GRAMERCY PARK
MASTER PLAN

ENHANCING

A HISTORIC NEIGHBORHOOD ASSET

FOR FUTURE GENERATIONS

STARR WHITEHOUSE
Landscape Architects
and Planners PLLC

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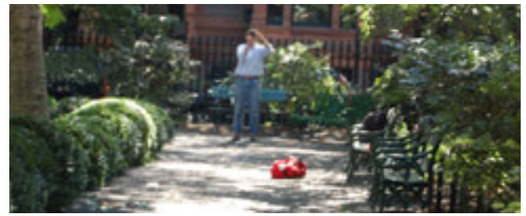

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PURPOSE + INTENT

Gramercy Park is both a neighborhood icon and a beloved living landscape that requires active management and planning. This document provides a framework that:

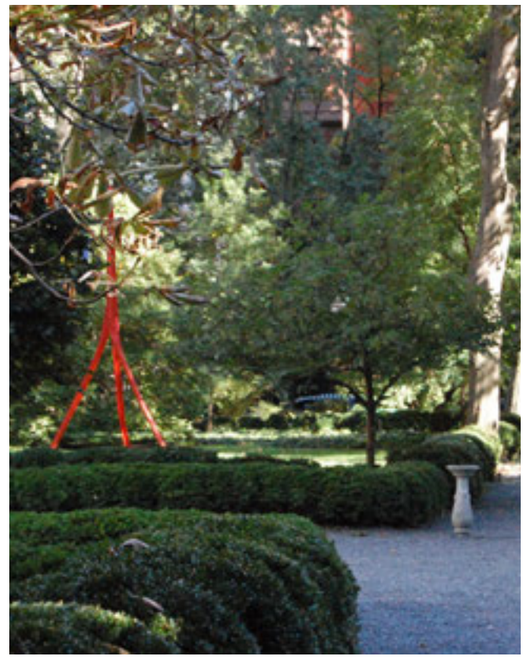
- investigates the condition, character, and vision of planted areas;
- articulates a plan to develop the park's vision through planned capital improvements and strategic donations;
- enhances the park's appearance with recommendations for edges, pavements, signs, and features; and
- devises a schedule of vital maintenance tasks that respond dynamically to plants' evolving needs throughout their life cycles.

Built upon an in-depth understanding of the park's current conditions and enduring aesthetic vision, this plan seeks to help park Trustees seamlessly integrate generous donations and otherwise advocate for improvements to further the evolution of this historic asset for generations to come.

LEFT: Gramercy Park in spring. *2012 Photograph, Sam White.*

LEFT: Gramercy Park looking north. The memorial statue, installed in 1918, depicts Edwin Booth playing Hamlet. An acclaimed actor and the brother of John Wilkes Booth, Edwin founded an actors' club in 1888, The Players, at 16 Gramercy Park South. It remains open today.

BELOW: Alexander Calder's "Janey Waney" (1969), loaned from the Calder Foundation in October 2011, brings kinetic motion to the southeast quadrant, complementing the park's historic setting.



Line of 2012 Boxwood Hedge
Water Nymph Statue
Light colored gravel

HISTORY + CONTEXT

The idyll that is Gramercy Park today arose from ignominious beginnings: a wooded hillside above a sharply banked creek, useful for farming but an impediment to the New York City street grid. In 1831, Samuel Ruggles, a landowner seemingly fascinated by the development of his city, foresaw in the grid's northward expansion a need for open spaces to preserve light and air. The City, appreciative of Ruggles' vision, granted him tax exemption for the land so long as it would be kept as an ornamental square. In exchange, additional taxes were levied on properties fronting on the park, in the belief that proximity to the park would vastly increase their value.

Ruggles began work on the park, leveling the earth to create a regular surface - no easy feat. Leveling the park was only the first task among many in creating what would soon become an irresistable attraction and defining asset of the neighborhood.

From the outset, the park was owned and managed by a five-member board of trustees. In the 1831 deed to the park, the Trustees were given their first tasks: to enclose the park with an ornamental iron fence, and to "lay out within such Park or Square ornamental grounds and walks, and plant and place therein trees, shrubbery, and appropriate decorations." Trustees manage the upkeep of the park, hiring gardeners and making necessary improvements over time, and have long upheld their roles as stewards of this urban refuge, preserving the lawns and plantings against would-be ball players, the "conscious depredations of dogs," and the "unconscious hostility of the atmosphere," including pollution from coal smoke that, in 1925, limited species of perennials to hollyhocks, foxgloves, chrysanthemums, and lilies.

Since 1831, the Trustees' work has created an enduring and sought-after urban oasis that inspires loyalty and generosity in its neighbors, and admiration across the city.

Trees Planted 1838 -1839

Sycamore - *Platanus occidentalis*

English Ash - *Fraxinus excelsior*

English Walnut - *Juglans regia*

Tree of Heaven - *Ailanthus altissima*

Catalpa - *Catalpa speciosa*

Horsechestnut - *Aesculus hippocastanum*

Weeping Willow - *Salix babylonica*

Shrubs Planted 1838 -1839

Umbrella Magnolia - *Magnolia trepetata*

Spirea - *Spirea sp.*

Lilac - *Syringa sp.*

Snowberry - *Symphoricarpos albus*

Beautyberry - *Symphoricarpus orbiculatus*

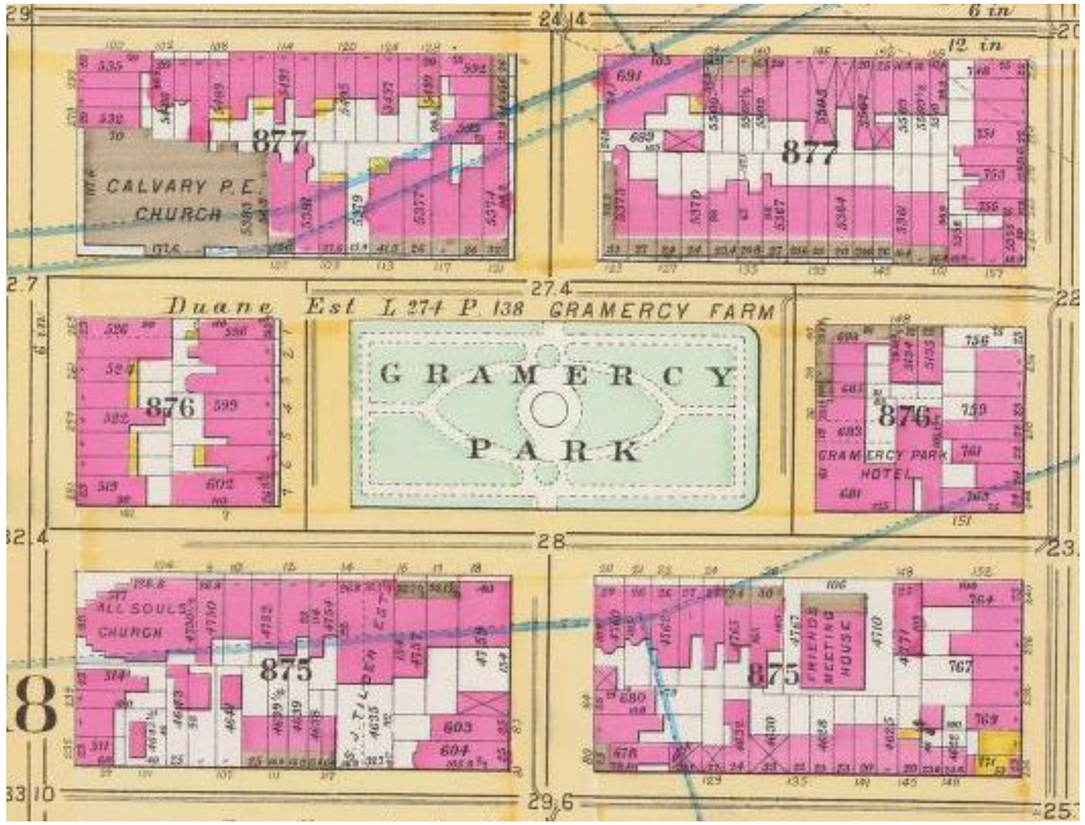
Ninebark - *Physocarpus opulifolius*

Golden Currant - *Ribes aureum*

ABOVE: A corner view of the park circa 1905 shows the visual transparency of the park's edge. Today, shrub plantings visually screen the street from the park, and vice versa.
1905 Photograph, reprinted in Garmey, S. (1984). Gramercy Park, an illustrated history of a New York neighborhood. New York: Balsam Press.

LEFT: Select trees and shrubs planted in the initial days of the park.
Bill of Trees of James Virtue, 1838, reprinted in Garmey.

OPPOSITE PAGE: The water nymph was removed from its central location to make room for the Booth statue in 1918.
1925 Photograph, Library of Congress 16153v.

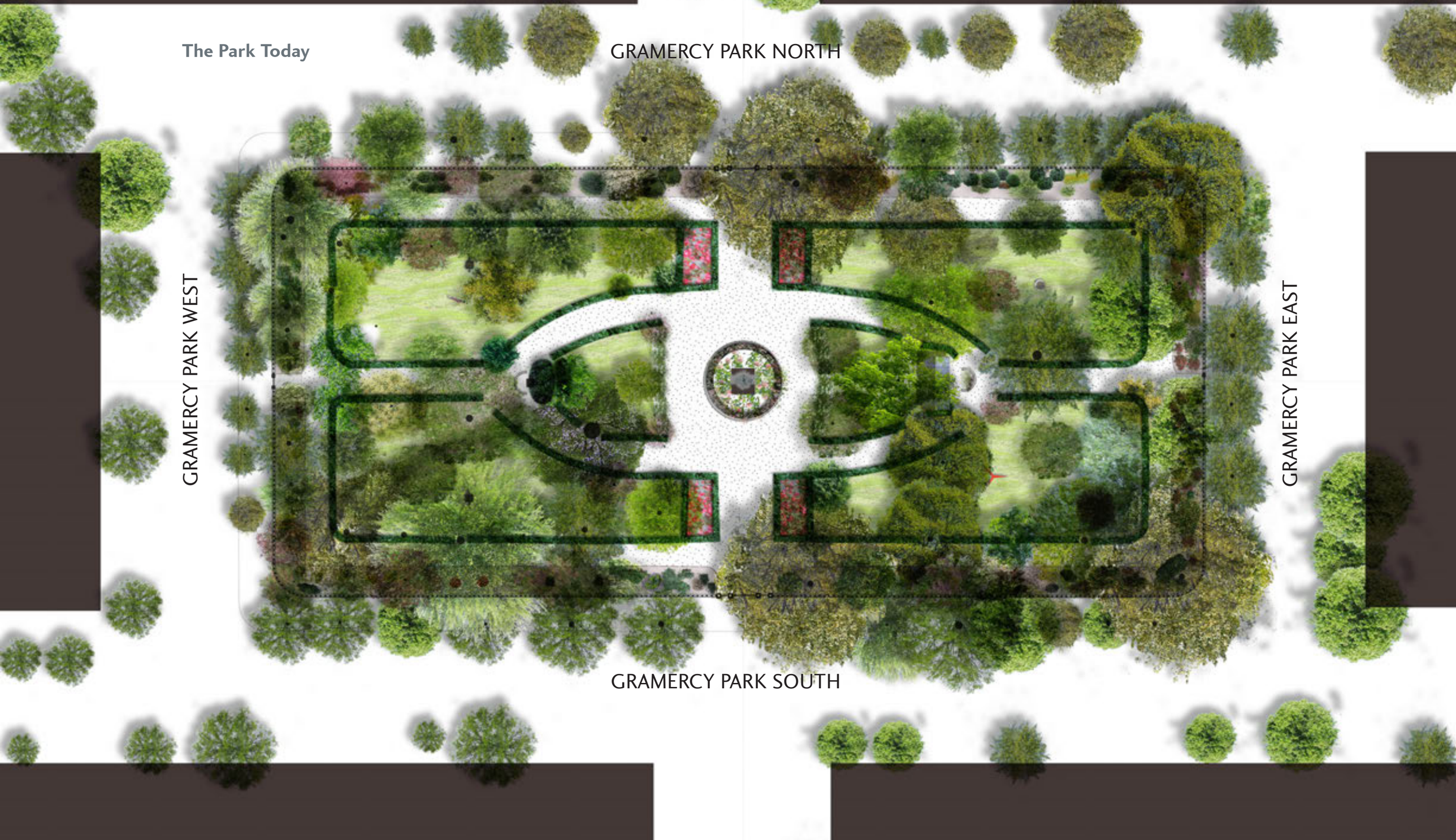


1891 Bromley Map of Gramercy Park and surrounding area.

GRAMERCY PARK TODAY

The layout of the park today bears much resemblance to its historic self, as seen in the map to the left. Planting, features, and furniture curated by successive generations of trustees and residents continues to dynamically change the park.

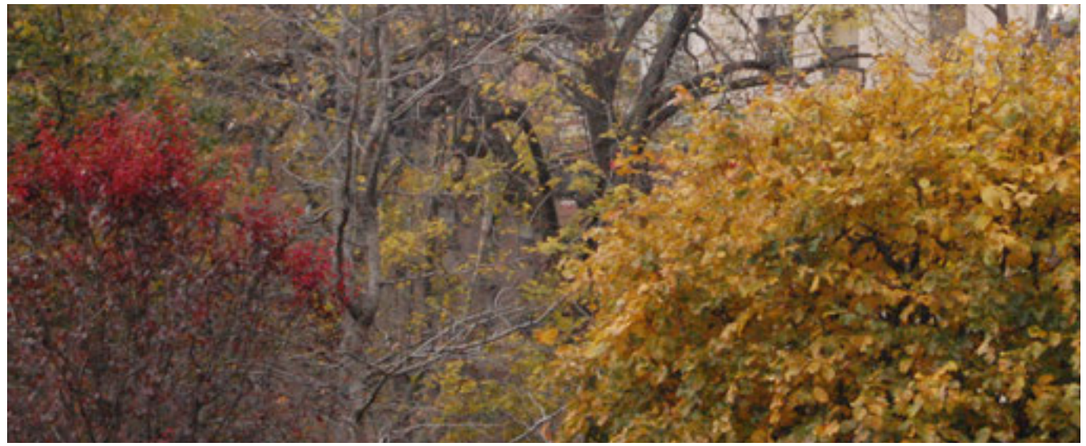
The Park Today



MAINTAIN HISTORICAL INTEGRITY

Gramercy Park is an important living artifact of early 19th century landscape design and urban planning in response to the city's burgeoning grid. The formal character of the park is essential to the architectural coherence of the neighborhood and should be identified and maintained.

- Identify and reinforce the spatial configurations integral to the park's historic character and design intent.
- Select site materials and plants that are consistent with the historic fabric of the park.

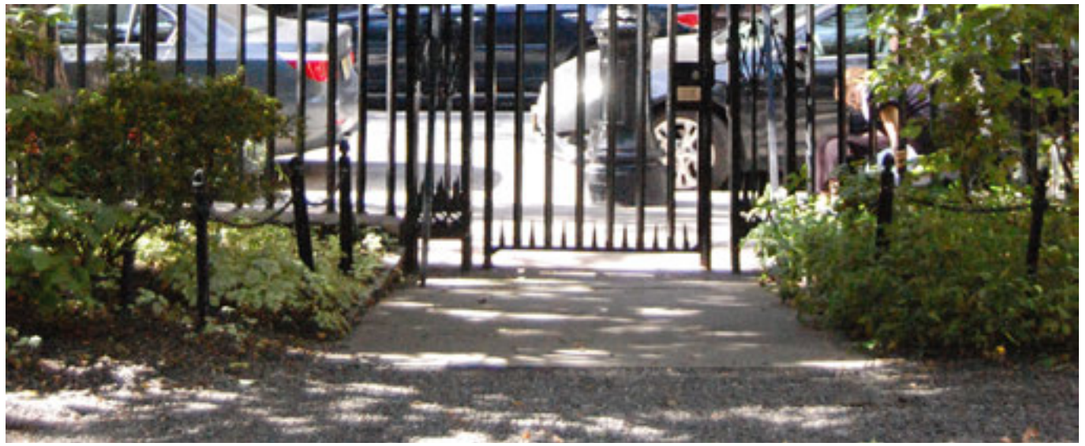


CULTIVATE DIVERSITY

The underlying concentric symmetry of the Gramercy Park plan is complemented by the robust diversity found in its planted form and character. This diversity results in a range of climatic and aesthetic experiences, and should be enhanced.

- Cultivate a varied canopy layer to ensure areas of sun and shade.
- Develop a diverse understory tree layer, with regard to bloom, leaf and foliage color.
- Coordinate the shrub and ground layers with existing canopy to promote healthy growth.

DESIGN PRINCIPLES



DEFINE BOUNDARIES

Gramercy Park provides a semi-private garden experience juxtaposed with the surrounding urban bustle. Defining the boundary and providing moments of screening without entirely cutting off visual access enhances both the pleasure of the interior and the auxilliary benefits provided to the neighborhood.

- Develop a visually diverse planted border that creates opportunities for both views into the park and moments of seclusion.
- Define and celebrate entrances.

PROMOTE SUSTAINABLE MAINTENANCE

The beauty of Gramercy Park depends on the dedicated maintenance work of a full time gardener, seasonal assistants, and resident volunteers. Examining the maintenance practices and issues affecting them can streamline routines to ensure continued health and performance.

- Analyze soil and plant health and adapt irrigation and fertilization practices.
- Examine performance of hardscape materials and develop preferred alternatives.

PLANTED FORM + CHARACTER

The oversight provided by the Trustees and the donations made by the residents are community investments in the beauty, health, and longevity of Gramercy Park. To guide these contributions, we have identified potential donation opportunities.

As a living, growing site, the Park will continue to evolve and new opportunities for investment will arise. In this section we delve into the planted heart of Gramercy Park to establish a framework of ecological and design criteria that provide for the long term evolution of the Park. This framework explores the character of the Park's distinct zones to lay out a series of recommendations for the Park's growth and development.

KEY

Proposed Planting

- Canopy Tree
- Understory Tree
- Transplanted Tree
- Shrub
- Perennial - Evergreen
- Perennial - Deciduous

Existing Planting

- Canopy Tree
- Understory Tree or Shrub
- Perennial

DONATION OPPORTUNITIES

GROUNDCOVER PLANTING IN LAWN PANEL

Plant a low groundcover to fill in areas where grass is shaded out.

p 18-29

CANOPY AND UNDERSTORY TREE PLANTING

Sponsor tree planting needed throughout the Park.

p 13

PERIMETER SHRUB AND PERENNIAL PLANTING

Cultivate a healthy understory in the four quadrants.

p 18-29

ROSE REPLANTING

Remove existing roses, enhance drainage in bed and replace with a more suitable species.

p 30

STREET TREE PLANTING

Plant a City Street Tree to enhance the Park's canopy

p 13

Plant a hardy and attractive perennials in street tree pits

p 34

PARTERRE BED SPONSORSHIP

Sponsor a season of annual plantings in the four flower beds.

p 32

Proposed Planting Plan

GRAMERCY PARK NORTH

GRAMERCY PARK WEST

GRAMERCY PARK EAST

GRAMERCY PARK SOUTH

0’ 16’ 32’ 64’

SPATIAL ORGANIZATION: CONCENTRIC RINGS

KEY

Major Axes

Perimeter Allée

Reinforces geometry of Interior Paths while allowing visual connection to Lawn Panels and Perimeter Path.

Perimeter Understory

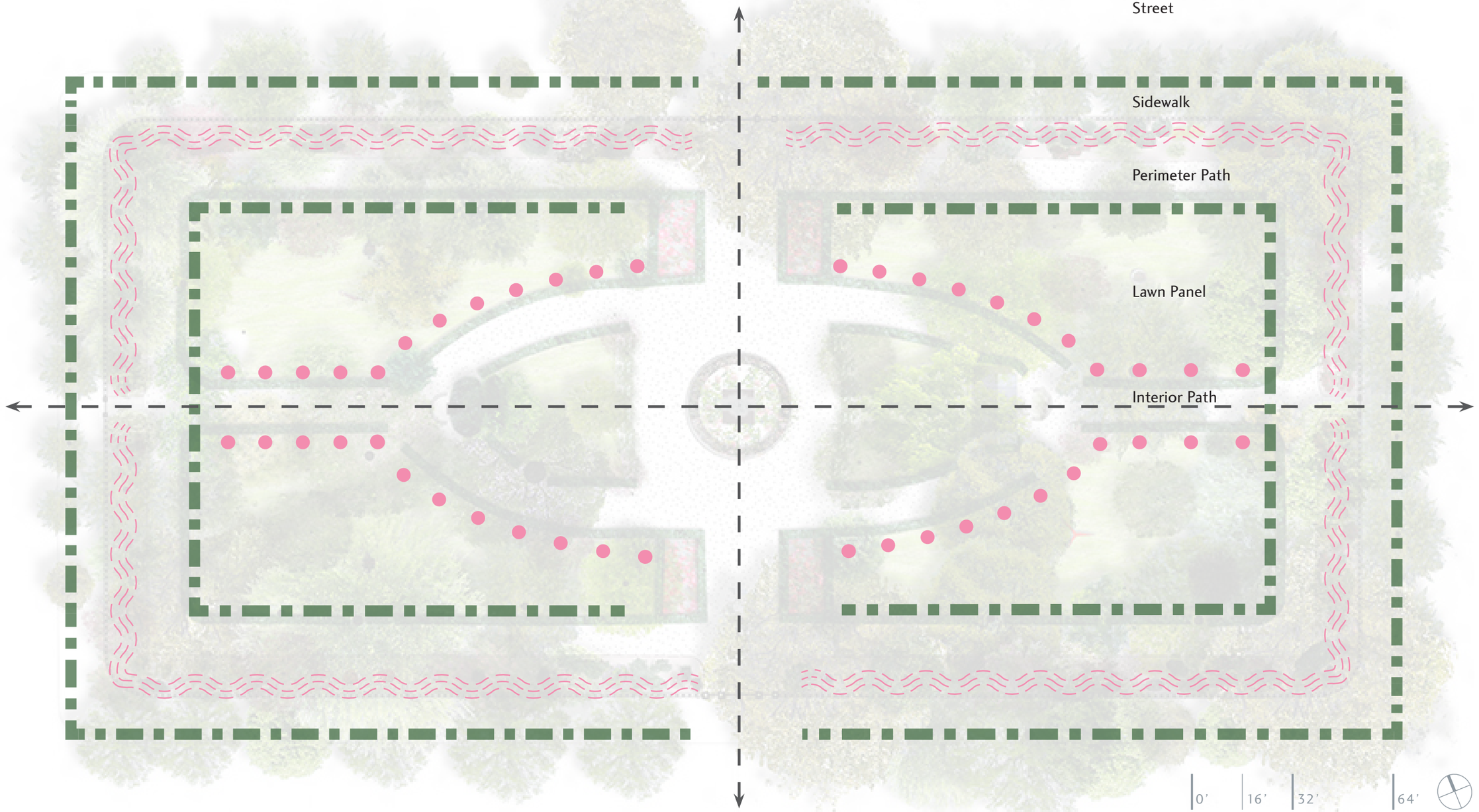
Allows a diversity of visibility conditions between the Perimeter Path and Sidewalk

Interior Axis

Reinforces geometry of Interior Paths while allowing visual connection to Lawn Panels and Perimeter Path.

Visibility

The planting in Gramercy Park is organized in a series of concentric rings, with roughly metered spacing between trees. As shown in the typical section at left, the **Perimeter Allée** is composed of canopy trees flanking the far sides of the Perimeter Path and Sidewalk. This spacing provides room for canopies to flourish and shelters walking routes. The **Perimeter Understory** is primarily flowering trees and shrubs, allowing a diversity of visibility conditions between the Perimeter Path and Sidewalk. Trees on the **Interior Axis** punctuate the symmetry of the Interior Paths and Lawn Panels. The Tree Planting Opportunity Plan on p 17 recommends trees that will, over time, reestablish the integrity of this concentric motif.


Street
Sidewalk
Perimeter Path
Lawn Panel
Interior Path
0'
16'
32'
64'

TREE EVALUATION AND LIFE CYCLE RECOMMENDATIONS *Based on Tree Survey (Appendix A:xix)*

Tree Removal Schedule

Immediate Removal
Trees with Grade of C or less

		Evaluated Condition
#40	Ohio buckeye - *Aesculus glabra*	Long Lever Arm; Several Large Hollows (C-D; 2-3; STR)
#4	Kousa dogwood - *Cornus kousa*	Struggling; Insect Infestation; Dead Stem & Poor Form (C; 2-2.5; PFG)
#9	Hawthorn - *Crataegus spp*	Poor Form and Dieback; Trunk Wound (C; 2-2.5; PFG)
#51	Crabapple - *Malus floribunda*	Serious Basal Hollows and Dead Roots; Unstable (C; 2-3; STR)

Near Term Transplant

#28	Plum - *Prunus cerasifera*	Incompatible with Design Criteria (see p. 37)
#29	Pin oak - *Quercus palustris*	Incompatible with Design Criteria (see p. 37)
#30	Plum - *Prunus cerasifera*	Incompatible with Design Criteria (see p. 37)

Potential Removal - Subject to Trunk & Canopy Inspection

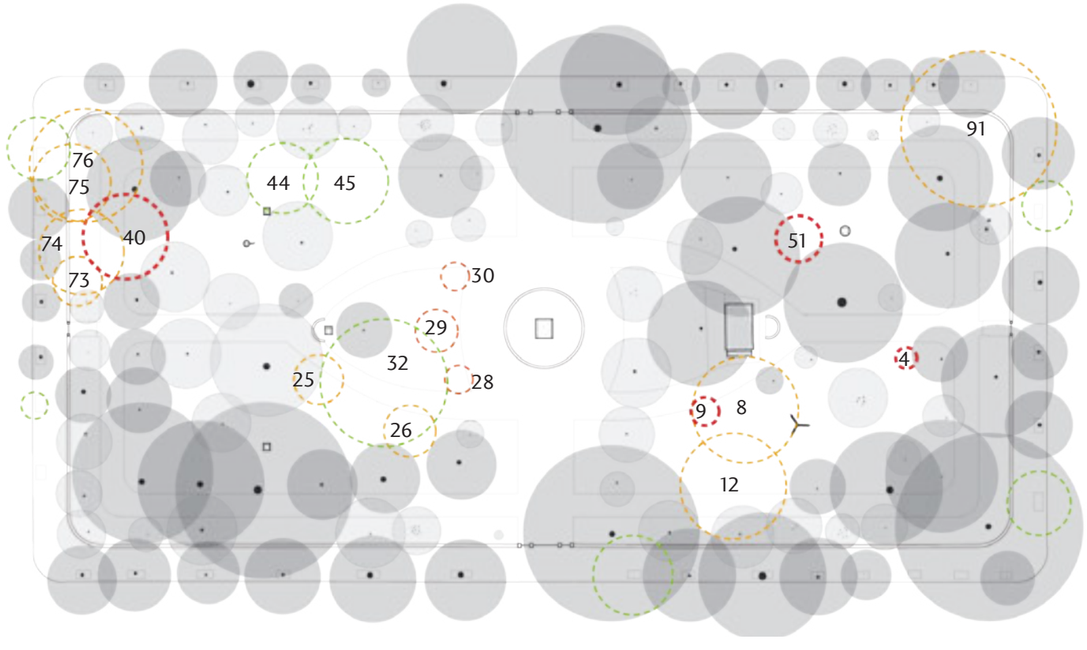
#8	Norway maple - *Acer platanoides*	Several Hollows on Leaders; Girdling Root; Thin Aloft (B-C; 2.5-3; PFG)
#12	Norway maple - *Acer platanoides*	Trunk Wounds; Girdling Root; Thin Aloft (C; 2.5-3; PFG)
#73	American elm - *Ulmus Americana*	Adventitious Growth and Suckering; Dieback (C; 2.5-3; PFG)
#74	American elm - *Ulmus Americana*	Adventitious Growth and Suckering; Dieback (C; 2.5-3; PFG)
#75	American elm - *Ulmus Americana*	Adventitious Growth and Suckering; Dieback (C; 2.5-3; PFG)
#91	Norway maple - *Acer platanoides*	Trunk Wounds; Major Hollow Aloft (C; 2.5-3; STR)

Potential Removal - If Pruning And Fertilization Do Not Correct Noted Problems

#25	Hawthorn - *Crataegus spp*	Uneven Flare; Narrow Crotch Angle; Thin Aloft; Shaded Out (C; 2-3; INC)
#26	Crabapple - *Malus floribunda*	Suckering Hollows; Sapsucker Damage(C; 2-3; PSI)

Long Term Monitoring – Future Removal Subject to Structural and Disease Considerations

#32	English Elm - *Ulmus procera*	Historic Park Tree Reduced to Trunk & Few Branches (C; 1.5-3; PSI)
#44	Green ash - Fraxinus pennsylvanica	Upright Co-Dominant Leaders Subject to Splitting (B-C; 2.5-3.5; SPD)
#45	Green ash - Fraxinus pennsylvanica	Upright Co-Dominant Leaders Subject to Splitting (B-C; 2.5-3; SPD)
#ST10	Ginko - Ginko biloba	Basal Dysfunction, Decay; Upright Co-Dominant Leaders (C; 2.5-3; PFG)
#ST14	Ginko - Ginko biloba	Buried Root Flare; Dieback; Suppressed (C; 2-3; PFG)
#ST22	Linden - Tilia cordata	Buried Root Flare; Shaded out; Poor Crown Form; Hollow (C; 2-2.5; PFG)
#ST30	Ginko - Ginko biloba	Poor Root Flare; Dysfunction; Decay; Weak Crown (C; 2.5-3; PFG)
#ST34	Ginko - Ginko biloba	Shaded. Planted deep. Unthrifty. Steep codominants (C; 2.5-3; PFG)



KEY

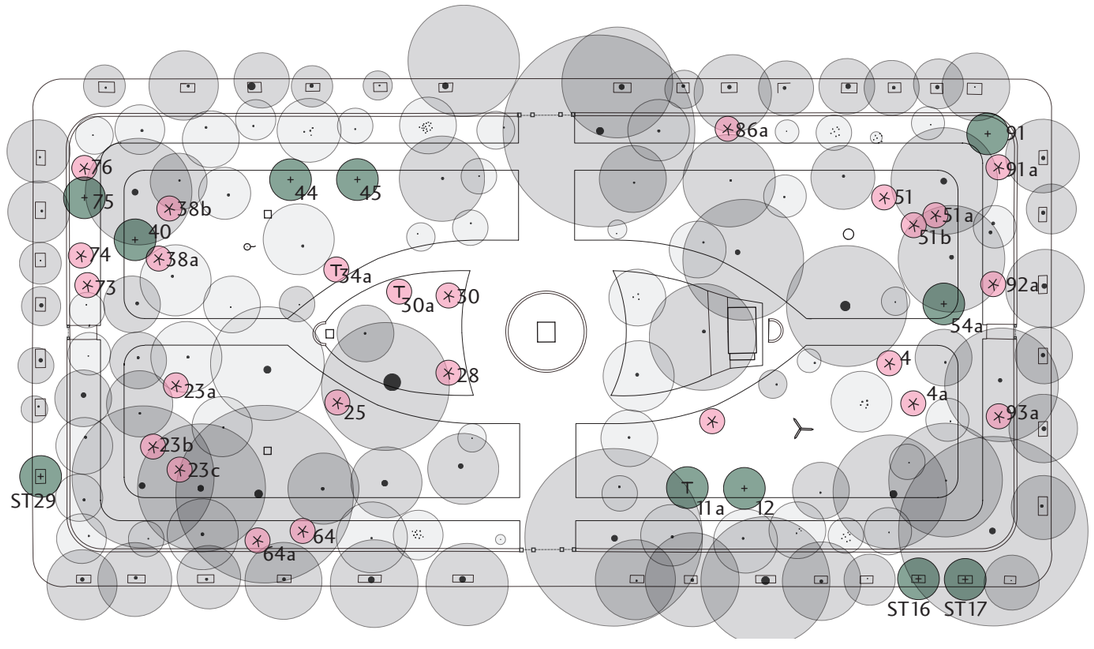
Longevity Rating	*Condition Assessment*	*Type of Issue*
A - Unlimited	4 - Few or No Defects	PFG - Poor Form and Growth
B - 10-20 Years	3 - Minor Defects	STR - Structural Issues
C - 5-10 Years	2 - Major Defects	SPD - Subject to Numerous Pests & Diseases
D - Under 5 Years	1 - Fatal Defects	INC - Incompatible Siting

The tree survey (Appendix A:xix) evaluated the health and structure of the trees in and directly surrounding the Park. The Tree Removal Schedule to the left identifies trees that are failing or detracting from the health and character of the Park, by criteria spelled out in key above. As indicated, they should be removed in a manner so as to not dramatically alter the Park's canopy. These are recommendations based on current conditions, and should be confirmed by an arborist before implementing.

The following criteria should be evaluated when confirming and identifying tree removals:

- public safety
- tree health
- impact to health of Park and/or City (competion, invasive, disease vector)
- visual character

At right are immediate tree planting opportunities, and future opportunities in the event that existing trees are removed.



Canopy Tree Planting

Transplanted Tree

Understory Tree Planting

Immediate Planting Opportunity

#4a Star Magnolia - *Magnolia stellata*
#23a Redbud - *Cercis canadensis*
#23b Redbud - *Cercis canadensis*
#23c Redbud - *Cercis canadensis*
#38a Red Buckeye - *Aesculus pavia*
#38b Red Buckeye - *Aesculus pavia*
#51a Fringetree - *Chionanthus virginicus*
#51b Fringetree - *Chionanthus virginicus*
#54a Pagoda Tree - *Sophora japonicum*
#64 Tree Lilac - *Syringa reticulata*
#64a Redbud - *Cercis canadensis*
#91a Fringetree - *Chionanthus virginicus*
#93a Sweetbay Magnolia - *Magnolia virginiana*

Quadrant + Design Criteria

Magnolia Grove - signature flowering tree
Redbud Stand - signature flowering tree
Redbud Stand - signature flowering tree
Redbud Stand - signature flowering tree
Buckeye Copse - signature flowering tree
Buckeye Copse - signature flowering tree
Fringetree Glade - signature flowering tree
Fringetree Glade - signature flowering tree
Fringetree Glade - symmetrical canopy tree
Redbud Stand - multistem flowering tree
Redbud Stand - signature flowering tree
Fringetree Glade - signature flowering tree
Magnolia Grove - signature flowering tree

Tree Planting Opportunity

Immediate Transplant Opportunity

Current Location

#11a Pin Oak - *Quercus palustris* — from position #29
#30a Plum - *Prunus cerasifera* — from position #30
#34a Pin Oak - *Quercus palustris* — from position #28

If Existing Trees are Removed

Quadrant + Design Criteria

#4 Magnolia - *Magnolia acuminata* 'Butterflies' — Magnolia Grove - signature flowering tree
#12 London Plane Tree - *Platanus x acerifolia* — Magnolia Grove - canopy tree
#25 Pagoda Dogwood - *Cornus alternifolia* — Redbud Stand - multistem flowering tree
#28 Saucer Magnolia - *Magnolia x soulangiana* — Central Oval - symmetrical flowering tree
#30 Saucer Magnolia - *Magnolia x soulangiana* — Central Oval - symmetrical flowering tree
#40 Tulip Poplar - *Liriondendron tulipfera* — Buckeye Copse - canopy tree
#44 Yellowwood - *Cladustris lutea* — Buckeye Copse - canopy tree
#45 Tulip Poplar - *Liriondendron tulipfera* — Buckeye Copse - canopy tree
#51 Serviceberry - *Amelanchier canadensis* — Fringetree Glade - multistem flowering tree
#73 Pagoda Dogwood - *Cornus alternifolia* — Buckeye Copse - multistem flowering tree
#74 Pagoda Dogwood - *Cornus alternifolia* — Buckeye Copse - multistem flowering tree
#75 Willow Oak - *Quercus phellos* — Buckeye Copse - canopy tree
#76 Red Buckeye - *Aesculus pavia* — Buckeye Copse - signature flowering tree
#91 American Basswood - *Tilia americana* — Fringetree Glade - canopy tree
#92a Serviceberry - *Amelanchier canadensis* — Fringetree Glade - multistem flowering tree

Immediate Street Tree Planting Opportunity*

#ST16 Willow Oak - *Quercus phellos*
#ST17 Willow Oak - *Quercus phellos*
#ST29 Ginko - *Ginko biloba*

When Declining Street Trees are Removed*

#ST10 Ginko - *Ginko biloba* 'Autumn Gold'
#ST14 Serviceberry (single-stem) *Amelanchier canadensis* 'Cumulus'
#ST22 Willow Oak - *Quercus phellos* 'High Tower'
#ST30 Ginko - *Ginko biloba* 'Autumn Gold'
#ST34 Kentucky Coffeetree - *Gymnocladus dioicus* 'Prairie Titan'

* *Coordinate with NYC Parks Forestry Service*

AESTHETIC CHARACTER: QUADRANT IDENTITY

The following pages delve into the diverse characters of the four quadrants of the Park and propose plantings to complement and amplify these identities. Existing trees, soil and light conditions are key determinants of the quadrant character. The proposed planting were selected to thrive in these conditions and enhance each quadrant's distinct aesthetic within the larger park framework. Each quadrant has its own signature flowering understory tree complimented by a low plane of evergreen and ornamental ground covers where conditions are too shady for lawn.

General Planting + Maintenance

Tree Planting - As existing canopy trees decline and are removed, replace as noted with shade tree species around the perimeter of the lawn panel and with understory trees in the perimeter planting area. Plant a grouping of signature specimen trees to anchor the far corner of each lawn panel and cement quadrant identity.

Perimeter Planting - Work with existing, thinning of existing deciduous shrubs, supplementing evergreen structure with shade tolerant shrubs such as Pieris, Leucothoe, Aucuba, Aesculus and Hydrangea. For additional ground plane interest, perennials such as Japanese Skimmia, Windflower, Goatsbeard, Japanese Forest Grass, Ferns, Variegated Solomon's Seal, and Ginger are indicated.

Lawn Panels - Lawns should be vertically mulched to improve aeration and drainage and mitigate fungal problems - see drainage section (p 46) for more information. Adjust soil pH as per Soils Report recommendations (p 61). Adjust irrigation schedule to water deeply on an as needed basis. Plant shade tolerant groundcovers in the far corner of each lawn panel.

Sunny Northwest

This quadrant is currently in the dappled shade of large canopy trees. Five of these canopy trees may need to be removed in the foreseeable future (p 16). The loss of these trees can be seen as an opportunity to rethink the canopy cover of this quadrant - the replacement canopy could be lighter in order to establish a more robust shrub layer. Buckeyes will add early summer flower and patchy cover to embellish this sunny quadrant.

Soil - Historic fill. Soil tends to be moist.

Lawn - Turf is thin, but soils and available light should support good growth in open areas.

Shrubs and Perennials - Open perimeter on west side. Perennial and groundcovers predominately *Lamium*.

Trees - Well developed understory tree planting along north side. The existing Buckeye is structurally compromised, and the Elm trees along the perimeter fence appear to be in decline.

Southwest Woodland

Once the wooded hillside above a creek, this corner is shady, high and dry, with lots of root competition from large healthy trees. This has limited shrub and groundcover growth, especially on the Southern border. Shade tolerant flowering shrubs, anchored by a Redbud Stand, will add understory color to this shady woodland.

Soil - Relatively undisturbed soils. Soil tends to be dry.

Lawn - Thin turf due to shade and root competition.

Shrubs and Perennials - Perimeter open to street, few shrubs. Good evergreen structure on east side, looser on the south. Groupings of Azalea, Kerria and other miscellaneous shrubs. Perennial and groundcovers are dominated by Hosta and Liriope.

Trees - Tree canopy well developed providing dense shade. Gaps in understory tree planting. There is one empty street tree pit near the corner on Gramercy Park West.

Southeast Sculpture Garden

This quadrant is bright and animated, enlivened by the Alexander Calder sculpture on loan to the Park. This recent addition reminds us that this historic park is a living landscape, evolving with its residents. The proposed sculptural Magnolias would play off of the Calder forms and frame a space ripe for future sculpture installations.

Soil - Historic fill soils. Soil tends to be moist.

Lawn - Some fungal problems. Ivy has been established in shadiest corner.

Shrubs and Perennials - Good evergreen structure on east side, looser on the south. Structure provided largely by Japanese Aucuba, some Azaleas and Rhododendron. Perennial and groundcovers are dominated by Sensitive Fern and Houttuynia Chameleon on the east side and Hostas and Liriope on the south.

Trees - Tree canopy is young and open, though with two large London Plane trees along the southern edge. There are two empty street tree pits near the southeast corner of the park.

Secluded Northeast

The wettest quadrant, this is also the most removed from the city outside, as much of the border is screened with evergreen shrubs layered with flowering shrubs. Poetic Fringetrees will add highlight and romance to this secluded glade

Soil - Historic fill soils over hardpan at lowpoint of park. Soil tends to be moist to wet.

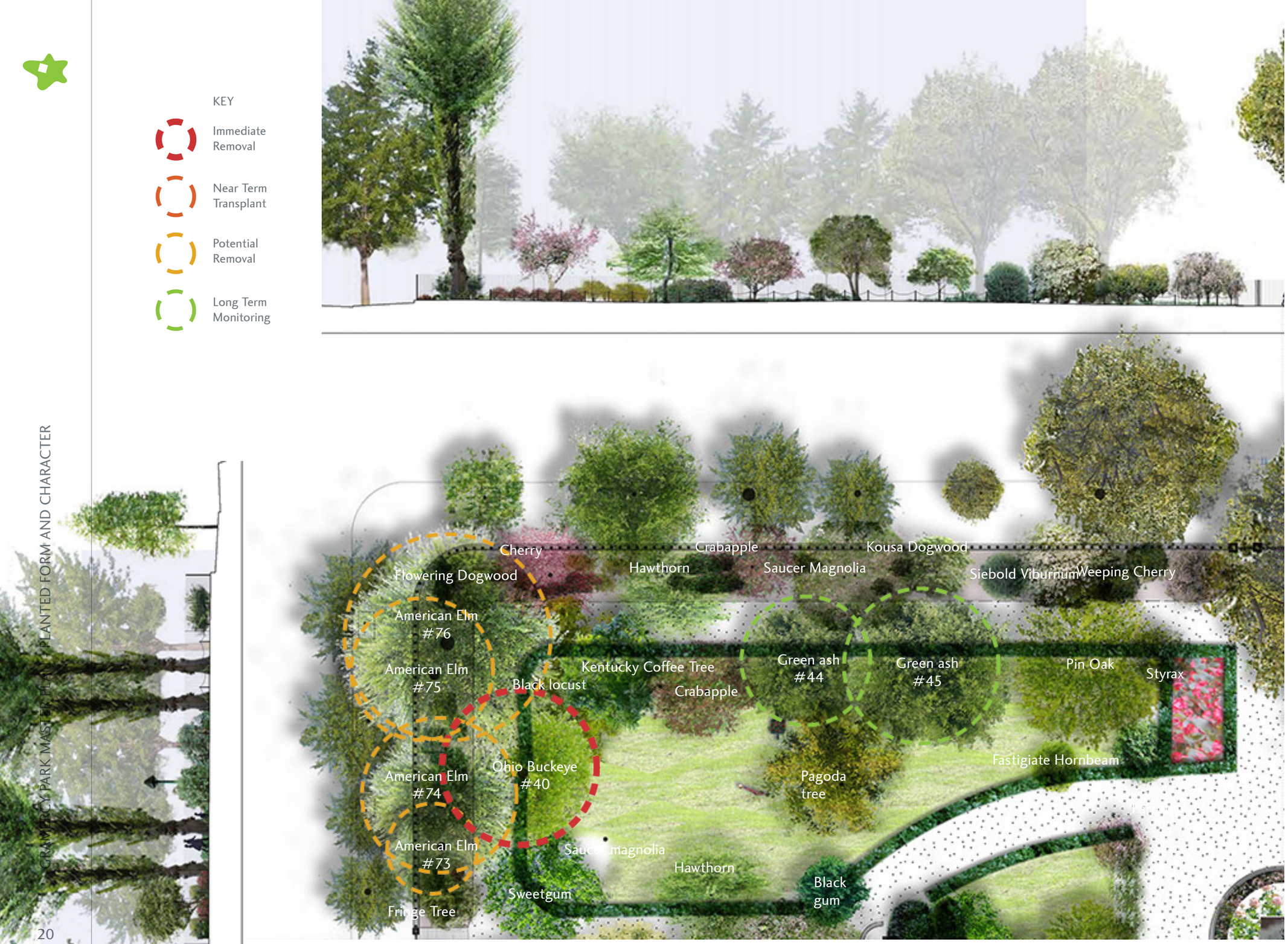
Lawn - Thin cover, possibly due to wet soil conditions.

Shrubs and Perennials - Good evergreen structure on north and east side, largely from *Ilex meservae*, Japanese Aucuba and Rhododendron. There are also groupings of Azalea, Kerria and other miscellaneous shrubs. Perennial and groundcovers are dominated by Pachysandra and Liriope.

Trees - Mature, somewhat open tree canopy.

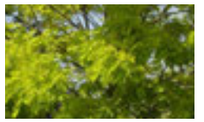
KEY

- Immediate Removal
- Near Term Transplant
- Potential Removal
- Long Term Monitoring



Existing Plan and Palette

CANOPY TREES



Black Locust
Robinia psuedoacacia

Kentucky Coffee Tree
Gymnocladus dioicus

UNDERSTORY TREES

Hawthorn
Crateagus sp.

Saucer Magnolia
Magnolia soulangiana

SHRUBS

Rose of Sharon
Hibiscus syriacus

Witch Alder
Fothergilla gardenii

NORTHWEST - BUCKEYE COPSE
Proposed Plan and Palette

CANOPY TREES


Yellowood
Cladustris lutea CL


Tulip Poplar
Liriodendron tulipfera LT


Willow Oak
Quercus phellos QPh

UNDERSTORY TREES


Red Buckeye
Aesculus pavia AP


Pagoda Dogwood
Cornus alternifolia CA

SHRUBS


Bottlebrush Buckeye
Aesculus parviflora AV


Japanese Aucuba
Aucuba japonica AU


Witch Alder
Fothergilla gardenii 'Blue Mist' FG


Oakleaf Hydrangea
Hydrangea quercifolia *'Sikes Dwarf'* HQ


Coastal Doghobble
Leucothoe axillaris LA


Japanese Andromeda
Pieris jap. 'D. Wykoff' PJ


Rhododendron
'Vulcan' RH


Japanese Skimmia
Skimmia jap. Reevesiana SK


Cutleaf Stephanandra
Stephanandra incisa 'Crispa' SI


Cranberrybush Viburnum
Viburnum trilobum VT

PERENNIALS


Goatsbeard
Aruncus dioicus 'Horatio' AD


European Ginger
Asarum europaeum AE


Windflower
Anemone 'Rosenschale' AR


Bishop's Hat
Epimedium x versicolor 'Sulphureum' EV


Coral Bells
Heuchera'Chocolate Veil'HE


Hosta
Hosta 'Halcyon' HH


Japanese Forest Grass
Hakonechloa macra HM


Christmas Fern
Polystichum acrostichoides PA


Solomon's Seal
Polygonatum odoratum PO


Japanese pachysandra
Pachysandra terminalis PT

KEY

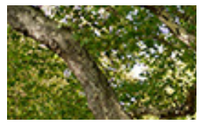
- Immediate Removal
- Near Term Transplant
- Potential Removal
- Long Term Monitoring

Existing Plan and Palette

CANOPY TREES

Ginko
Ginko biloba

Willow Oak
Quercus phellos



London Plane
Platanus x acerifolia

UNDERSTORY TREES

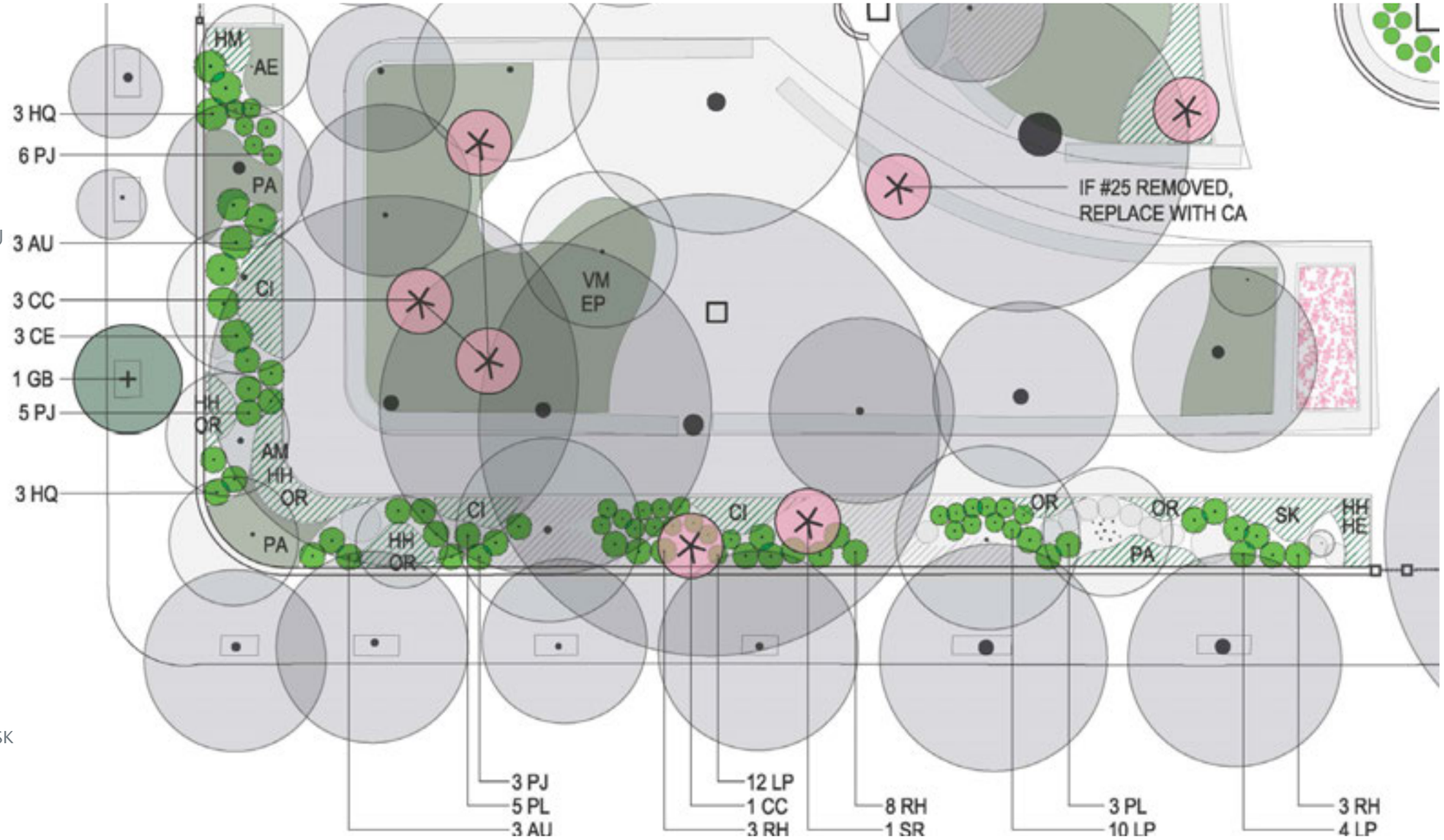
Mimosa
Albizia julibrissin

Crabapple
Malus sp.

PERENNIALS

Hosta
Hosta sp.

SOUTHWEST - REDBUD STAND
Proposed Plan and Palette



UNDERSTORY TREES

Pagoda Dogwood
Cornus alternifolia CA

Eastern Redbud
Cercis canadensis CC

Japanese Tree Lilac
Syringa reticulata SR

SHRUBS

Japanese Aucuba
Aucuba japonica AU

Redtwig Dogwood
Cornus alba
'Elegantissima' CE

Oakleaf Hydrangea
Hydrangea quercifolia
'Sikes Dwarf' HQ

Privet Honeysuckle
Lon. pileata 'Moss Green' LP

SHRUBS

Japanese Andromeda
Pieris jap. Val. Valentine PJ

Cherry Laurel
Prunus laurocerasus
'Otto Luyken' PL

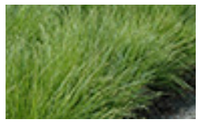
Rhododendron
'Cunningham's White' RH

Japanese Skimmia
Skimmia jap. Reevesiana SK

PERENNIALS

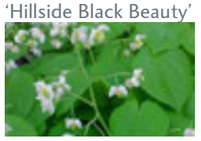
European Ginger
Asarum europaeum AE

Lady's Mantle
Alchemilla mollis AM



Eastern Star Sedge
Carex radiata CR

Bugbane
Cimicifuga simplex CI
'Hillside Black Beauty'



Barrenwort
Epimedium perralchicum
Frohnleiten EP

Coral Bells
Heuchera 'Chocolate Veil' HE

Hosta
Hosta 'Halcyon' HH

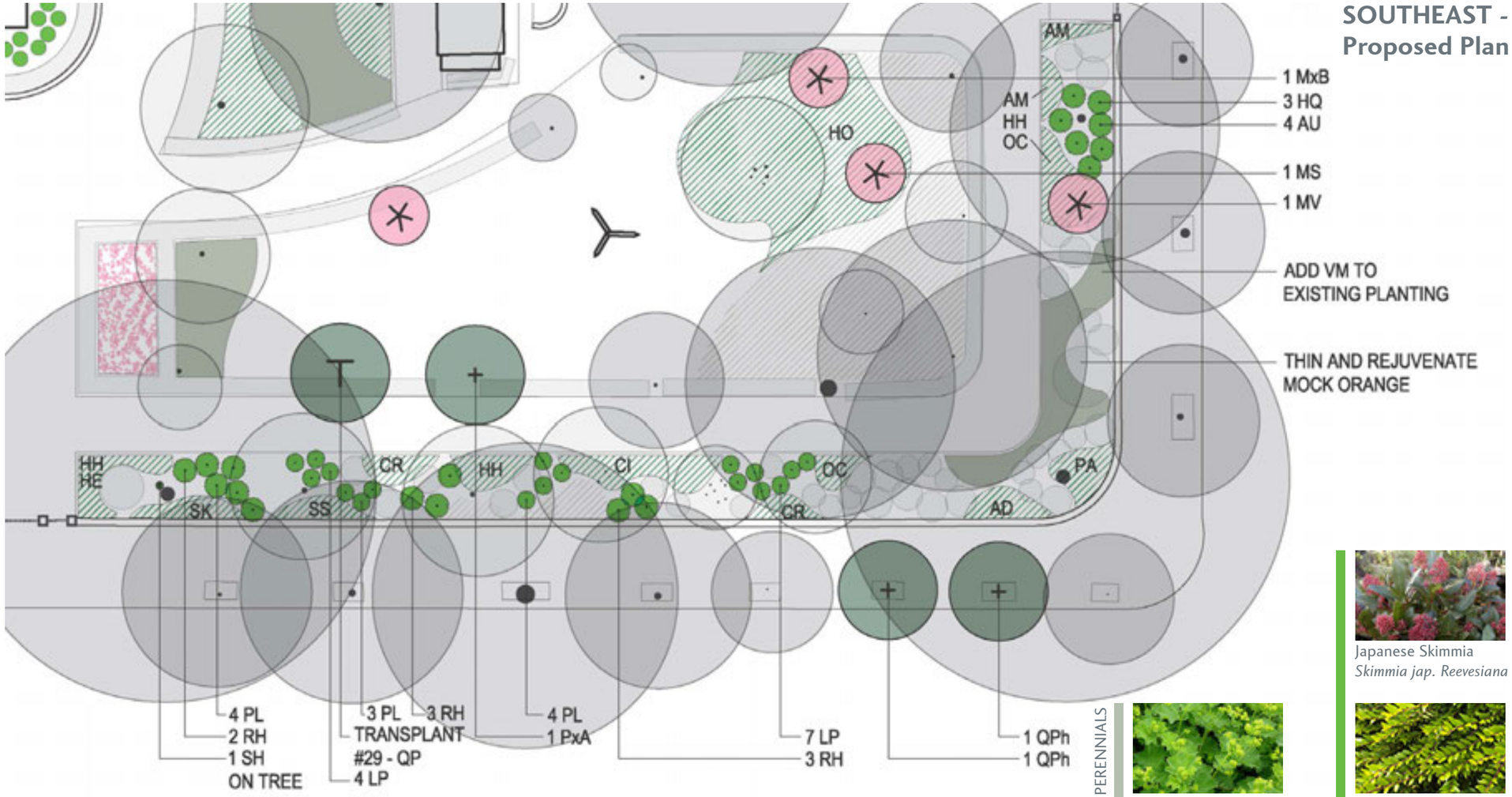
Christmas Fern
Polystichum acrostichoides PA

Royal Fern
Osmunda regalis OR

Periwinkle
Vinca minor VM

Japanese Forest Grass
Hakonechloa macra HM

SOUTHEAST - MAGNOLIA GROVE
Proposed Plan and Palette



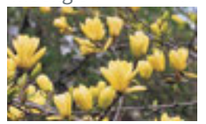
CANOPY TREES

Pin Oak
Quercus palustris QP

London Plane
Platanus × acerifolia PxA

UNDERSTORY TREES

Sweetbay
Magnolia virginiana
'Moonglow' *MV*



Butterflies Magnolia
Magnolia x Butterflies MxB

Saucer Magnolia
Magnolia x soulangeana MS

Japanese Skimmia
Skimmia jap. Reevesiana SK

Privet Honeysuckle
Lon. pileata Moss Green LP

Cherry Laurel
Prunus laurocerasus
'Otto Luyken' PL

Rhododendron
'Scintillation' RH

SHRUBS

Japanese Aucuba
Aucuba japonica AU

Oakleaf Hydrangea
Hydrangea querc. 'Sikes Dwarf' HQ

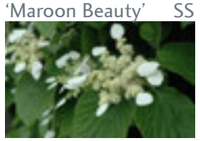
PERENNIALS

Lady's Mantle
Alchemilla mollis AM

Goatsbeard
Aruncus dioicus 'Horatio' AD

Bugbane
Actaea simplex CI
'Hillside Black Beauty'

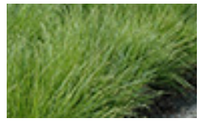
Saxifrage
Saxifraga stolonifera
'Maroon Beauty' SS



Climbing Hydrangea
Schizophragma hyd. Roseum SH

Interrupted Fern
Osmunda claytoniana OC

Christmas Fern
Polystichum acrostichoides PA



Eastern Star Sedge
Carex radiata CR

Lenten rose
Helleborus orientalis HO

Coral Bells
Heuchera 'Chocolate Veil' HE

Hosta
Hosta 'Halcyon' HH

Existing Plan and Palette

CANOPY TREES

Tulip Poplar
Liriodendron tulipfera

London Plane
Platanus x acerifolia

UNDERSTORY TREES

Pagoda Tree
Styphnolobium japonicum

Saucer Magnolia
Magnolia soulangiana

SHRUBS

Rhododendron
Rhododendron sp.

KEY

- Immediate Removal
- Near Term Transplant
- Potential Removal
- Long Term Monitoring

NORTHEAST - FRINGETREE GLADE
Proposed Plan and Palette

PERENNIALS

Ostrich Fern
Matteuccia struthiopteris MA

Saxifrage
Saxifraga stolonifera
'Maroon Beauty' SS

Lilyturf
Liriope spicata LS

Interrupted Fern
Osmunda claytoniana OC

Hosta
Hosta 'Halcyon' HH

Japanese Forest Grass
Hakonechloa macra HM

Bishop's Hat
Epimedium pubigerum EP

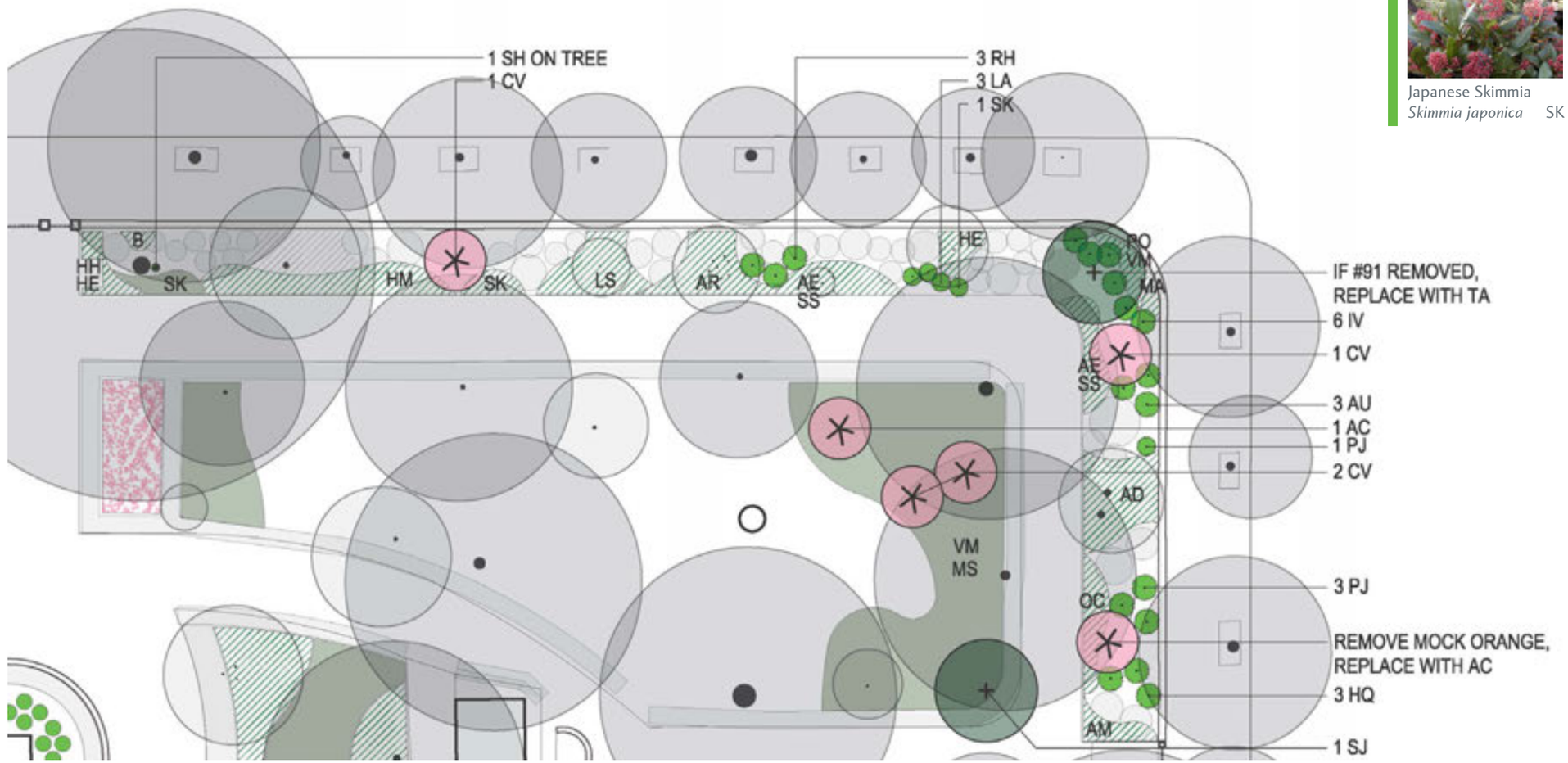
Coral Bells
Heuchera 'Chocolate Veil' HE

Lady's Mantle
Alchemilla mollis AM

Windflower
Anemone 'Rosenschale' AR

European Ginger
Asarum europaeum AE

Goatsbeard
Aruncus dioicus 'Horatio' AD



CANOPY TREES

Japanese Andromeda
Pieris jap. Mt. Fire' PJ

Rhododendron
'Scintillation' RH

Japanese Skimmia
Skimmia japonica SK

Pagoda Tree
Sophora japonicum SJ

American Basswood
Tilia americana TA

UNDERSTORY TREES

Serviceberry
Amelanchier canadensis AC

Fringetree
Chionanthus virginicus CV

SHRUBS

Japanese Aucuba
Aucuba japonica AU

Oakleaf Hydrangea
Hydrangea quercifolia,
'Sikes Dwarf' HQ

Virginia sweetspire
Itea virginica
'Henry's Garnet' IV

Existing Plan and Palette

CANOPY TREES

Ginko
Ginko biloba

Dawn Redwood
Metasequoia glyptostroboides

UNDERSTORY TREES

China Girl Holly
Ilex meserveae

Aucuba japonica
'Gold Dust"

SHRUBS

Chamaecyparis
'Gold Thread'

Butterfly Bush
Buddleia sp.

KEY

- Immediate Removal
- Near Term Transplant
- Potential Removal
- Long Term Monitoring

Existing Plan and Palette

SHRUBS

Roses
Rosa sp.

Hydrangea
Hydrangea sp.

Boxwood
Buxus sempervirens

Red Barberry
Berberis thunbergii

CANOPY TREES

Catalpa
Catalpa bignonioides

Sweetgum
Liquidambar styraciflua

Pin Oak
Quercus palustris

English Elm
Ulmus procera

UNDERSTORY TREES

Saucer magnolia
Magnolia soulangiana

Plum
Prunus cerasifera

KEY

Immediate Removal

Near Term Transplant

Potential Removal

Long Term Monitoring

Proposed Plan and Palette

UNDERSTORY

Saucer magnolia
Magnolia soulangiana MS

SHRUBS

Sweetbox
Sarcococca hookeriana SH

PERENNIALS

Hosta
Hosta 'Halcyon' HH

Lenten rose
Helleborus orientalis HO

Solomon's Seal
Polygonatum odoratum PO

Periwinkle
Vinca minor VM

CENTRAL OVAL + CROSS-AXIS

The central oval and cross axis are comprised of three elements with distinct characters: the Booth Circle parterre, the annual parterre beds, and the east and west half ovals. The formal symmetry and robust ornamental character of the distinct garden elements establishes this central area as the symbolic heart of the Park. Proposed plantings on this page and the following two spreads reinforce the symmetry and accentuate the ornamental character.

Planting + Maintenance

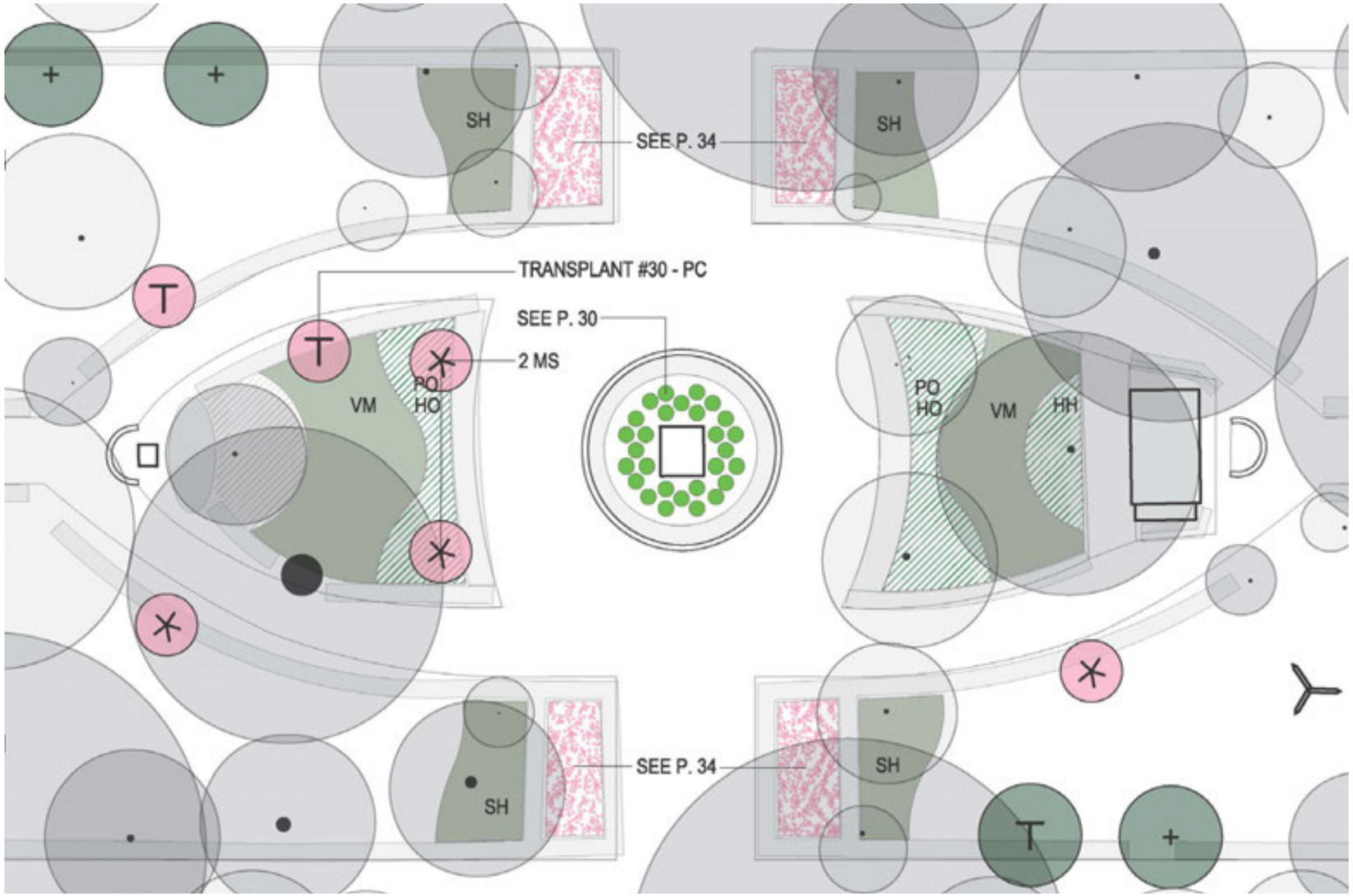
Lawn - Replace Lawn with ornamental perennials and groundcovers.

Tree Planting - Transplant Plums and Pin Oak from West Half-Oval. Replace with Saucer Magnolias to mirror East Half-Oval.

Parterres - See p 32-33 for proposed Parterre planting sequences and boxwood pruning recommendations. Plant Sweetbox behind parterres as an evergreen backdrop to the seasonal color of the Parterres.

Rose Garden - See p 30-31 for Rose planting recommendations.

Maintenance - Adjust irrigation schedule to water deeply on an as needed basis.



ROSE GARDEN

A different rose should be planted, with the following design criteria:

- medium, simple, white or blush flower
- 3 - 4' tall plant with attractive foliage
- reblooming
- good fall color or rose hips
- hardy & low maintenance
- disease resistant

The soil sample found saturated soil in this bed, due to likely overirrigation and poor drainage. Putting the rose bed's irrigation on a seperate zone and adding an evapotranspiration sensor, such as Solar Synch, will help address overwatering.

The current squirrel damaged drop irrigation should be replaced with a new drip system that is protected from squirrels with wire mesh. While the system is being repaired, the soil can be amended to improve drainage in the rose bed.

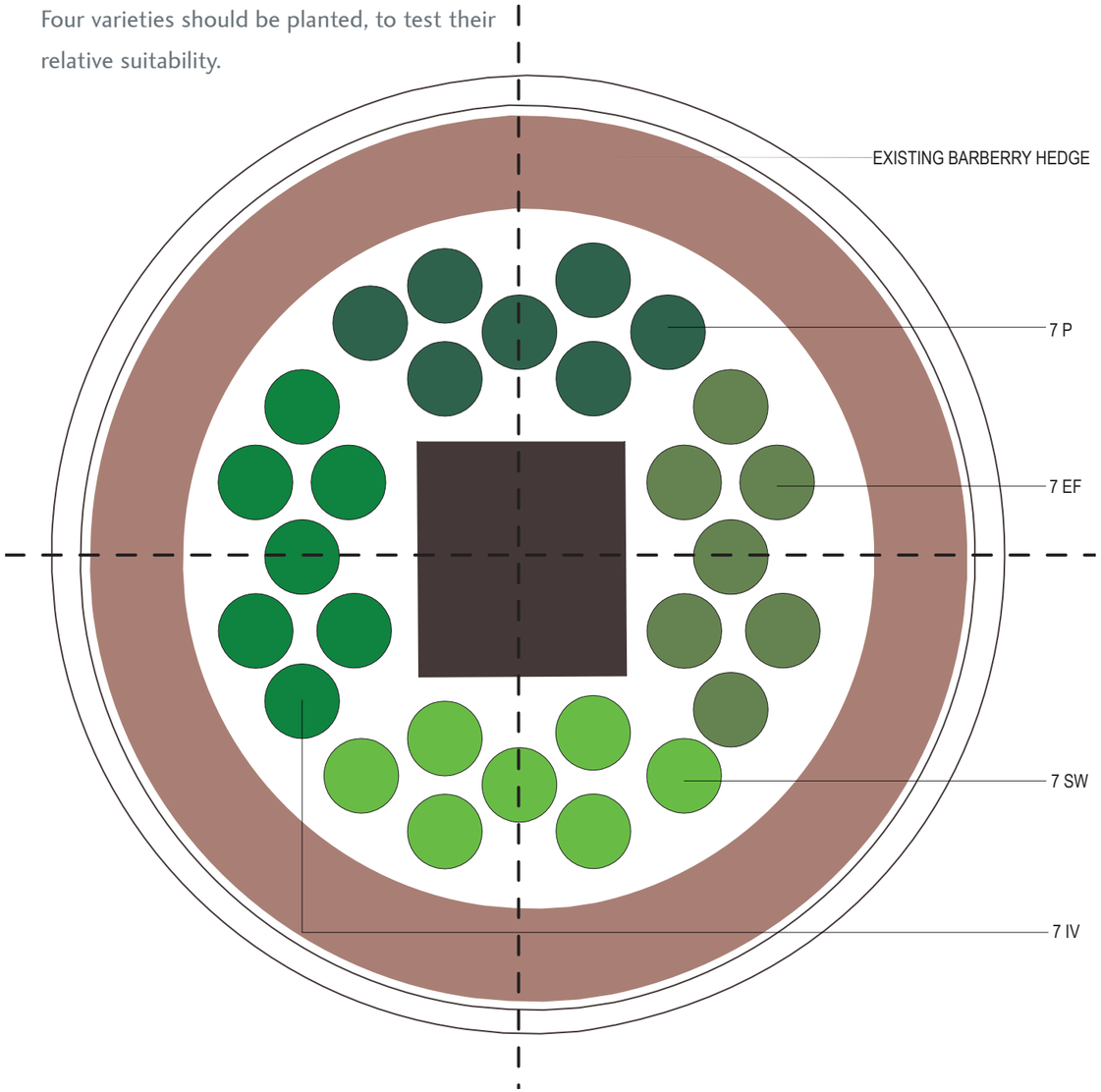
Roses should be pruned to reveal plaque on statue.

Rosa 'Kew Gardens'
2.5" single bloom, fragrant, 1.5" blooms, apricot bud followed by white flower, 5' tall

Rosa 'Matchball'
1.5" white to light pink single bloom with strong fragrance, 3-4' tall

Proposed Plan and Palette

Four varieties should be planted, to test their relative suitability.



Rosa 'Innocencia Vigorosa' - IV
2" blush double bloom with moderate fragrance, 4' tall

Rosa 'Penelope' - P
3" semi-double creamy pink with strong fragrance, coral-pink hips, 6' tall

Rosa 'Susan Williams-Ellis' - SW
2" white double bloom with strong fragrance, 4' tall

Rosa 'Elegant Fairy Tale' - EF
3" pink and white double bloom with fruity fragrance, 3-4' tall

CENTRAL PARTERRES

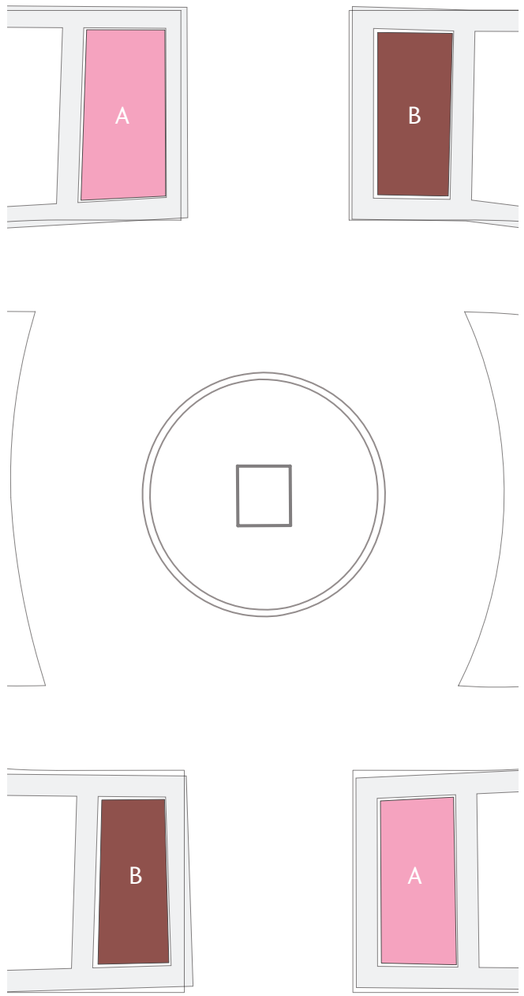
In the spirit of a French parterre, but with a strong American identity, the annual beds are ringed with boxwood hedge and symmetrically flank the central axis. They are planted with tulips in the spring, and begonias in the summer into fall. The tulips successfully provide a simple colorful and elegant block within the hedge, but the beds are underutilized the rest of the year.

Additionally, though the treatment of the beds is the same, they each have different growing conditions based on topography, soil, and shade. This results in non-uniform growth habit and bloom in each bed, which detracts from the spatial strength of their symmetry.

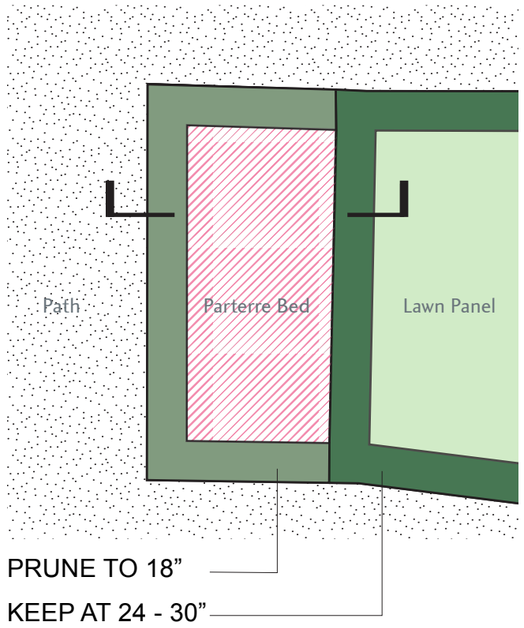
At right are alternate planting sequences for these beds that would grow and bloom in ways to reinforce the formal symmetry and provide year round excellence.

The following design criteria were used to select species and calibrate sequences.

- showy year round
- 2-4' tall
- fast growing
- good contrast to boxwoods

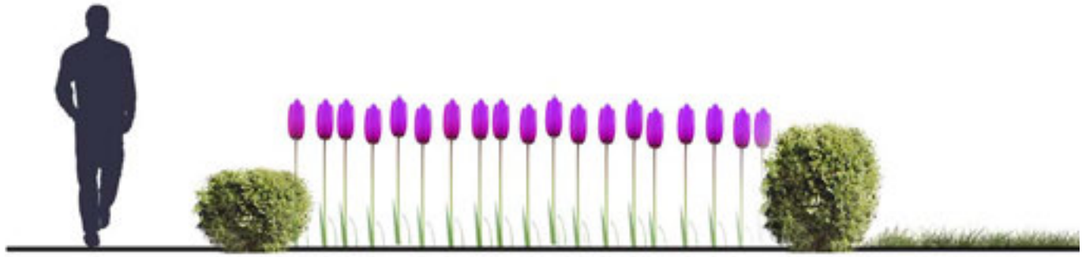


Parterres should be planted with reverse symmetry.



Boxwoods should be pruned to best display parterre plantings.

Parterre Planting Section A



Spring 'Queen of the Night' Tulip [24-36"]

Plan Diagram

Summer

Mealycup Sage *Salvia farinacea* [18-36"]

Alternates to Salvia:

- Catmint *Nepeta racemosa* 'Walker's Low' [24-30"]
- *Tall verbena Verbena bonariensis* [24-48"]

Fall/Winter Pine boughs and bristle cones.

Parterre Planting Section B

Spring Tulip White Triumphator - 24" tall, long-lasting bloom with elegant silhouette

Plan Diagram

Summer

Fireworks Fountain Grass *Pennisetum setaceum* 'Fireworks' [36"]

Larkspur *Consolida ajacis* [12-48"]

Alternates to Larkspur:

- Spider Flower *Cleome* 'Senorita Rosalita' [24-28"]
- Snapdragon *Antirrhinum* 'Bronze Butterfly' [36"]

Fall/Winter Red Twig Dogwood Branches

STREET TREE PLANTINGS

The shady tree pits lining the Park can be treated as an extension of the Park's woodland plantings.

Perennial Planting - Perennials and bulbs at left should be planted in the fall. Perennials should be cut to the ground and covered with mulch every fall to allow roots to grow and to prevent theft.

Soil Maintenance - Trees may have had soil levels raised at the base. Some trees are showing signs of basal damage. While it may prove difficult to lower the soil throughout the tree pit, an effort should be made to keep soil away from the trunk and the tree using landscape edging. Spread 1" of gravel to keep down weed growth.

ABOVE: Existing Tree Pit Planting

Proposed Plan and Palette

PERENNIALS

Lilygrass
Liriope spicata LS

Hosta
Hosta sieboldiana HS

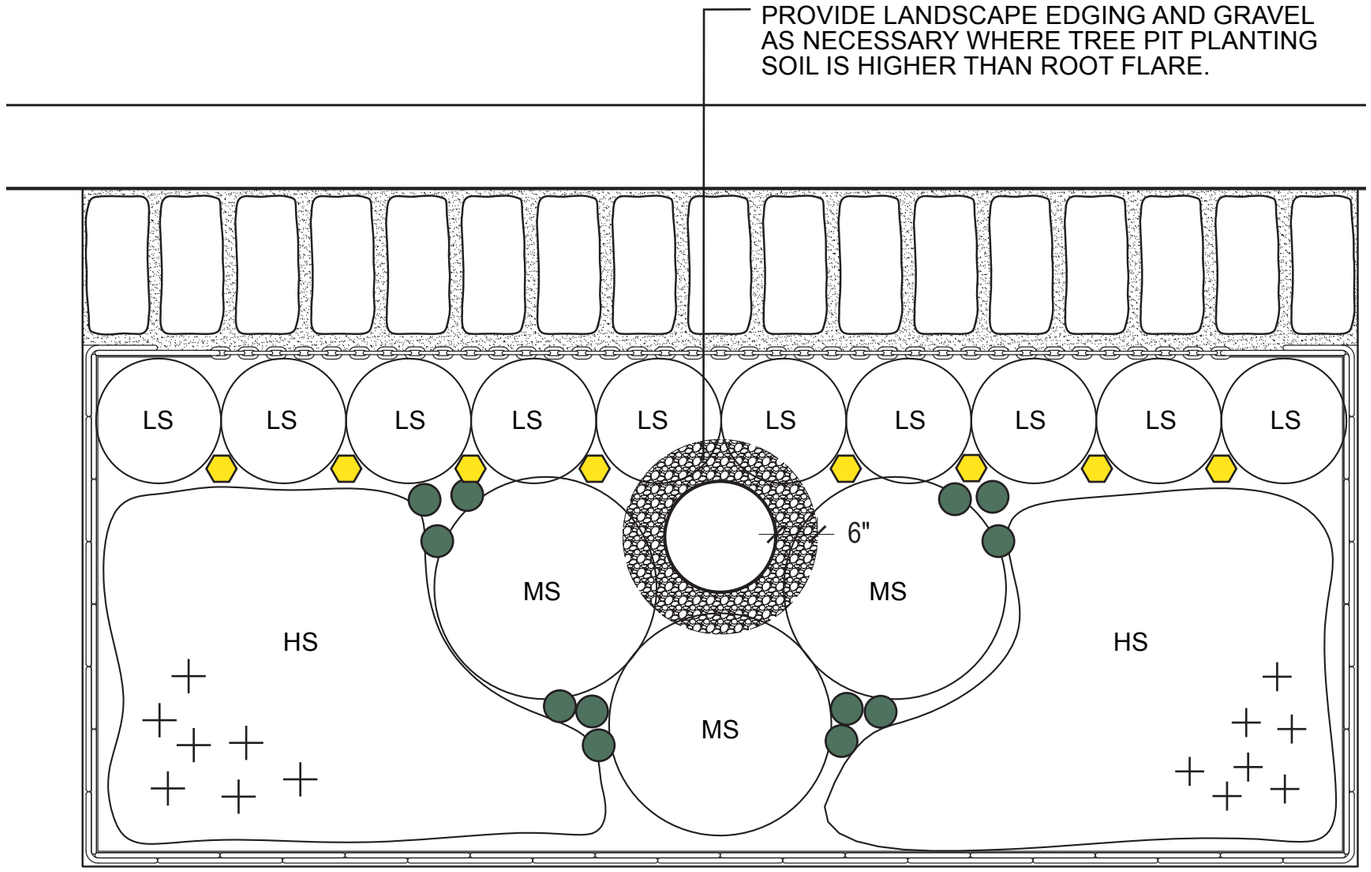
Ostrich Fern
Matteuccia struthiopteris MS

BULBS

Miniature Daffodil
Narcissus 'Little Gem'

Trumpet Daffodil
Narcissus 'Bravoure'

Daffodil
Narcissus 'Thalia'



SITE ELEMENTS

Soft footpaths, historic furniture and other ornamental features are fundamental to the timeless character of the Park. Several of these elements currently lack definition and require substantial maintenance. The following site elements framework will help guide the reinvigoration of the Park by establishing a coherent character, feasible maintenance regime, and sustainable performance.

DONATION OPPORTUNITIES

RESURFACE GRAVEL PATHS

Enhance aesthetic experience while improving drainage

p 40

INSTALL EDGING

Define planting beds while streamlining maintenance.

p 42

INSTALL BLUESTONE THRESHOLDS

Create a ceremonial threshold to the North and South park entrances

p 44

LIGHT BOOTH STATUE

Create a presence for the park at night.

p 48

SCULPTURE LOAN

Support the Southeast quadrant as a rotating Sculpture Garden

REORGANIZE BENCHES

Reinforce park character through furniture placement

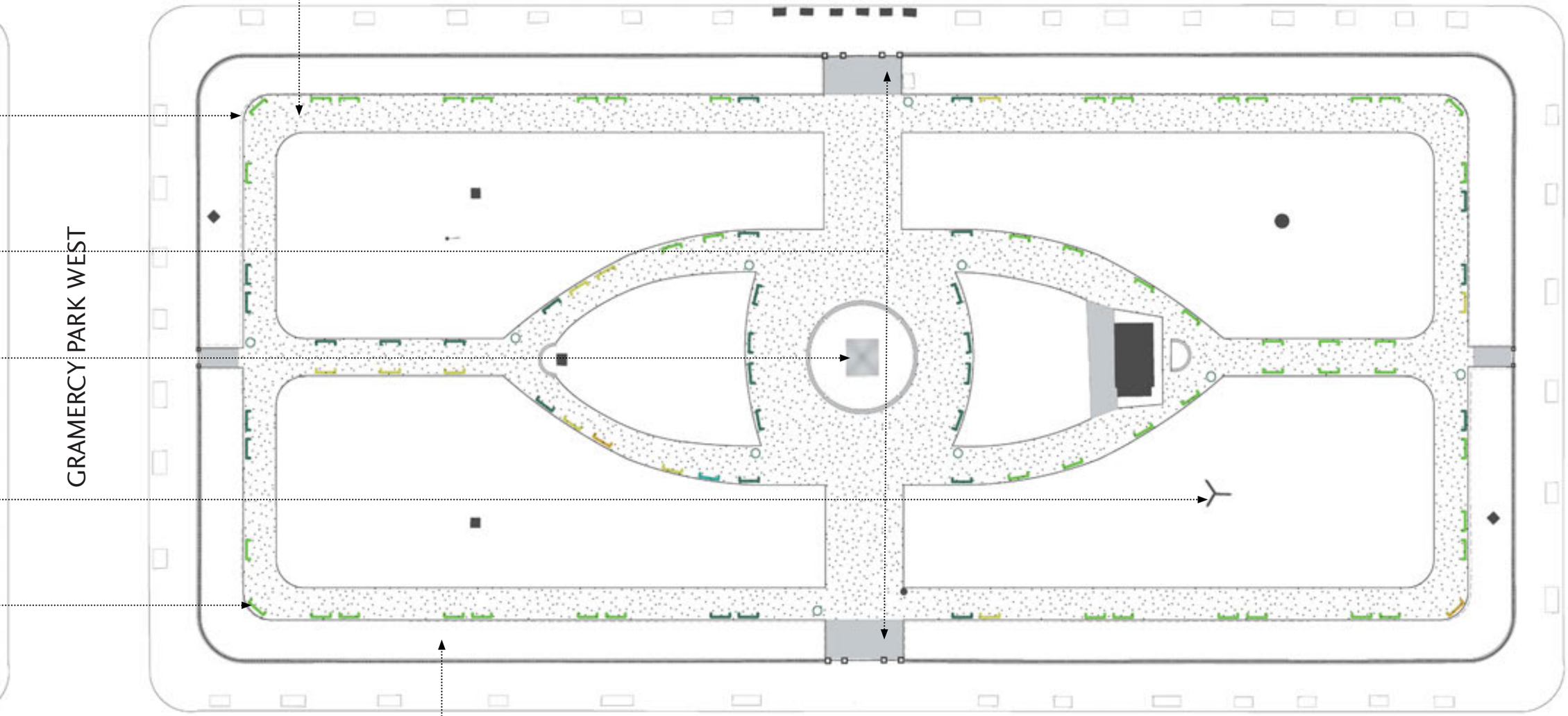
p 46

INSTALL TREE SIGNAGE

Celebrate planted diversity with tasteful tree signage throughout the Park.

Appendix C:xi

Proposed Site Elements Plan

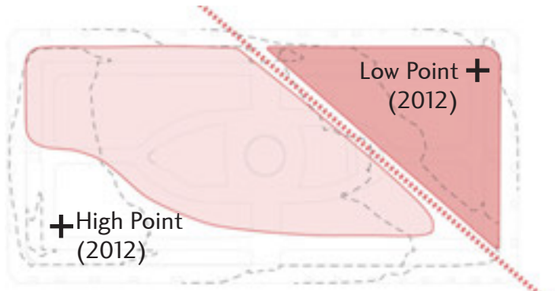


SOILS + DRAINAGE

Gramercy's Park's symmetrical layout was built over very irregular topography. The Crommessie Vly watercourse crossed the northeast corner of the site, its banks cutting steeply into the land, while Crommessie Hill rose in the southwest. Leveling the land to create the park in1831 required up to 90 million cubic feet of fill.

Soil surveys (Appendix A.ii) revealed the effects of this leveling - test pits dug in the the Southwest quadrant of the Park showed an undisturbed soil profile, while pits in other areas showed a cinders and other material used as fill. Perhaps because of this, the Southwest quadrant supports the most robust tree growth in the Park.

There is no drainage connection from the Park to the city storm sewers, so all rainfall and irrigation must drain through the soil. As the grade slopes down to the Northeast quadrant, rainfall throughout the park runs there as well. The layers of fill here have compacted over time and are not sufficiently pervious to this inundation, resulting in ponding in the path and saturated soil in the beds. This is particularly problematic for the Northeast lawn panel, as well as for vegetation along the Northeast perimeter path. A combination of deep aeration for lawn panels and improved drainage in the paths will help alleviate drainage problems.



Historic Grading Plan

KEY

- Approximate edge of bluff
- Assumed area close to predevelopment grades but with some grading.
- Assumed area of deep fill

TOP: Egbert Viele's topographic map from 1865 is overlaid on a Google Earth map to illustrate the natural contours overcome to create Gramercy Park.

LEFT: Areas filled to create the Park's regularized topography in 1831.

ABOVE: Current areas of excessive ponding or saturation after rain events. *Photo courtesy of Sam White.*

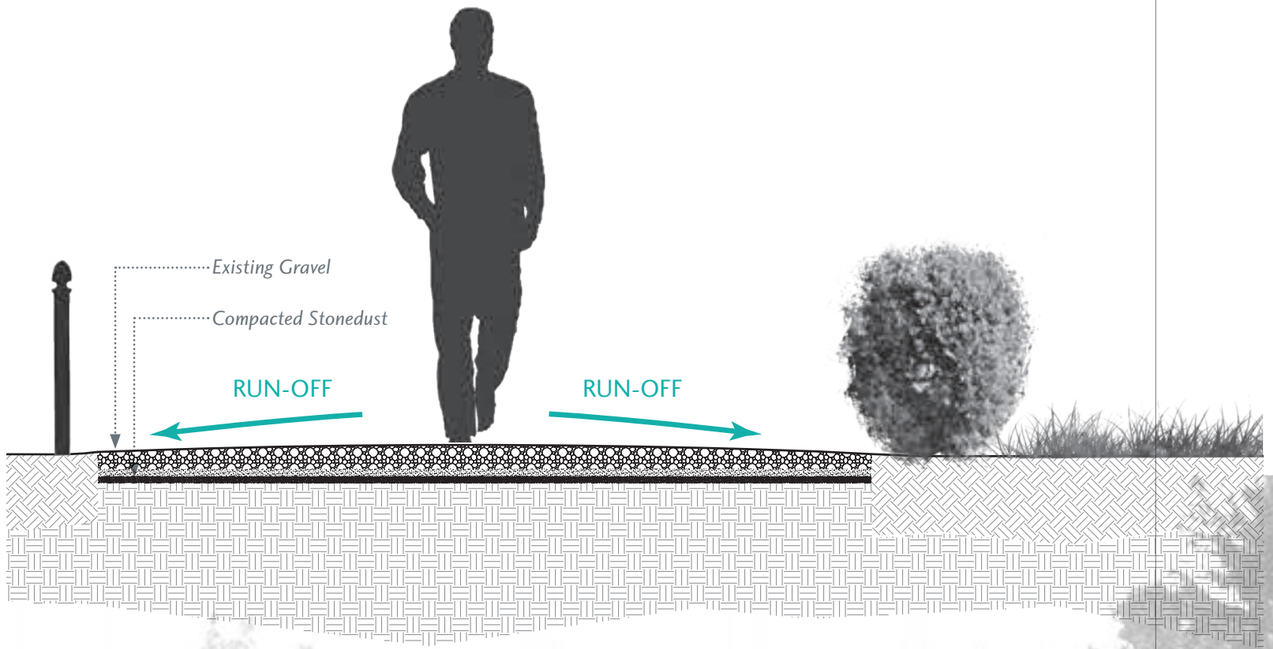
GRAVEL PATHS

The largest areas of hardscape in the park are the interior gravel paths, which cover more than half an acre and 30% of the entire Park surface. The sound and feel of gravel underfoot differentiates the experience of the interior paths from the exterior sidewalks, contributing to the gardenesque character of the Park. Gravel has the additional benefits of being easy to repair if it has to be excavated, and is more pervious to stormwater than other soft paving materials like stone dust.

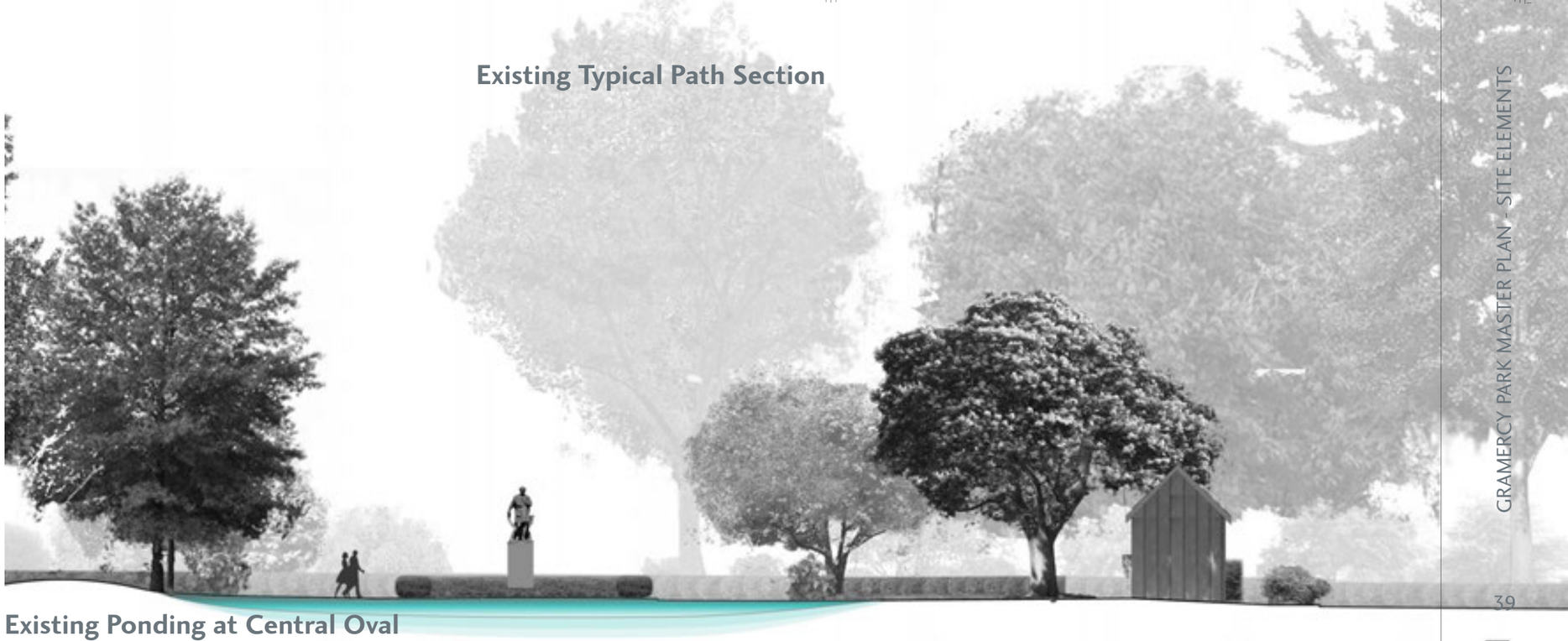
However, the existing gravel paths need to be replaced. They have deteriorated and are not draining properly. As the gravel has broken down over the years, the resulting stone dust has formed a compacted layer underneath freshly added gravel. This has made the paths both slightly higher than the surrounding planting areas and less permeable to rainwater, adding to the soil compaction and ponding issues.

Additionally, the gravel currently used is a construction grade gravel that lacks the fine-grained beauty the Park deserves.

Existing Gravel



Existing Typical Path Section

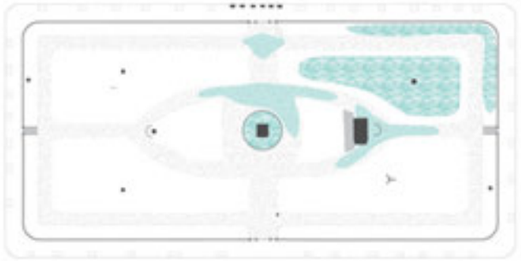


Existing Ponding at Central Oval

GRAVEL PATHS
Excavation And Resurfacing

The resurfacing of the gravel path system presents a good opportunity to address Park drainage issues by improving infiltration within the pavement profile. In areas where drainage is of particular concern (i.e. where ponding occurs during large rain events) the path could be excavated to a greater depth and filled with either a larger broken stone, or with a PVC drywell system (Cultech) and broken stone. Either of these would accommodate a significant amount of stormwater below finish grade, allowing it to infiltrate into the ground without ponding on the surface. Excavation should proceed carefully by hand or by pneumatic excavation within the canopies of large adjacent trees.

Lawn areas would benefit from deep vertical mulching to improve aeration and infiltration. Typically 2-3" diameter holes are drilled 24-30" on center with an auger or a pneumatic drill. Typical depth is 12", but in the case of the northeast corner where there is a hardpan at 27", the drilling should be deep enough to break through this barrier. Holes are backfilled with a mix of pea gravel or sand, perlite, compost and a mycorrhizal inoculant like Rhizofuel.

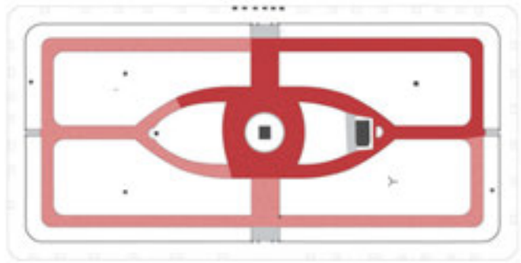


Existing Drainage Issues

KEY

Ponding in Paths

Over-Saturated Soils



Proposed Path Resurfacing Plan

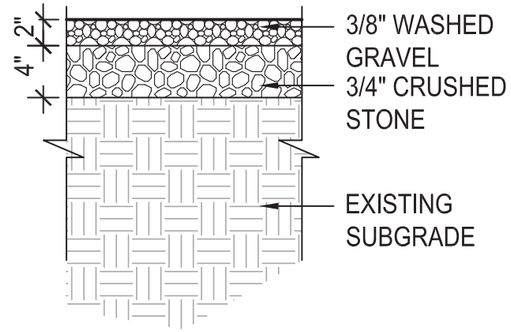
KEY

Proposed Path Resurfacing

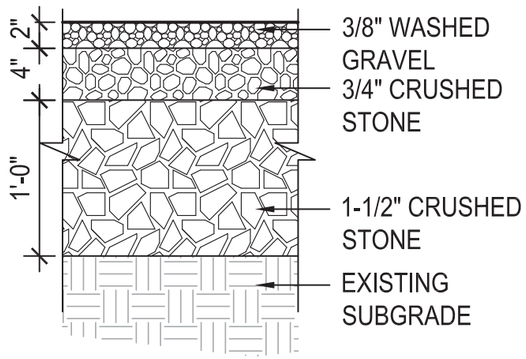
Proposed Path Resurfacing with Underdrainage

3/8" Washed Gravel
Westhook Sand & Gravel Inc.

The subtle heterogeneity of color and tone in this gravel will add depth to the ground plane while maintaining the uniform appearance of the paths. This round gravel will not compact as quickly as the current gravel, allowing greater permeability in the paths. See Appendix C.iii for source and pricing information.

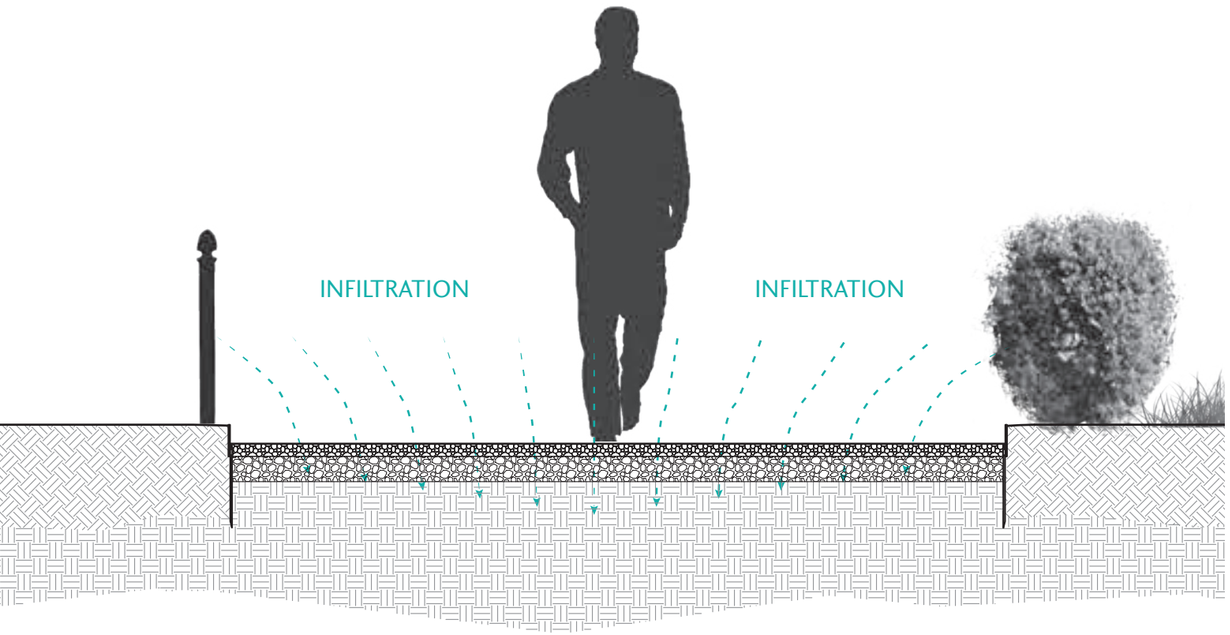


Proposed Path Resurfacing Detail

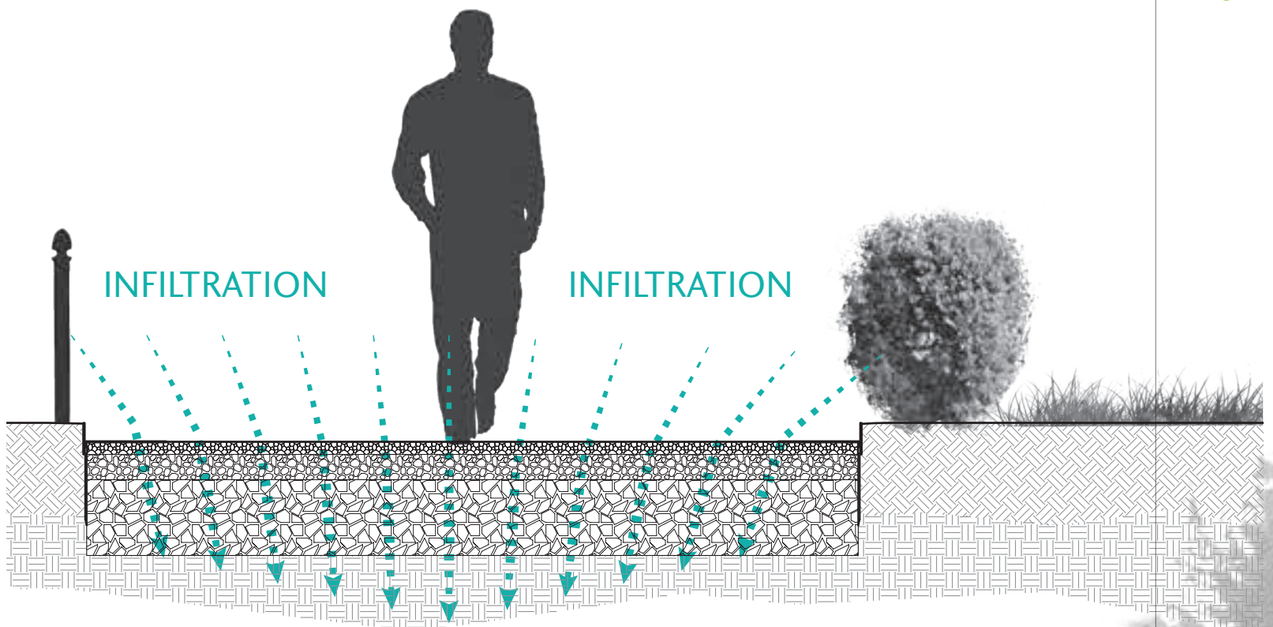


Proposed Path Resurfacing Detail with Underdrainage

0' 6" 1' 2'



Proposed Path Resurfacing Section

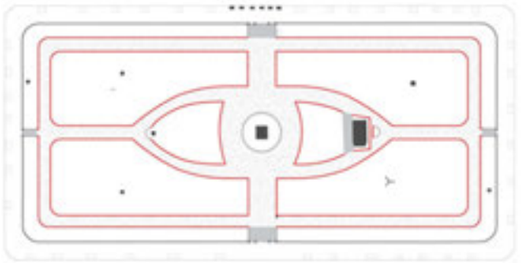


Proposed Path Section Resurfacing with Underdrainage Section

Proposed Infiltration at Central Oval

GRAVEL PATHS
Edging

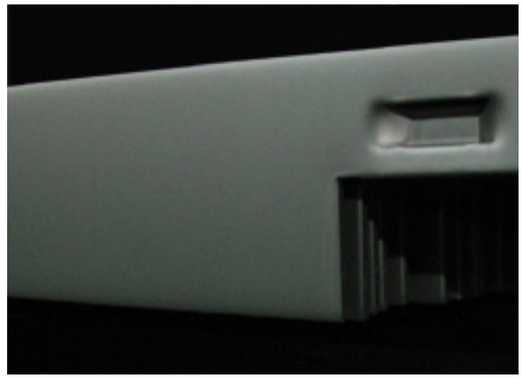
The line between the paths and planting is fuzzy - gravel and mulch both migrate across this line, necessitating continual maintenance and replenishment. The lack of crisp line also detracts from the Park's strong symmetrical geometry. Edging the paths will limit material migration; give a cleaner look to the Park; and will allow the gravel paths to be lowered slightly, aiding drainage issues.



Proposed Path Edging Plan

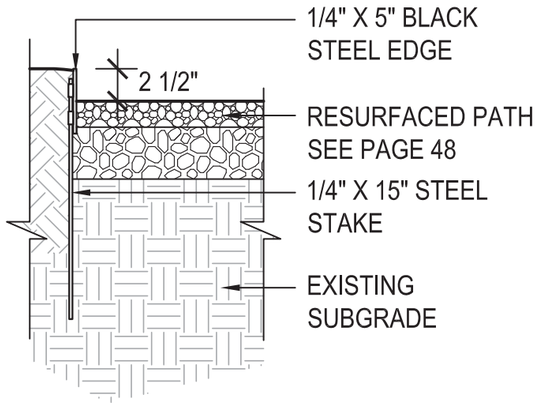
KEY

Proposed Edging



1/4" Border King - Black Border Concepts

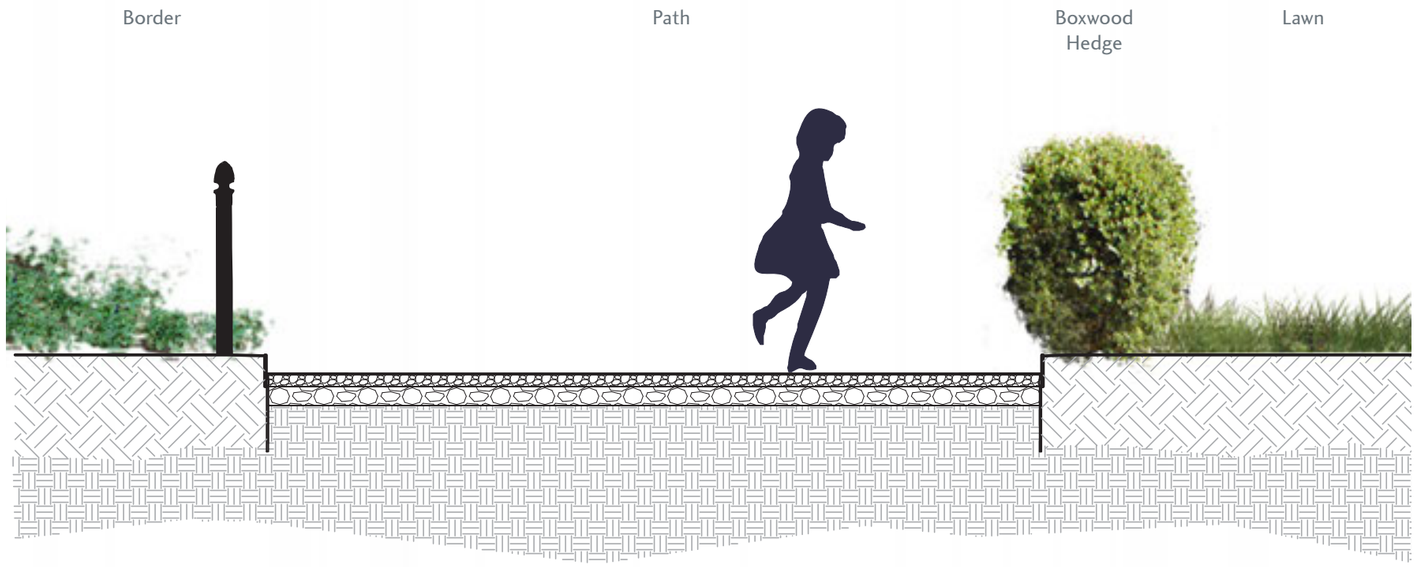
This black steel edge will match fence posts throughout the park and keep a crisp line. See Appendix C.iv for source and pricing information.



Proposed Path Edging Detail

0' 6" 1' 2'

Existing line between mulch and gravel is fuzzy.

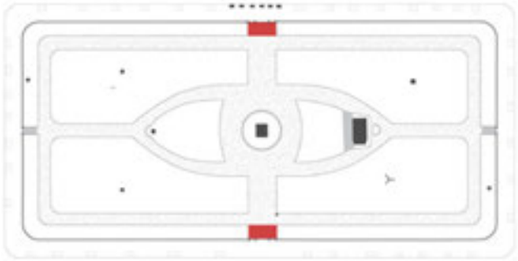


Proposed Path with Steel Edge Section

The steel edge should have a reveal, or exposed edge, of 2 1/2". This can be acheived by setting the edge 1" above the existing grade and lowering the path 1 1/2". The reveal will strengthen the Park's geometry and help keep the gravel on the path. Lowering the path will will also allow storm run-off to be retained on the path before percolating through the gravel, alleviating the saturated conditions in some of the lawn and planting beds.

THRESHOLDS

Flagstone paving at the east and west entrances was recommended by and installed after the 1995 QRA Master Plan. This apron retains gravel in the park, takes up the slight change in grade between the exterior sidewalk and the interior gravel path, and provides a ceremonial threshold from exterior to interior. Similar thresholds should be installed at the North and South entrances.



Proposed Threshold Plan

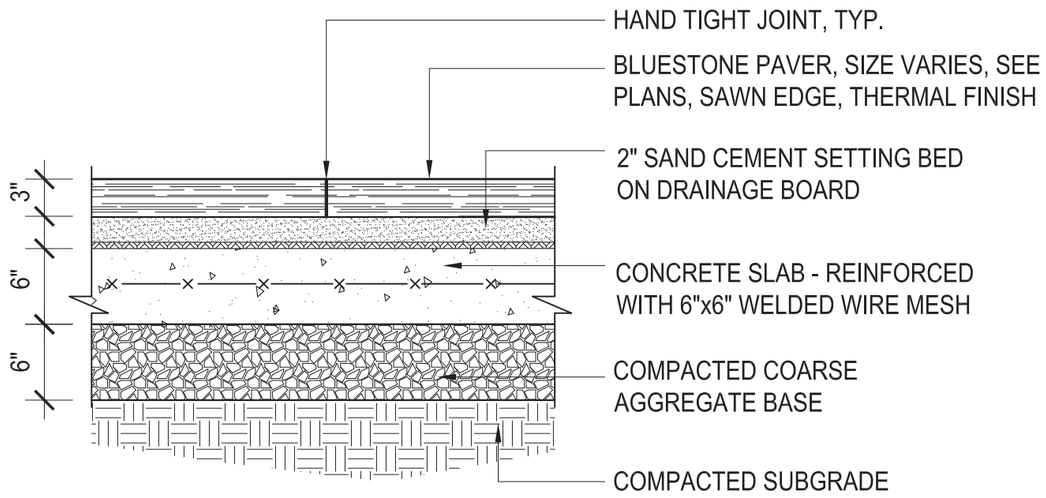
KEY

Existing Bluestone Thresholds

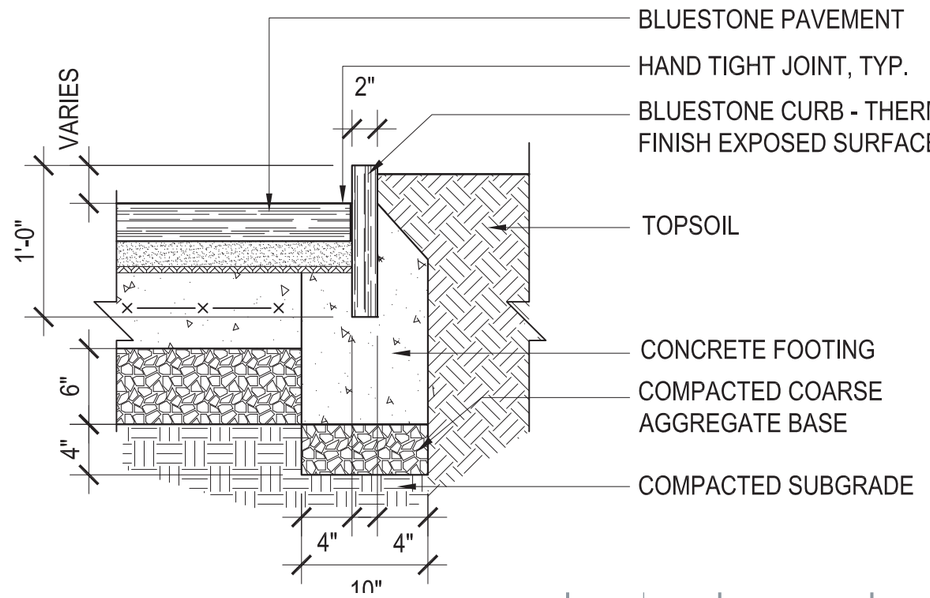
Proposed Bluestone Thresholds

Flagstone paving at the East entrance provides a ceremonial threshold.

Messy and migrating gravel at the South entrance does not provide the ceremonial threshold the park deserves.



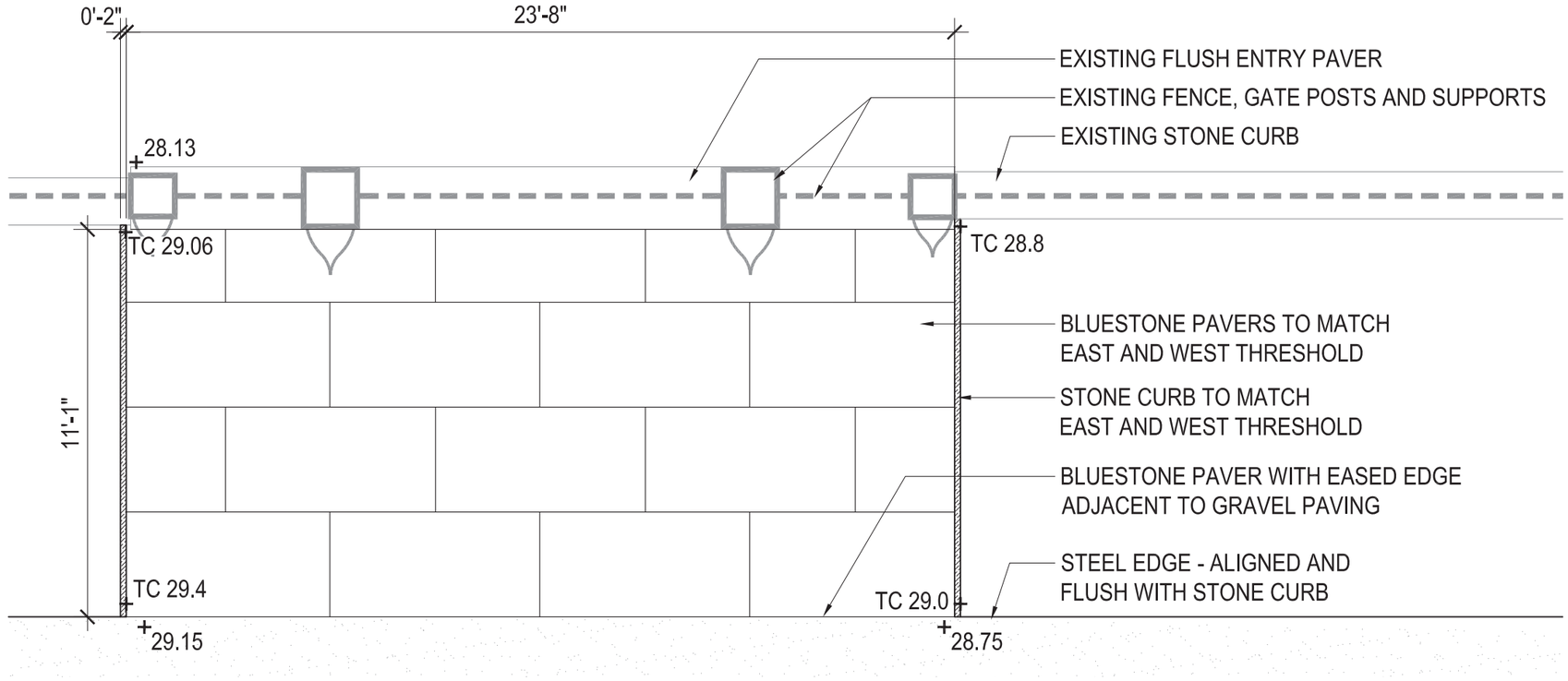
Proposed Bluestone Pavement on Concrete Detail



Proposed Bluestone Edging Detail

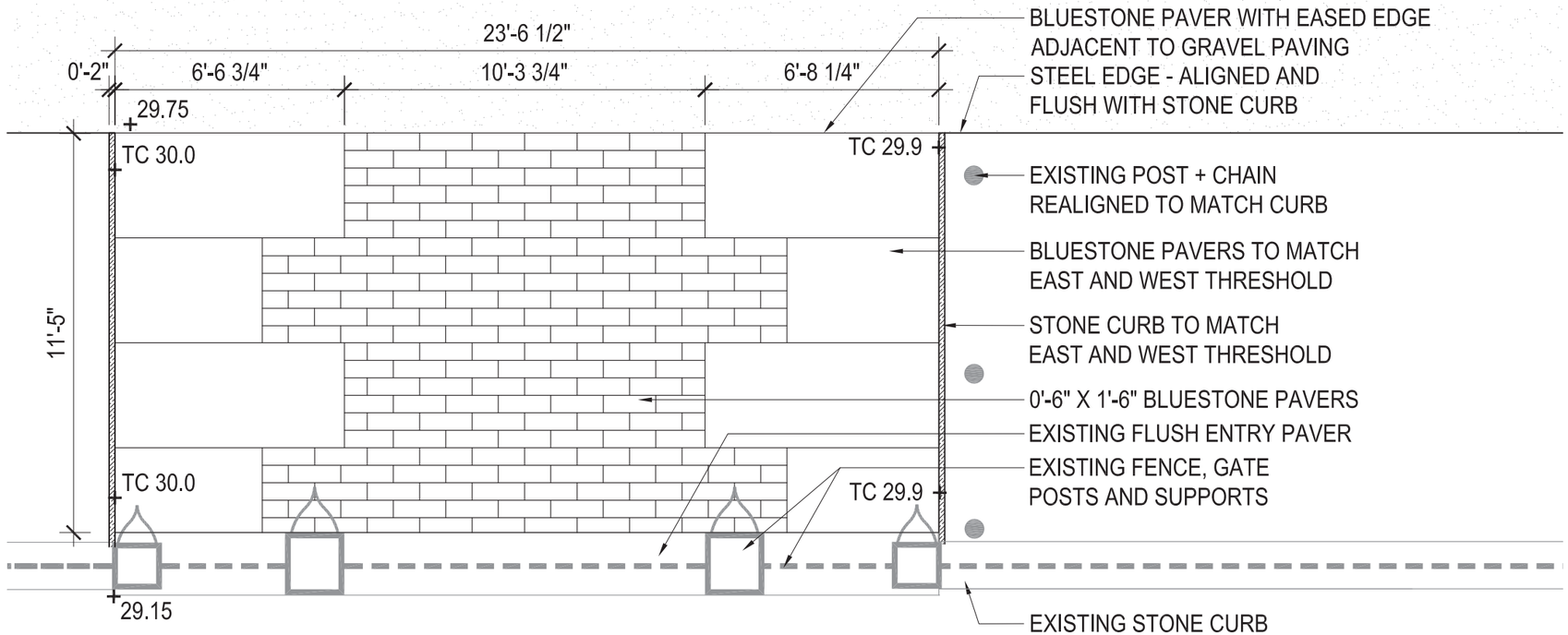
Proposed North Threshold

The North Threshold should match the East and West Thresholds, with adjustments to design from scale and visibility at this entrances.



Proposed South Threshold

The South Threshold has to support occasional vehicular traffic coming in and out of the park, such as maintenance and plant delivery vehicles, which could crack large bluestone pavers. Here, the overall paving pattern should match the North Threshold, with an inset of smaller pavers that will support this load without cracking.



0' 4' 8' 16'

SITE FURNITURE

There are two major and two minor bench types in the park, distributed in no particular order. Many have been sponsored by individuals, denoted by plaques.

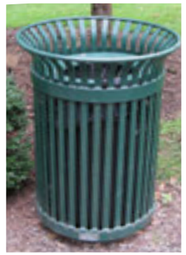
As these historic photos show, the bench population has long been a mix of types #1,3, and 4. Bench Type #2, however, may be the more comfortable.

An ongoing issue for the Park is destruction of the wood-slated benches by squirrels.

Bench Type #1 - 29

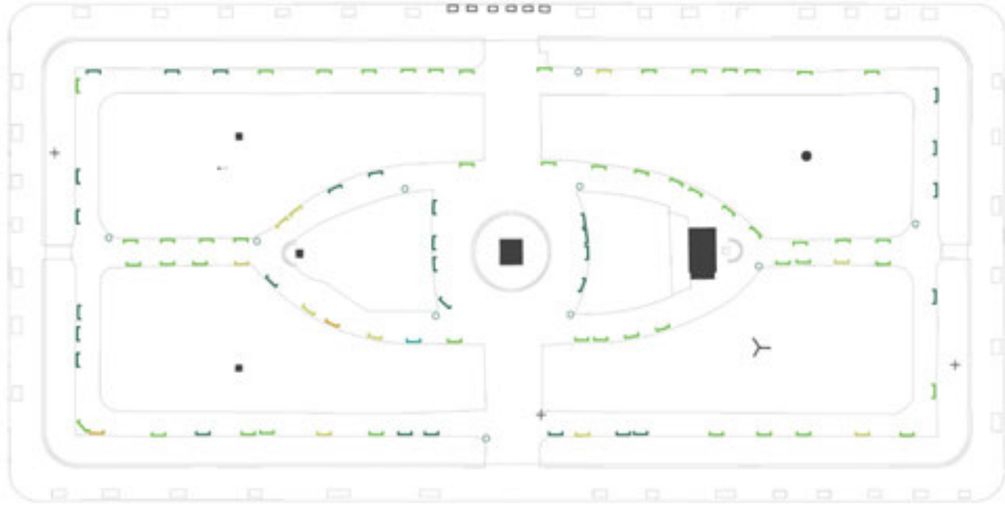
Bench Type #2 - 50

Bench Type #3 - 10



Trash Cans - 10

Central Park Settee Type #4 - 2



Current Site Furniture Layout

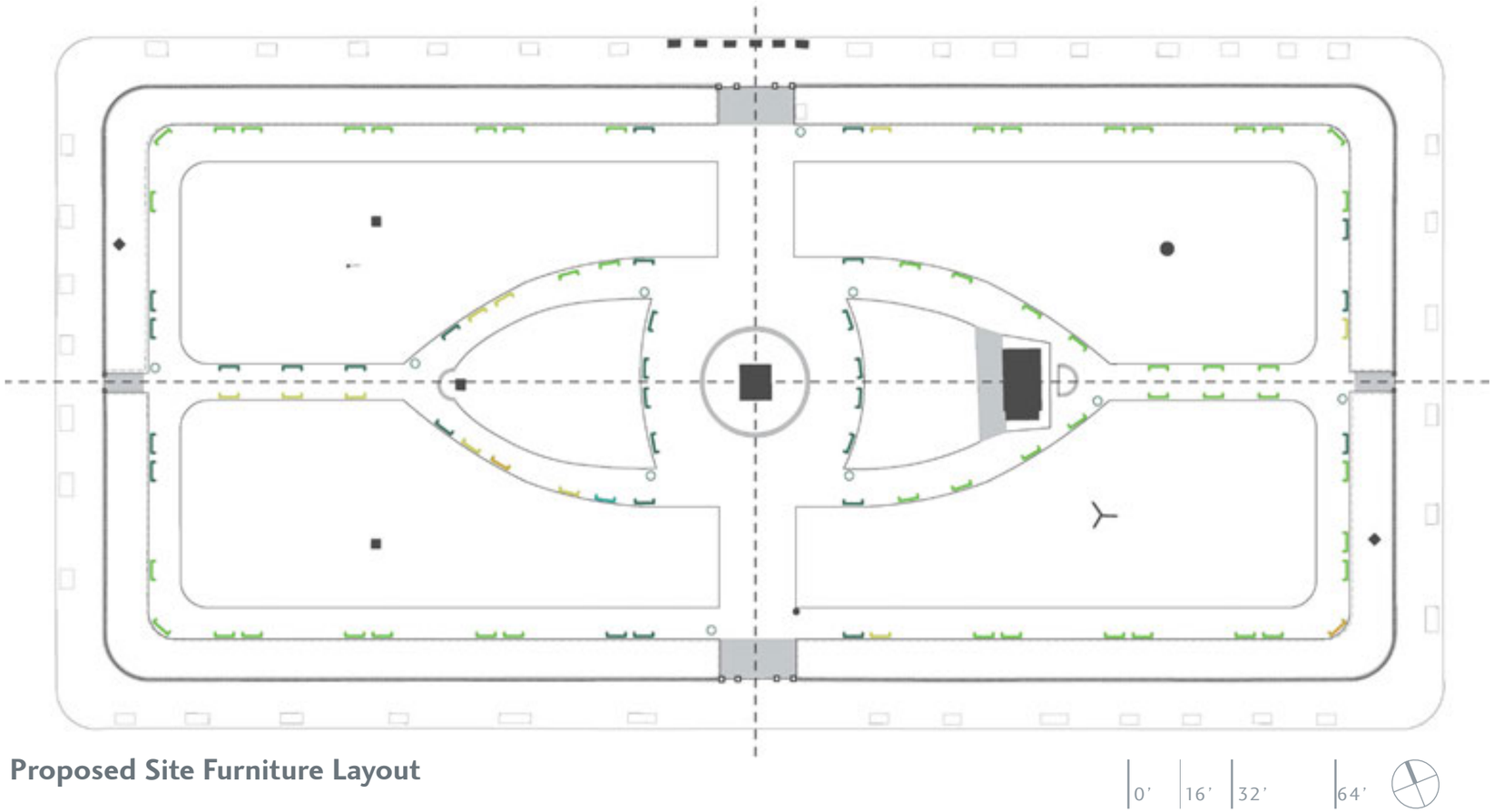
0' 12' 24' 48'

1922

1922

1925

Photos courtesy of Library of Congress



Proposed Site Furniture Layout

The proposed reorganization aims to place the historic benches in the more visible central areas, while the modern benches are focused on the shady paths. Furniture layout is mirrored across the major axes of the Park, enforcing the symmetrical rhythm of the Park's geometry. Trash cans are to be placed in convenient locations, at least 6' away from benches.

Though this reorganization may meet with disagreement from current bench donors, it can be used as a framework for moving and replacing benches over time.

Central Park Settee
Kenneth Lynch

This modern remake of the historic bench is available in Central Park Green in Ipe, American White Oak, and Recycled Plastic Lumber. Plastic may be a good alternative to minimize squirrel damage. See Appendix C.vi for specifications.

Dual-Flow Recycle Lid

Side-Door Access

Ironsites
Victor Stanley

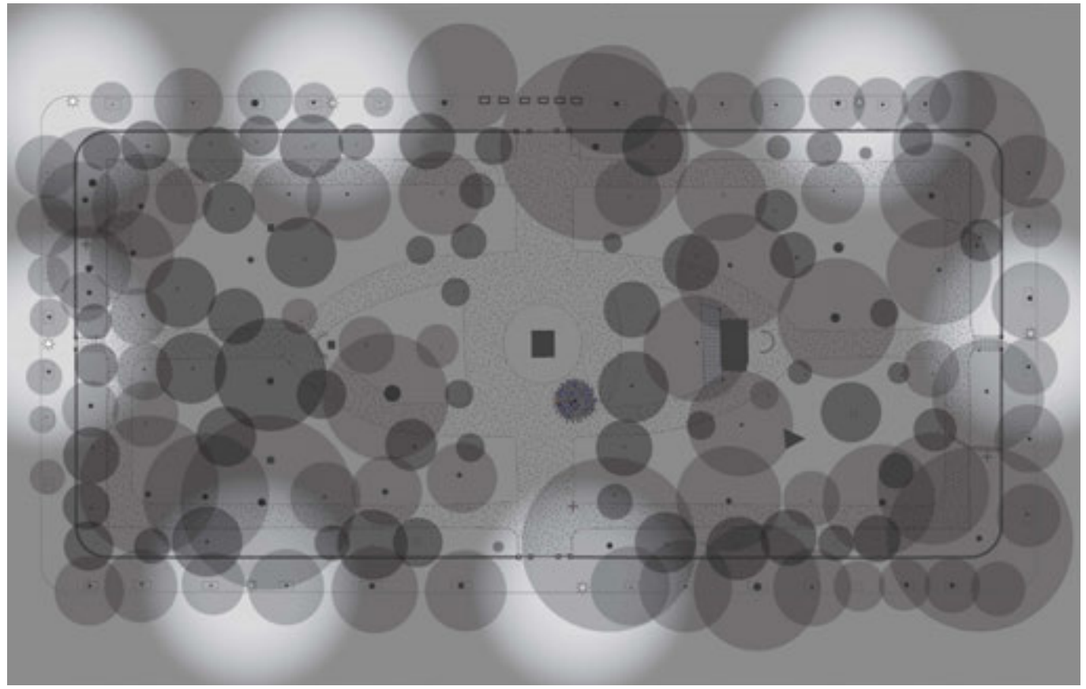
The existing Trash Can series offers options to split one container into trash and recycling, which could be utilized in select locations

LIGHTING

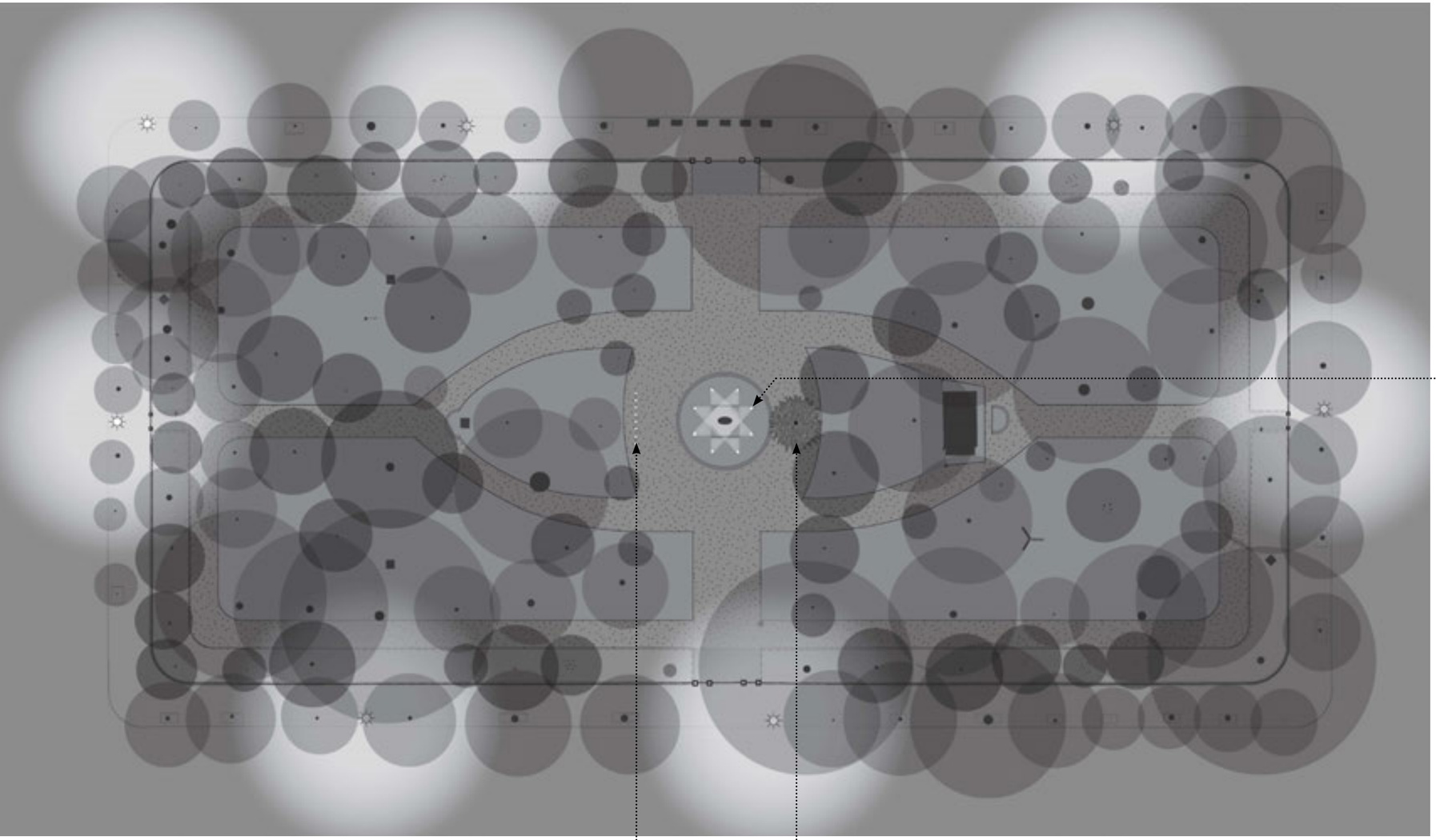
There are currently no lights within the park, with the exception of the seasonal lights on the Christmas Tree and Menorah.

Lighting should not encourage nighttime use of the park, but instead create a visual volumetric presence at night, particularly to alert drivers that Irving Place and Lexington Ave end at the Park.This calls for lighting specific features and not lighting paths.

ABOVE: The annual Christmas tree provides a lighted display during the holiday season, while the Booth statue is shrouded in darkness. *Photo courtesy The New York Times*



Existing Lighting



Proposed Lighting

Delta Star Fixture

BOOTH STATUE

Fixed uplights should be installed flanking the 14' Booth statue, arranged symmetrically around the statue base. These lights will make this central focal point, on axis from Lexington and Irving streets, visible to oncoming traffic. A Lighting Designer should be retained to select fixtures and perform mockups, brightness and color testing. See Appendix C.vii for fixture specifications and layout recommendations.

The Christmas Tree and Menorah should be placed on the East-West Axis so as to not upstage the Booth statue.

MAINTENANCE & OPERATIONS

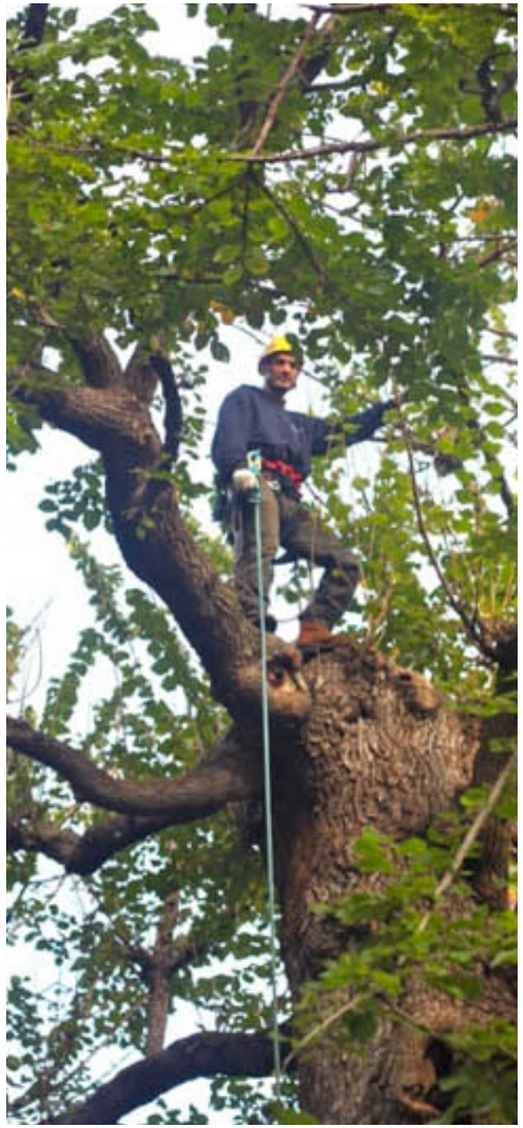
INTRODUCTION

Preserving a historic park such as Gramercy is an ongoing effort whose demands change over time. In this section we provide recommendations for schedules and strategies to keep the park and its features vibrant and healthy.

CANOPY HEALTH

One cannot overstate the importance of the canopy trees to the experience and character of Gramercy Park. Tree health is currently evaluated yearly by an arborist, which is an excellent practice and should be continued. The more extensive tree survey (Appendix A:xix) found several issues in trees that should be investigated and monitored. Additionally, selective canopy pruning could allow more robust growth in the understory.

Though the street trees are not owned or maintained by Gramercy Park, their health and performance are also essential to the park's character. They provide shade, visual enclosure from surrounding buildings, and a backdrop of seasonal interest. The street trees are owned by New York City Department of Parks and Recreation, Division of Forestry and tree care and replacement needs to be determined in collaboration with them.



A USDA arborist checking a tree in the park for signs of the Asian Long-Horned Beetle. *Photo courtesy of the Gramercy Park Block Association.*

IRRIGATION

The soil study (Appendix A:iv) found that much of the soil in the central planting beds and the north east corner are saturated below 8" and posited that this was at least in part due to over irrigation as well as the drainage issues noted above. Irrigation sensors can remedy this condition by fine tuning irrigation levels in response to local weather conditions.

Evapotranspiration sensors, such as Solar SYNC by Hunter, measure sunlight and temperature to calculate local evapotranspiration rates. The irrigation controller recieves this information, and makes daily modifications to the irrigation systems run time.

Soil moisture sensors are another option for monitoring soil wetness at key points in the park. They read the soil moisture level to fine-tune the irrigation regime by providing irrigation only when needed. Irrigation for lawns in particular should be set for longer periods less frequently to encourage deeper root growth.

Irrigation sensors will quickly pay off in streamlined maintenance time, healthier plants and more efficient use of water.

Evapotranspiration sensors measures local weather conditions to make daily adjustments to irrigation levels.

Sensors sense moisture in soil and communicate with irrigation system when irrigation is needed.

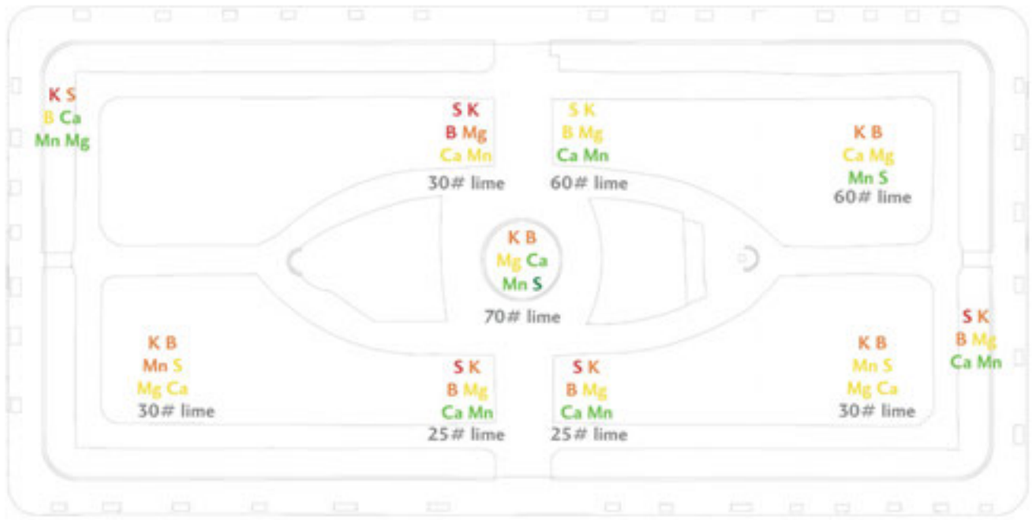
FERTILIZATION

The current fertilization regime is annual applications of a 10-10-10 fertilizer on annual beds and a 10-6-4 fertilizer on the lawns. The soil study found a few issues to amend:

The ph throughout the park is low, and should be raised, especially in turf and annual areas. Lime should be added in the amounts indicated in the soil tests in Appendix A.iv, and briefly noted on diagram at right. In the future, lime should be applied based on annual monitoring and testing.

Certain areas could use more Nitrogen, but this should be added in a slow-release, organic form to minimize run-off and maximize soil health.

There are extremely high levels of Phosporous throughout the park, which runs off into the storm system and pollutes our urban waterways. We recommend applying Nitrogen without Phosporous.



KEY

REPORT TEAM + METHODOLOGY

Langan Engineering surveyed and created a base plan of the park, which can now be used for analysis and future design documentation.

Jim Urban of Urban Trees + Soil did an in-depth soil study, measuring the moisture and nutrient levels present in the existing soil, and coming up with a set of recommendations to promote soil health.

Bill Logan of Urban Arborists did an extensive tree survey of the park, identifying, measuring and judging the health and longevity of existing trees.

Starr Whitehouse Landscape Architects surveyed shrubs, groundcover and site elements, analyzed landscape character, integrated the team's findings into this document, and developed a cohesive plan for future enhancement and maintenance of the Park.