

Lower East Side Greening Acceleration Program: Phase Three

Choice of Three Work Plans for CB 3 Trees within .6 mile of the Con Ed Facility.

Curbside: New Trees, Tree Bed Expansion for Existing Trees, and Tree Guards with Groundcover Plantings.

NYCHA: Campos Plaza I & II, Riis I & II, and Wald Houses: New Tree Plantings.

Tompkins Square Park: Dutch Elm Prevention and Structural & Corrective Pruning.

(version 12-11-2014)



Street Segments within 1/2 and .6 mile of Con Ed Facility

Completed in Phase 1, Completed in Phase 2 (inc NYCHA), Proposed in Phase 3 (inc NYCHA)

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Application for Con Ed Settlement Funds

Phase Three of the Lower East Side Greening Acceleration Program's goals are to expand upon our past work by continuing tree pit expansions, adding new trees, and placing metal tree guards and ground cover plantings to more of the remaining sites within the .6 mile radius of the Con Edison East River Complex. In addition, we will be working with NYCHA on the expedited replacement of missing trees removed from their properties over the years, continue the NY Tree Trust's on-going pruning work of the great elm trees in Tompkins Square Park, and help to protect these trees with a Dutch Elm disease prevention treatment. The overall amount of work done in Phase 3 can be chosen from among three separate levels of funding which are detailed on Page 5.

This multifaceted project continues the LES Accelerated Greening Program accomplishments within the .6 mile radius zone of the Con Ed East River Complex (see Appendix I). During this first phase we accomplished the expansion of 150 tree beds, planted 70 new trees, installed 240 tree guards, and planted 9,600 Liriope plants and 8,000 Daffodil bulbs. In the second phase we accomplished the expansion of 220 tree beds, are projecting planting 116 new trees (as well as over 80 trees on NYCHA properties planned for spring 2015), installed 283 metal tree guards, and planted over 10,000 Liriope and 9,000 Daffodil bulbs. These results were achieved by using Con Ed settlement funds to hire a guard contractor to fabricate and install guards, purchase groundcover for volunteer planting, purchase and install trees on NYCHA properties, and hire a NY Tree Trust employee to manage the project for 6-months in Phase 1 and 11-months in Phase 2. These costs were matched dollar for dollar with NYC Parks & Recreation funds which covered the tree bed expansions and curbside new tree plantings.

To complete Lower East Side Greening Acceleration Program (LES GAP) Phase Three we are seeking funds from either the \$300,000, \$225,000, or \$150,000 funding options from the Con Ed settlement funds; which will be dedicated to providing tree guards, ground cover planting costs, NYCHA tree planting costs, Tompkins Square Park pruning and treatment costs, and project management. The NYC Department of Parks & Recreation matching funds for all curb side work will again be utilized for tree bed expansions and new tree plantings. The total budget for all of this work within .6 mile of the Con Ed facility including Park's leveraged funds will be \$510,000, \$390,000 or \$270,000 depending on the option chosen.

The first goal in this Phase Three program is to ensure that more of the available street tree planting locations radiating from the Con Edison facility are planted. NYC Parks has estimated there are remaining curb side tree planting opportunities as well as NYCHA tree planting opportunities approximate to each option within or near the .6 mile area. Next, existing trees will be surveyed for tree pit expansion, low-cost tree guard installation, and groundcover/ flowering bulb plantings until remaining funds are used. The rehabilitation of existing tree beds, installation of affordable custom metal tree guards manufactured locally, and any new trees planted will create a visual consistency to all street tree beds within the focus .6 mile area as well as ensuring each tree's growing conditions are optimized for tree longevity.

LES GAP Phase Three will also continue the partnership established with the Lower East Side Ecology Center (LESEC) in co-leading groundcover/bulb planting days. These events were highly successful for the planting of nearly 20,000 Liriope plants and 17,000 Daffodil bulbs primarily using volunteer help, (numbers are projected to be completed by the end of fall 2014). These events brought in a variety of volunteer groups including high school and corporate groups and neighborhood volunteers of all ages who learned about the benefits of an urban canopy and the benefits of this project for the neighborhood. As before, the NYC Tree Trust will provide all materials (bulbs, groundcover, tools, etc) needed for the work days while the LESEC helps to coordinate the planting events as their own to leverage LESEC's already sterling reputation throughout the neighborhood and their many connections with stewards and volunteer groups.

Similar to Phase 2 the project management in Phase 3 will include continuing oversight of all Phase 1-3 areas. For tree beds this will include weeding of tree beds, replanting of Liriope and Bulbs, attempts at solutions for pits with rat problems, clean up of highly neglected pits, and maintenance of guards such as repair and paint touch ups. All trees in Phase 1-3 areas will also be monitored and managed in the coming years to ensure that dead trees are removed and replaced as soon as possible and all young tree have for corrective pruning issues addressed on an annual basis.

In addition to new tree planting in NYCHA areas we will consider possible tree rescues for situations where large value trees have outgrown their tree beds and are being girdled by surrounding brick or concrete. Preserving these trees can be done at a low cost and is equivalent in terms of near future tree canopy to the planting of many dozen new trees. In this Phase Three we also plan to canvas select areas of the neighborhood, including business and community groups, to gain support for this project thru partial donations for low cost guards on their street. This will help to defer guard costs and enable an overall greater amount of guards in the neighborhood as well as help the community feel a sense of ownership over the guards, tree care, and tree health issues. New to this phase is the treatment and pruning of the Great Elms in Tompkins Square Park. The NY Tree Trust has been managing the corrective and structural pruning of these trees over the past 2-years utilizing their funds and donations. There is currently no funds or ability for the NYC Department of Parks and Recreation to carry out this work or to pay for the proposed Dutch Elm treatment of these trees so we are proposing these options so that we can further our on-going work in the park to preserve this great neighborhood resource.

LES GAP will be led by New York City Department of Parks & Recreation and the New York Tree Trust. They will coordinate with the LESEC, MillionTreesNYC, NYCHA, property owners, area community gardens, adopt a tree pledges, and citizen pruners. The New York Tree Trust, a 501-3c non-profit, will accept the settlement funds for the trees and tree work. NYC Parks will match those dollars and coordinate the use of these funds according to the Program's stated budget and goals, and coordinate the installation of trees and tree work.

The LES GAP will satisfy the settlement funds scope as a healthy canopy of trees is one of the best ways to provide local air quality improvement and subsequently neighborhood health improvement. The Program will also provide stewardship and outreach efforts that will serve the local community in a variety of ways thru the numerous other benefits that trees and neighborhood beautification provides. These efforts equally satisfy NYC's Million Tree goals by enabling the planting of more trees in an area of need. In addition, Parks has already planted many trees in the area and it has become clear that the infrastructure of the neighborhood restricts some tree planting locations. Therefore, it is critical to the long term development of canopy within this neighborhood that existing trees receive extra care to ensure for their longevity. By increasing the health of existing trees this plan also works to offset future tree maintenance and tree replacement costs, which again helps NYC Park's goals of increasing the longevity of large trees and the benefits those large trees provide. The partnership of these goals will provide environmental, economic, and health benefits to the local community for generations to come.

Timeline (Dependent upon Funding Option)

Each funding timeline will revolve around completing the appropriate amount of work during a 1 or 2 year; Summer-Fall-Spring work cycle. The higher options will have all work completed by Fall 2016 or Spring 2017 while the lower option will have all work completed by Spring 2016. Reports will be sent to Community Board Three and Con Ed both before and after each season's work cycle or on an approximate quarterly basis. Below are some details of work taking place during each season.

- Summer 2015; June-August - NYC Parks will survey highlighted curb-side sites for tree planting viability and the expansion of existing tree beds. NYC Parks will manage the curb-side tree bed expansion work, and finalize the tree planting work plans on NYCHA properties. NYC Parks will work with NYCHA to determine tree planting locations. NYC Parks will supervise the installation of trees guards at all expanded sites.
- Fall 2015; September-November - LESEC and NYC Parks will host volunteer planting days for groundcover and bulbs for expanded sites in September and for all new tree planting sites in November. NYC Parks will manage new tree plantings for all curb-side sites and NYCHA and manage guard installation for curb-side sites. Tompkins Square Park pruning or treatment is carried out.
- Spring 2016; March-May – Further surveys and work on any curbside or NYCHA new tree planting as needed with follow-up tree guards and ground cover planting. Comprehensive survey of all Phase 1-3 sites to determine all work items needed to maintain the sites.

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- November 2015-2017/2018 - All trees will get weeded and watered once every two weeks through the growing season (May 15-October 15) throughout their 2-year guarantee period. Any trees that die will be replaced in the subsequent season.

Estimated Budget per Item

The New York Tree Trust has obtained estimates from approved NYC Department of Parks & Recreation contractors of approximately \$1,600 to install each curb-side street tree and \$925 for each NYCHA or Community Garden site, \$547 for each Tree Bed Expansion, \$450 to fabricate and install a metal tree guard, and \$64 for the Groundcover and Bulb plant material (including purchase, delivery) and installation using volunteers as well as miscellaneous volunteer costs.

Below for a summary of the three different types of tree beds for this project:

- Plant street tree, install tree guard, install groundcover, install bulbs \$2,114
- Expand tree bed, install tree guard, install groundcover, install bulbs \$1,061
- Install tree guard, install groundcover, install bulbs at existing tree site \$514
- Plant a tree at NYCHA locations \$925

These funds will pay for a contractor to oversee all sidewalk site preparation, and the actual tree (which may include hand digging of more difficult tree planting sites), a two-year guarantee period, maintenance and

watering for two years, and all necessary permits to perform the work from both NYC Department of Parks and Recreation (DPR) and the Department of Transportation (DOT). This price also covers supervision of all trees while they are planted to ensure they are planted to DPRs specifications. DPR will coordinate the full survey of underground electric and gas utilities and obstacles in the area and tree planting locations. The project management costs listed includes staff time needed to carry out the coordination, implementation, and management of this proposal for the project timeline.

**Funding and Costs for \$300,000 Option:
Total Project Funds \$510,000**

Item Costs Covered by \$210,000 in Matching Funds from Parks & Recreation

- 55 Newly Planted Curb-Side Trees \$88,000
- 222 Existing Tree Bed Expansions \$122,000

Item Costs Covered by \$300,000 in Settlement Funds (Con Ed portion of the grant)

- 64 Newly Planted NYCHA Trees \$59,200
- 271 Tree Guards: including fabrication and installation \$121,200
- Project Management (Salary + fringe for grant line – 11 of 22 month timeline) \$88,770
- Groundcover, Bulbs, and Incidental Costs for 271 Sites \$17,830
- Elm Maintenance and Dutch Elm Disease Prevention for Tompkins Sq Park \$13,000

**Funding and Costs for \$225,000 Option:
Total Project Funds \$390,000**

Item Costs Covered by \$165,000 in Matching Funds from Parks & Recreation

- 44 Newly Planted Curb-Side Trees \$70,400
- 174 Existing Tree Bed Expansions \$94,600

Item Costs Covered by \$225,000 in Settlement Funds (Con Ed portion of the grant)

- 45 Newly Planted NYCHA Trees \$41,625
- 203 Tree Guards: including fabrication and installation \$91,350
- Project Management (Salary + fringe for grant line – 9 of 18 month timeline) \$72,630
- Groundcover, Bulbs, and Incidental Costs for 203 Sites \$12,895
- Dutch Elm Disease Prevention for Tompkins Sq Park \$6,500

**Funding and Costs for \$150,000 Option:
Total Project Funds \$270,000**

Item Costs Covered by \$120,000 in Matching Funds from Parks & Recreation

- 32 Newly Planted Curb-Side Trees \$51,200
- 127 Existing Tree Bed Expansions \$68,800

Item Costs Covered by \$150,000 in Settlement Funds (Con Ed portion of the grant)

- 26 Newly Planted NYCHA Trees \$24,050
- 143 Tree Guards: including fabrication and installation \$64,350
- Project Management (Salary + fringe for grant line – 6.5 of 13 month timeline) \$52,455
- Groundcover, Bulbs, and Incidental Costs for 143 Sites \$9,145

Deliverables

At the completion of surveying and marking in each work season the Lower East Side Greening Acceleration Program (NYC Parks) will provide a report to Community Board Three and Con Ed detailing the proposed address of each new tree to be planted, tree bed to be expanded, guard to be installed, and tree bed to be planted with ground cover. LES GAP (NYC Parks) will also provide a final report to the Community Board at the conclusion of each season on the work actually completed.

Additional Information on Tree Benefits and the Improved Community Health Trees Provide

The benefits of planting trees in cities have been studied extensively. Trees have been found to consistently provide environmental benefits, economic benefits, and health benefits to the local community (Appendix I). In addition to these benefits LES GAP focuses specifically on improving and protecting the tree health of large high value existing trees by targeting them for pit expansion, guard, and/or groundcover planting. The benefits of expanded trees pits and guards are that they simply provide trees the space and resources they need to remain healthy, thus enabling the trees to provide these listed air quality and public health benefits well into the future. The use of groundcover and bulb plantings is a two pronged approach to tree health and neighborhood quality of life problems in that they both aid in tree health and add aesthetic value to the neighborhood. The aesthetic value of groundcover planting generally raises neighborhood awareness to trees, beautify the neighborhood, and add incentive to public and business engagement in tree care activities. The LES GAP will have many positive effects on community health, some more specific information on these benefits of trees include:

- **Improved Air Quality** - Net annual air pollutants removed, released, and avoided average 1.73lb. per tree and are valued at \$5.27 million or \$9.02 per tree (New York City, 2007). In fact, one tree can remove 26 pounds of carbon dioxide from the atmosphere annually, the equivalent of 11,000 miles of car emissions. In addition, trees remove dust and other pollutants from the air.
- **Improved Health** - There is strong evidence that trees help reduce air pollutants that can trigger asthma and other respiratory illnesses. A 2008 study in the Journal of Epidemiology and Community Health found that children in NY living in areas with more street trees have a lower prevalence of asthma. Studies find that by planting trees, there is a high likelihood of lowering childhood asthma rates in the area served by Community Board 3. (Appendix I). Green spaces also encourage physical activity-a healthy habit for any New Yorker.
- **Community and Business District Appeal** - The greening of business districts increases community pride and positive perception of an area, drawing customers to the businesses. Studies have found that tree-lined retail districts encourage more frequent visits, more time spent shopping and more spending by consumers (Journal of Forestry, 2005).
- **Reduced Crime** - A study by University of California horticulturalist Ted Stamen in 1993 found that urban spaces which had been planted had a 90% chance of remaining graffiti free.
- **Storm Water Capture** - New York City's street trees capture rain both in their canopies and tree beds, reducing storm water runoff by 890.6 million gallons annually. This has an estimated value of \$35.6 million and the average tree captures 1,432 gallons of storm water each year (New York City, 2007).

- **Slowing Global Climate Change** - Urban trees help offset climate change by capturing atmospheric carbon dioxide in their tissue, reducing energy used by buildings, and reducing carbon dioxide emissions from fossil-fuel based power plants. NYC trees remove over 42,000 tons of carbon each year.
- **Lower Summer Air Temperature** - According to the U.S. Environmental Protection Agency, urban forests reduce urban temperatures significantly by shading buildings and concrete and returning humidity to the air through evaporative cooling.
- **Natural Resource Conservation** - By using trees to modify temperatures, the amount of fossil fuels used for cooling and heating by homeowners and businesses is reduced.
- **High Return of Investment** - Over the years the City has invested millions in its urban forest. NYC Park Department estimates that trees provide \$5.60 in benefits for every dollar spent on tree planting and care.

Additional Information on Local Support, Community Outreach & Continuing Efforts

LES GAP will use its contact list of already vested tree care entities and business owners in the Lower East Side for community outreach. This outreach coupled with field visits in the neighborhood will ask for support from the local community to assist in monitoring, watering, and maintaining the trees once the two-year guarantee has lapsed. These efforts will operate in tandem with DPR's existing Adopt-a-Tree effort. Information about DPR's volunteer stewardship effort to get the community to care for trees can be found here; <http://stewardship.nycparks.org/>

The continuing efforts for all specific work items will also be contractually binding for two years. The installers hired by New York City Parks and the Tree Trust will be required to water the trees every two weeks during the growing seasons and to guarantee each tree for a two-year period.

Additional information on NYC Department of Parks & Recreation Trees Planting efforts in this Area.

DPR receives and records each request to plant a tree in the city through a database. While DPR attempts to plant trees as quickly as possible NYC Parks is only scheduled to plant some of these requests in the 2015 planting seasons as requests can take up to 1 year to be surveyed. As of November 12, 2014 the DPR request based system has only 7 tree planting requests within the proposed .6 mile zone. In addition, there is no current funding for the expansion of tree pits or guarding of trees in the LES. Unrequested tree sites and trees in need of pit expansion are often delayed in being addressed as public demand for trees are given top priority. These sites and this neighborhood are perfect candidates for specific grant based funds such as the LES GAP. By focusing in on the neighborhoods in the immediate proximity to the East River Complex the LES GAP will both quicken the pace of planting, provide opportunities for tree planting in often neglected sites, and increase existing tree health by expanding pits, guarding trees, and using ground cover plantings.

Appendix I: Map of Proposed Work Area.

Note: Street Segments in Phase Three receiving new trees and expanded tree beds will be carefully considered and discussed with the granting committee prior to work beginning.



Street Segments within 1/2 and .6 mile of Con Ed Facility
Completed in Phase 1, Completed in Phase 2 (inc NYCHA), Proposed in Phase 3 (inc NYCHA)

Lower East Side Greening Acceleration Program Participants

New York Tree Trust



The New York Tree Trust is a non-profit established in 1994 to protect, preserve, and enhance New York City's street, park and forest trees. The goals of the Tree Trust are to foster public-private partnerships in urban forestry, raise public awareness of the importance of urban forestry conservation and stewardship, promote new technologies to enhance tree survival and advance innovative management tools, and revitalize historically and arboreal significant municipal trees. The New York Tree Trust's fiscal sponsor is the City Parks Foundation whose tax ID number is 133561657.

NYC Department of Parks and Recreation



The Parks Department Central Forestry division and forestry divisions of each borough provide a variety of tree and sidewalk-related services to New York City. NYC Parks evaluates each tree planting location to determine the sites suitability and potential infrastructure conflicts.

MillionTreesNYC, one of the PlaNYC initiatives, is a citywide, public-private program with an ambitious goal: to finish planting and care for one million new trees across the City's five boroughs over the next five years. By planting one million trees, New York City can increase its urban forest a valuable environmental asset made up of street trees, park trees, and trees on public, private and commercial and by an astounding 20%, while achieving the many quality-of-life benefits that come with planting trees. More information about MillionTreesNYC can be found at: <http://www.milliontreesnyc.org>

Lower East Side Greening Acceleration Program Contacts

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Supplemental Budget Information

The following budget details are based upon preliminary surveys in areas of focus for tree planting and tree protection efforts as requested from the Con Ed Task Force Committee at the Dec 3rd meeting.

Funding and Costs for \$300,000 Option: Total Project Funds \$510,000

Items adjusted to reflect a presurvey of all curbside sites in the proposed area east of Avenue A. These funds cover 80% of the new tree planting and tree guard potential for this area.

Item Costs Covered by \$210,000 in Matching Funds from Parks & Recreation

- | | | |
|---|----------------------------------|-----------|
| • | 91 Newly Planted Curb-Side Trees | \$127,400 |
| • | 149 Existing Tree Bed Expansions | \$82,600 |

Item Costs Covered by \$300,000 in Settlement Funds (Con Ed portion of the grant)

- | | | |
|---|---|----------|
| • | 135 Newly Planted NYCHA Trees* | \$83,700 |
| • | 221 Tree Guards: including fabrication and installation | \$99,450 |
| • | Project Management (Salary + fringe for grant line – 11 of 22 month timeline) | \$88,770 |
| • | Groundcover, Bulbs, and Incidental Costs for 221 Sites | \$14,080 |
| • | Elm Maintenance and Dutch Elm Disease Prevention for Tompkins Sq Park | \$13,000 |
| • | Expansion of tree beds to rescue 5 high value NYCHA trees | \$1,000 |

Funding and Costs for \$225,000 Option: Total Project Funds \$390,000

Items adjusted to reflect a presurvey of all curbside sites in the proposed area east of Avenue B including E 3rd Street. These funds cover 100% of the new tree planting and tree guard potential for this area and 50% of the new tree planting in the area from Avenue A to Avenue B.

Item Costs Covered by \$165,000 in Matching Funds from Parks & Recreation

- | | | |
|---|--|----------|
| • | 40 Newly Planted Curb-Side Trees | \$56,000 |
| • | 104 Existing Tree Bed Expansions | \$57,000 |
| • | 37 Newly Planted Curb-Side Trees (Ave A to Ave B sites, fully utilizing match) | \$52,000 |

Item Costs Covered by \$225,000 in Settlement Funds (Con Ed portion of the grant)

- | | | |
|---|--|----------|
| • | 85 Newly Planted NYCHA Trees* | \$52,700 |
| • | 166 Tree Guards: including fabrication and installation | \$74,700 |
| • | Project Management (Salary + fringe for grant line – 9 of 18 month timeline) | \$72,630 |
| • | Groundcover, Bulbs, and Incidental Costs for 166 Sites | \$10,970 |
| • | Elm Maintenance and Dutch Elm Disease Prevention for Tompkins Sq Park | \$13,000 |
| • | Expansion of tree beds to rescue 5 high value NYCHA trees | \$1,000 |

*NYCHA tree details are based upon a preliminary survey estimate of 210 trees for the proposed areas. Of these 210 trees a minimum of 75 will be planted utilizing existing Phase 2 funds. With additional funds we will attempt to secure more competitive prices with the goal of fully planting all remaining NYCHA sites in Phase 3. The NYCHA tree numbers and prices in these two options are based upon a low, and a moderately higher, price estimate on full planting.

Based upon the committee’s request we will continue to prioritize the tree needs in the Phase 1 area due to the proximity of the Con Ed Facility. This will include the addition of 8-15 metal guards for new trees which were unable to be addressed previously or other needs in the Phase 1 area during the remaining project timeline. Changes to estimated item prices include, \$1,400 to install each curb-side street tree (from \$1,600) based upon new contract bid prices, and \$620 for each NYCHA site (from \$925) based upon estimates utilizing existing NYCHA soil rather than replacing soil.