current arboricultural practices and recommendations.
3. May assist Public Works Department Tree Crews in clearing trees to a safe distance from their facilities when necessary.

J. General Public

1. Continue to report all requests for planting, removal or maintenance to the Department of Public Works, the Berkeley Heights Environmental Commission or the Engineering Department.
2. Assist in follow-up care to the newly planted trees on adjacent properties or in County or Township rights-of-way.

K. Union County Tree Crews

At the request of the Berkeley Heights Environmental Commission, the Department of Public Works or the Township Tree Inspector will maintain or remove trees on county rights of way.

L. NJ DOT Tree Crews are responsible for maintaining trees on state roadways.

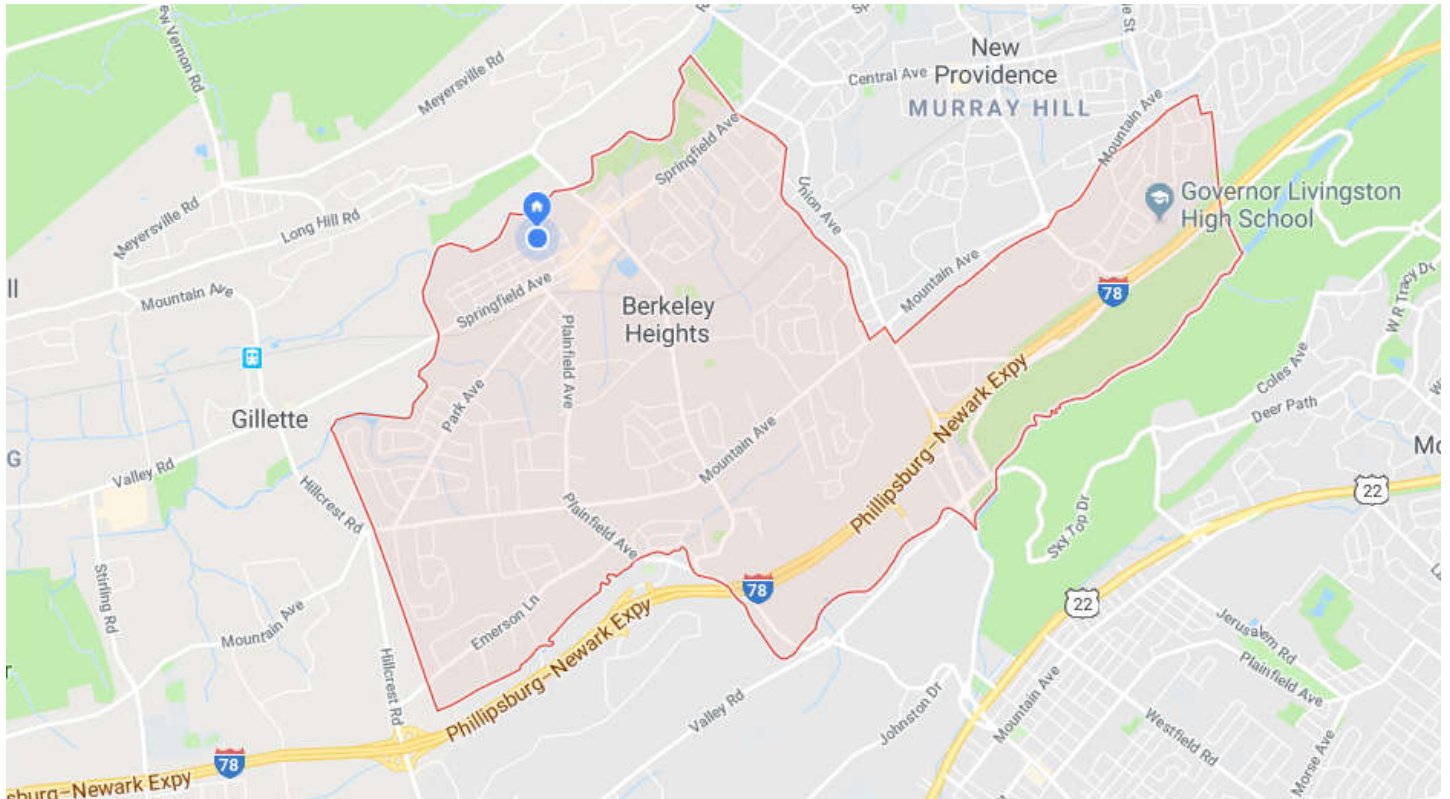
Tree Service Request Process

Planting, removal, or pruning requests for trees on municipal property can be made by any department or individual residing in Berkeley Heights so long as the property in question is one owned and maintained by Berkeley Heights. All requests must follow this procedure.

- A. All requests must be mailed or called in to the Berkeley Heights Engineering Department, Township Clerk's Office or the Department of Public Works
- B. All information pertinent to the request should be sent to the Department of Public Works or Township Tree Inspector prior to action, except in the case of emergencies - which will be handled in an expeditious manner by the appropriate agency or private contractor depending on the severity and complexity of the situation.
- C. All non-emergency work will be inspected by the Township Tree Inspector prioritized and referred to the appropriate department, Union County, State D.O.T., or private contractors.
- D. Work requests will be completed in the order in which they are received (excluding emergency or priority work) and will be completed in a reasonable time period.
- E. Those making the request will be notified of any action to be taken, even if no action is deemed necessary at that time.

MAP

There has been no change to the Township of Berkeley Heights since the previous CFMP. Attached is a current copy.



Source: Google Maps

VI. Training Plan

Since arboriculture is constantly changing with fast-paced technological and scientific innovations, Berkeley Heights recognizes the need for a broad-based and ongoing training program for individuals at all levels of the Community Forestry Management Program. From Public Works employees to Commission members and administrators, all need continued technical and managerial information to benefit Berkeley Height's tree resource.

A. Current Training

1. The Berkeley Heights Environmental Commission uses a portion of its budget for ongoing training of its members.
2. The Berkeley Heights Environmental Commission encourages and provides for its members to participate in continuing education classes and CORE training as included in the New Jersey Shade Tree & Community Forestry Assistance Act. At the time of this writing, three township employees and four volunteers are CORE trained.
3. Two members of the Department of Public Works have attended and received training at the annual Shade Tree Federation meeting over the last 3 years.
4. Members of the Environmental Commission and Department of Public Works employees continue to attend short courses relating to Arboriculture at Rutgers University or at other approved venues..
5. In-house training dealing with chainsaw safety, chipper safety, tree pruning and electrical hazard awareness has been provided to the Public Works tree crews.
6. Environmental Commission members attended courses and webinars on invasive species identification and site plan reviews.
7. The above mentioned courses and others are available to all individuals involved in managing tree resources.

B. Goals and Objectives

- 1) To have all individuals involved in the management of tree resources CORE trained. To accomplish this, one or two Environmental Commission members and/or one township employee will be sent each year to be CORE trained.
- 2) To increase the quality of care given to Berkeley Height's trees by providing tree maintenance crews and Environmental Commission members with the most current technical arboricultural information.
- 3) To ensure the safety of tree maintenance crews and residents by providing current and advanced training in hazard tree identification, equipment safety, and electrical hazard awareness.
- 4) To ensure the safety of the tree maintenance crews and provide better care for our tree resource by providing aerial lift training through the Committee for the Advancement of Arboriculture (CAA) or similar trainers.

Additional funds and/or grants should be sought out for annual attendance by employees and volunteers at the New Jersey Shade Tree Federation Annual Conference and other professional meetings. In addition, it is recommended that at least one DPW employee involved in tree care work attend one or more of the Rutgers OCPE tree care courses. All of these will advance the program and provide obtainment of professional CEU's.

VII. Public Education, Awareness and Outreach

Since its beginnings on July 6, 1970, the Berkeley Heights Environmental Commission has supported public education with regard to tree care. While this provides a valuable service to the community at large, it also encourages public support for the Environmental Commission. Upon acceptance of this management plan, the Berkeley Heights Environmental Commission hopes to pursue an aggressive outreach program. In the past, the Commission has provided community forestry education through some of the following public outreach methods and hopes to expand this program to include each of these objectives.

During the time frame of the third five-year CFMP, the Berkeley Heights Environmental Commission has:

1. Provided tree advice to residents at no charge.
2. Provided trees and seedlings to schools for Arbor Day plantings.
3. Notified local newspapers of tree-related events when appropriate.
4. Published Environmental Commission meeting dates in compliance with the "Sunshine Law."
Inviting Scouts and other youth groups to Arbor Day activities and getting schools more involved with the Tree Program.
5. Assisted youth groups, such as the Scouts in tree related projects.
6. Worked with Garden Clubs to help maintain and beautify public spaces and parks.
7. Advised the Planning and Zoning Boards regarding tree removal and tree planting in development applications.
8. Installed an approved Community Forestry Management Plan on the township website and placing a copy in the library. Published tree related and rain garden articles in the local paper.
Achieved and maintained annually Tree City USA status.
Involved community volunteers in planting trees and shrubbery along the Passaic River Pathway.
9. Used community bulletin boards – including Facebook - to post tree, disease insect information.
10. Given interviews on tree care on the local cable channel.
11. Expanded the list of Historic and significant trees and publicized it to the general public.
12. Trained volunteers in the identification of hazard trees and tree identification.

Going forward, these programs shall be continued. Some ideas include holding public 'tree walks' in parks hosted by a professional arborist, providing a Tree Resources link on the website, developing the high school campus as an arboretum, and developing a 'Pests and Diseases to Watch For' brochure, especially in light of the arrival of Emerald Ash Borer and spread of Bacterial Leaf Scorch in this area.

VIII. Statement of Tree Budget

VIII. Statement of Tree Budget (CFMP 2018 – 2022) Proposed annual budgets for next five (5) year period;

	<u>Year</u>	<u>Proposed</u>	<u>Actual</u>
Tree Planting & Initial Care -	2018	\$ 5,000	
Includes cost of tree purchases, labor & equipment to install, debris disposal, planting material (stakes, wrapping, watering, mulching, select pruning, etc.).	2019	\$ 6,000	
	2020	\$ 7,000	
	2021	\$ 8,000	
	2022	\$ 9,000	
Tree Removals -	2018	\$ 25,000	
Includes cost of equipment, labor & disposal. Increases represent a 10% bump.	2019	\$ 25,000	
	2020	\$ 27,500	
	2021	\$ 27,500	
	2022	\$ 30,250	
Tree Maintenance -	2018	\$ 15,000	
Includes cost of pruning, insect & disease management, fertilization, mulching, watering etc., emergency clean-up; in-kind labor and/or contract vendor.	2019	\$ 15,000	
	2020	\$ 15,000	
	2021	\$ 15,000	
	2022	\$ 15,000	
Leaf/Brush Collection -	2018	\$ 100,000	
Includes cost associated with in-kind labor & equipment needed to twice annually residential leaf & brush collection and disposal. Increases represent a 2% annual increase, mainly for in-kind labor costs.	2019	\$ 102,000	
	2020	\$ 104,040	
	2021	\$ 106,120	
	2022	\$ 108,240	
Management -	2018	\$ 12,000	
Includes cost of administration of tree ordinance,, supervision, tree complaints & responses, reports, record keeping.	2019	\$ 12,500	
	2020	\$ 13,000	
	2021	\$ 13,500	
	2022	\$ 14,000	
Grants -	2018	\$ 12,500	
Includes any cost associated with a grant; grant award, application, management, bid specs., reports, record keeping, consultants, correspondence etc.	2019	\$ 5,000	
	2020	\$ 15,000	
	2021	\$ 5,000	
	2022	\$ 18,000	
	<u>Year</u>	<u>Proposed</u>	<u>Actual</u>
Utility Assist -	2018	\$ 7,000	
Includes in-kind cost associated with debris chipping, removal & disposal, site inspections, coordination and private vendor costs assisting utility line maintenance.	2019	\$ 7,000	
	2020	\$ 7,000	
	2021	\$ 7,000	
	2022	\$ 7,000	

Equipment -	2018	\$ 0
Includes cost of initial equipment purchase; chain saws, hand tools, chippers, lifts, trucks etc. and rental equipments. Year 2019 – boom truck purchase.	2019	\$125,000
	2020	\$ 1,500
	2021	\$ 1,500
	2022	\$ 1,500

Forest Management -	2018	\$ 2,000
Includes cost of training (CEU's), public education, membership dues and similar expenses.	2019	\$ 2,000
	2020	\$ 2,000
	2021	\$ 2,000
	2022	\$ 2,000

Volunteer Time -	2018	\$ 3,000
Includes value of volunteer labor and other contributions; based on number of hours multiplied by State designated hourly rate.	2019	\$ 3,000
	2020	\$ 3,000
	2021	\$ 3,000
	2022	\$ 3,000

Total.....		2018	\$ 181,500
	2019	\$ 302,500	
	2020	\$ 195,040	
	2021	\$ 188,620	
	2022	\$ 207,990	

Each year shows an anticipated budget cost for items most likely to incur an annual expense. Each year is identified with a proposed cost and no actual cost. The required Annual Accomplishment Report will include an “Actual” cost report. Comparison of proposed and actual dollars will indicate where monies are being spent therefore allowing the township to adjust costs accordingly.

IX. Shade Tree Management Plan Implementation

A. Tree Assessment and Inventory

The Township of Berkeley Heights has a large and diverse tree resource, which has been confirmed in the completed tree inventory of Township streets. A Hazard tree inventory was performed with volunteers in 2011 and 2012, but this needs to be updated. Potential plans for GIS mapping in Berkeley Heights may lead to the eventual inventory of traditional street trees to be included in those maps. It is unclear at this time if GIS mapping will become a reality in the near future or if woodland and native vegetation areas will be included in those plans at such time.

1. Goals

The current goals of the tree inventory are to:

- a) Determine the overall health of Berkeley Heights’ tree resource.
- b) Catalogue all planted trees along roadways in the township.
- c) Catalogue all trees in township parks and on township owned properties.
- d) Identify open planting spaces in the community.
- e) Identify possible tree or sidewalk conflicts.
- f) Develop maintenance cycles for systematic rotation pruning.
- g) Include inventory on new GIS map when this becomes available.

1. Seek volunteers to continue tree inventory of all public trees along Township rights-of-way.
2. Perform annual survey by section to assess tree health and future needs.
3. Enter information gathered into dedicated computer database. Develop GIS map.
4. As a result of the information gathered in the inventory, set up systematic pruning cycles for newly planted and established trees.
5. Create and prioritize a tree vacancy planting plan for both spring and fall. Include special list for under overhead utilities.
6. Treat ash species for Emerald ash borer
7. Implement action plan to prevent and remediate tree / sidewalk conflicts.

B. Tree Hazard Identification and Management

Berkeley Heights is dedicated to providing a healthy and productive tree resource for its residents in the safest and most cost effective manner possible. Public safety is of the highest concern throughout every aspect of the tree management program from planting to removal. During the undertaking of this Community Forestry Plan, a hazard tree inventory was completed by volunteers, and confirmed in the field by a consulting CTE. Information gathered in that survey has been forwarded to the appropriate departments for hazard abatement work. Going forward, the plan is to survey each section of the Township for hazardous trees. Since the Township is divided into five sections, the survey will be completed every five years.

1. Goals

- a) To ensure public safety in relation to trees on all Berkeley Heights properties and thoroughfares.
- b) To establish an ongoing comprehensive plan for Hazard Tree Assessment on all Township properties and thoroughfares.

2018-2023 Objectives

- 1) Continue hazard tree evaluation training for Environmental Commission members, volunteers, and Public Works employees.
- 2) Establish a Hazard Tree Assessment by windshield study, conducted in spring and fall and following severe storms.
- 3) Require all members involved in the Tree Management Program to report all potential tree hazards to appropriate department heads.
- 4) Have all recognized tree hazards discovered in the assessment remediated by pruning, removal or appropriate arboricultural actions.

C. Tree Planting

The tree planting program as it exists now is designed to replace dead trees, fill open spaces located by the Environmental Commission, meet the requests of residents, and add species diversity to Township parks, streets and other facilities. Builders are also responsible to plant 2 ½ - 3 inch caliper trees on 30 foot centers for all new developments. Arbor Day and memorial plantings have also been an integral part of Berkeley Heights' tree planting program. Berkeley Heights recognizes the need for diversity and stability in its aging tree population and intends to develop a formal plan to integrate young trees into areas with aging and declining tree populations. Implementation of this program will not only beautify the town, but also by diversifying the species and age of the trees in Berkeley Heights, it will benefit the community.

Goals

- 1) Improve species diversity throughout the township.
- 2) Create a suitable and non-suitable species list for site-specific street and park plantings
- 3) Increase the number of large shade tree species to reduce energy consumption.
- 4) Increase the number of smaller ornamental tree species in close proximity to overhead utilities, reducing future tree and utility conflicts.
- 5) Develop plans for renovation and beautification of township parks.
- 6) Seek better ways to maintain and help establish newly planted materials i.e., water, mulch.

- 7) Develop signs and plantings for entrances welcoming residents and visitors into town.

2018-2023 Objectives

1. With the cooperation of Union County tree crews and utility companies, remove declining and poorly or over-pruned trees and replace them with smaller species around overhead utilities.
2. Where planting areas along right of ways are narrow, plant smaller species.
3. Find suitable tree species not currently existing on township properties, and incorporate them into new plantings.
4. Seek grants or donations to fund new plantings and beautification of township parks, including Adopt-a-Tree and memorial garden programs.
5. Develop and adopt policy to plant behind sidewalks where appropriate, and encourage residents' acceptance
6. Seek to make at least half of the plantings native species.
7. Solicit help of the Public Works Department and the public in the aftercare of new tree plantings.
8. Continue to apply for Tree City USA status and strive for growth awards.

D. Tree Maintenance and Care

Berkeley Heights recognizes that trees need general wellness care and not just emergency care. A proactive plan of routine scheduled maintenance will ensure a healthy, aesthetically pleasing and cost effective urban forest with a reduced hazard potential.

This management plan aims to provide a framework that will benefit and raise the level of care for all township owned trees and trees along township thoroughfares. Structural pruning schedules will be established to train young trees to reduce future potential liabilities and maintenance costs. Continued maintenance on established and mature trees should reduce the risk of hazardous situations and increase tree life spans, generating benefits to the community.

1. Goals:

- a.) To install healthy, viable trees into the existing landscape and help them to reestablish themselves as quickly as possible to insure their longevity.
- b.) Train and develop young trees with good structure.
- c.) Maintain the health and extend the useful life span of existing trees.
- d.) Promote public safety with regard to trees on township properties and right-of-ways.
- e.) Maintain the maximum benefit of trees in the most cost-effective manner.
- f.) Review and revise all tree related ordinances as necessary.
- g.) Educate the public with regards to trees and their benefits and care.

2018-2023 Objectives

1. Budget for and retain professional tree care companies for tree pruning and removal on an annual basis.
2. Create a high maintenance large tree pruning list and prune on a five-year cycle
3. Submit an annual accomplishment report to the NJ Forest Service.
4. Work with utility companies to develop a removal and replacement program to eliminate future hazards and tree line conflicts. Emphasize the need for sound pruning practices.
5. Develop a rigorous training program for structural pruning of 25% of young trees annually by dividing the Township into five zones and completing one zone annually until finished.
6. Develop a newsletter or newspaper column to inform the public of the Environmental Commission's progress and also provide general tree care tips.
7. Continue to seek help from Union County and utility tree crews annually and seek grant funding for additional work.
8. Establish an annual assembly seminar in the elementary school district.
9. Budget for and retain a NJ LTE for as-needed consultation and inspections.

Shade Tree Management Plan Implementation Timeline for the years 2018 - 2023

Year 1, 2018

- Divide the township into five management zones. Survey section one for hazard trees. The hazard assessment was last completed in 2013 by the Environmental Commission and trained volunteers. This should be completed again in 2018.
- Initiate hazard pruning and highest priority zone maintenance pruning.
- Send DPW employees for advanced pruning training.
- Expand already established tree planting projects. The Environmental Commission traditionally hired outside contractors to plant approximately 10 trees per year, plus incidental planting and special projects such as Arbor Day. Expand this to 30 trees. Planting is also done by bonded requirements from developments.
- Continue treatment of ash trees to prevent emerald ash borer infestation.
- Apply for CSIP grant for identified tree project, for example, seek funding to continue treatment of ash trees through 2030.
- Include newly planted trees in the comprehensive street tree inventory.
- Review and revise tree ordinance.
- Retain Tree City USA status.
- Continue to hold Township Arbor Day celebration
- Have at least 2 articles published on tree-related issues in the local news media.
- Write one article for the townships website and Facebook page.
- Continue to adhere to the sunshine law by publishing monthly meeting notices.
- Continue working with volunteers to clean up and beautify the Passaic River Pathway.
- Send 1 or 2 people from the Environmental Commission and/or Public Works representatives to the New Jersey Shade Tree Federation Meeting for CORE training and CEU's. Continue a program of in-house training for the Public Works Department with the use of outside consultants and safety trainers.
- Continue working with the local utility company to begin a proactive removal and replacement plan.
- Continue twice monthly meetings with site plan reviews.
- Submit an Annual Accomplishment Report to NJ Forest Service.
- Develop revised tree ordinance.

Year 2, 2019

- Continue the hazard tree assessment and survey of newly planted trees in section 2 of the Township Hire a contractor or have trained DPW employees prune or remove the hazardous trees in this section.
- Continue with regular tree planting. Consider applying for a CSIP tree planting grant or some tree planting money from additional sources. Expand number of trees planted in fall.
- Annual review of tree ordinance.
- Have DPW crews trained in aerial lift safety.
- Meet with the Planning Board and Mayor and Council to review relevant new tree ordinance for compliance with the Municipal Master Plan. Ordinance review should include an update of the Approved Species Planting List and a review of the existing permitting process and a fine structure for failure to comply with the ordinance.
- Continue treatment of selected ash trees to prevent expansion of emerald ash borer infestation.
- Continue working with local utilities to begin removal of hazardous or troublesome and high maintenance trees under overhead conductors.
- Continue yearly Public Relations activities, such as Tree City USA recertification, Arbor Day celebrations, newspaper articles, newsletter and Sunshine Law notifications.
- Continue attendance at the New Jersey Shade Tree Federation Meeting (Environmental Commission and Department of Public Works).
- Continue training of Public Works employees. The goal for this year is to hold tree identification and young tree formative pruning.
- Look into the feasibility of hiring or sharing with another community a part time forester or consultant.
- Continue working with the volunteers on Passaic River Pathway project.
- Submit Annual Accomplishment Report to the New Jersey Forestry Service.
- Continue twice monthly meetings with site plan reviews.

Year 3, 2020

- Continue the hazard tree assessment and inventory newly planted trees in section 3 of the Township
- Continue hazard tree removal
- Tree Planting goals remain the same as last year.
- Annual review of tree ordinance.
- Continue treatment of selected ash trees to prevent emerald ash borer infestation.
- Continue every year Public Relations activities: Tree City USA recertification, Arbor Day celebration, 2 articles in the local newspaper, continue participation in community service with volunteers at Passaic River Pathway, quarterly newsletter and Sunshine Law notifications
- Continue training program with attendance at the NJ Shade Tree Federation Meeting (keep up with CORE and CEU requirements).
- Continue training with public works, address any training needs that may present themselves as we work through the plan or as other things happen. Perhaps training on how to recognize and deal with Bacterial Leaf Scorch and Emerald Ash Borer will be necessary.
- Seek funding to assist residents in repairing sidewalks damaged by tree roots.
- Continue working with utility companies to remove hazardous or high maintenance trees under the overhead conductors and begin replacing them with smaller ornamental varieties.
- Apply for a grant to hire a part-time forester or consultant to help oversee the Community Forestry Management Plans goals and move the program forward. This is the CSIP goal for this year.
- Submit Annual Accomplishment Report to NJ Forest Service.
- Continue twice monthly Environmental Commission meetings with site plan reviews.

Year 4, 2021

- Continue the hazard tree assessment and inventory newly planted trees in section 4 of the Township
- Continue hazard tree removal
- Annual review of tree ordinance.
- Tree planting goals should remain the same as in previous years, with possible adjustments considering the number of removals necessary as part of the hazard removal program and availability of grant money.
- Maintain comprehensive street tree inventory. Evaluate its effectiveness in tree work planning.
- Continue Public Relations activities: Tree City USA recertification, Arbor Day celebrations, 2 articles in local newspaper, quarterly newsletter and Sunshine Law notifications.
- Provide a seminar for residents on pertinent tree issues.
- Continue working with volunteers along the Passaic River Pathway.
- Training program will continue as usual, with the addition of inviting members of the Planning Board to join us (Environmental Commission and Department of Public Works) at the Shade Tree Federation Meeting.
- Continue working with the utilities on the proactive removal and replacement project under the overhead utilities.
- Submit annual accomplishment report to New Jersey Forest Service.
- Continue working on gathering information for a significant tree list.
- Continue twice monthly Environmental Commission meetings with site plan reviews.

Year 5, 2022

- Continue the hazard tree assessment and inventory newly planted trees in section 5 of the Township.
- Tree planting goals should remain the same.
- The tree inventory (comprehensive street tree inventory) should complete and up-to-date. A consultant/LTE should review its accuracy.
- Meet with the Planning Board and Township officials to involve them in the formation of the next 5-year Community Forestry Management Plan. Representatives of other committees and boards in Berkeley Heights will be invited to this meeting as well.
- Public Relations activities will remain the same: Tree City USA recertification, Arbor Day celebration, quarterly newsletters and Sunshine Law notification and articles in local newspaper (one of these should be a review of accomplishments in following the Management Plan over the past 5 years).
- Training goals will also remain the same as last year, with a focus on any specific topics/problems that may have come up as a result of working through this management plan, or topics that may be seen as necessary to move forward through the next 5 year plan.
- Annual review of tree ordinance.
- Continue to work with local utilities in the removal and replacement project.
- Based on the outcome of previous years, look to expand the budget to include a part-time forester position.
- Continue working with volunteers along the Passaic River Pathway.
- Submit the Annual Accomplishment Report to the state.
- Apply for a Green Communities Grant to fund the next five-year CFMP.
- Create and submit the next 5-year Community Forestry Management Plan.

X. Community Stewardship Incentive Program (CSIP)

The fifteen items listed below as a part of the Community Stewardship Incentive Program (CSIP) have been identified throughout this plan with current procedures or a recommended course of action.

CSIP #1 Training

Currently three members of the Berkeley Heights Department of Public Works and two volunteers are CORE

trained. It is expected that one or two additional persons will be trained annually. Training in tree care practices for Public Works crews will also be expanded, especially with regard to hazard tree identification and young tree pruning.

CSIP #2 Ordinance Establishment

Currently Berkeley Heights has ordinances addressing public trees, and trees to be provided by developers as part of site plan approval. Some changes are to be sought in 2018 and hereafter they shall be reviewed annually

CSIP 3 Public Education and Awareness

The Berkeley Heights Environmental Commission would like to expand all current public outreach concerning trees and take a more proactive role in the community. The Commission recognizes that public education and support is vital to its success and intends to implement an outreach plan.

CSIP #4 Arbor Day Activities

Arbor Day has been celebrated by the local schools with the support of the Environmental Commission. Berkeley Heights attained Tree City USA status during the first 5-year plan and hopes to expand upon this success.

- 1) Continue to have the mayor proclaim the last Friday in April as Arbor Day annually.
- 2) Continue to sponsor tree planting programs in cooperation with the local schools.
- 3) Continue to seek the involvement of local civic and youth organizations to participate in Arbor Day programs.
- 4) Develop a school bumper sticker or poster contest to be recognized on Arbor Day.
- 5) Continue to achieve Tree City USA status over the next five years and beyond, striving for 'Growth Award' achievements.

CSIP #5 Inventory

The Township of Berkeley Heights would like to maintain its comprehensive street tree inventory as the benefits of the inventory have already been proven. The devices used to gather the data are now out of date and new devices need to be purchased. The Township will seek funding for this project.

CSIP #6 Tree Hazard Assessment

Tree hazard identification is a major area of concern for Berkeley Heights. It was done in connection with the tree inventory. But it is clear that trees go into decline and need to be removed when they become hazardous. This CSIP practice is of the highest priority to Berkeley Heights and will be the first section of the plan implemented in an effort to ensure public safety regarding Township owned or maintained trees. .

CSIP #7 Storm Damage Assessment

Storms have rendered significant tree damage in the past , but trees have not been adequately assessed. Funding to provide both pre and post-storm assessment to prevent excessive damage would be valuable.

CSIP #8 Tree Maintenance and Removal

Berkeley Heights is currently evaluating the Township's future needs for general tree care and future equipment purchases. Berkeley Heights would like to establish a cost-effective plan to care for its tree resource whether through conventional or innovative means to help newly planted materials as well as established and mature trees. Future plans to fund a part-time forester could become a reality within the next five years. Funding for an aerial lift bucket for tree pruning and large hazard tree removal is planned.

CSIP # 9 Insect and Disease Management

With the expansion of Bacterial Leaf Scorch and the arrival of Emerald Ash Borer, continued funding to address these potential threats would be of great value.

CSIP # 10 Wildfire Protection

Berkeley Heights has a number of wild lands within and adjacent to the community, and in times of drought these could present fire hazards. Upon receipt of a large active brush fire, the following resources would be dispatched: Berkeley Heights Fire, Warren Tankers, Warren Brush Fire Gator, Millington Brush Fire Gator, New Providence Engine, Watchung Engine, Union County Brush Fire Gator, Scotch Plains Engine and Stirling Engine. Berkeley Heights and New Providence Rescue Squads would respond for fire rehab and stand-by for injuries. Union County Mutual Aid and NJ State Forestry would also respond in the event they are needed.

CSIP 11 Tree Planting

Due to recent tree losses, Berkeley Heights desires to expand its tree planting program. Berkeley Heights has relied on its tree fund to purchase replacements. A CSIP grant for this program would be of great value, permitting the Township to use its tree fund for necessary maintenance of the Township trees.

CSIP #12 Tree Recycling

Berkeley Heights does not generate enough green waste to warrant its own recycling plant. The tree recycling program as it exists now consists of providing woodchips for residents throughout the year and chipping or hauling of brush five feet in length or less twice a year. During tree maintenance and removal operations, some firewood is left for residents and woodchips are used in parks. Other debris is hauled to a private facility. Outside contractors are responsible for disposal of all materials generated during tree pruning and removal operations the D.P.W. collects leaves in biodegradable bags and takes them to the Union County Leaf Recycling Center. Most Christmas trees are hauled away by the local carting services. There are no further improvements planned for the recycling program at this time.

CSIP #13 Sidewalk Maintenance Program

As discussed, it would be desirable to explore some funding program to assist residents with the repair of sidewalks damaged by tree roots or tree failure. CSIP funding would be of great interest.

CSIP #14 Stormwater Management

As more trees are removed from wooded lots and new houses are constructed whose downspouts drain to the sewer catchbasins, the issue of flooding becomes more important. Due to the close proximity of the Passaic River, and with continued development, CSIP funding could be used to develop and improve the Township's current stormwater management, such as proactively removing vegetation from streams or installing rain gardens.

CSIP #15 Other

New Jersey Transit Railroad runs through the center of Berkeley Heights. CSIP funding for landscape improvements of these properties, in cooperation with NJT, would be of interest.

