



**MONTGOMERY COUNTY DEPARTMENT OF PARKS**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MCPB  
Item: 5  
Date: 6/13/13

June 6, 2013

**MEMORANDUM**

**TO:** Montgomery County Planning Board

**VIA:** Mary R. Bradford, Director of Parks *MBA*  
Michael F. Riley, Deputy Director, Department of Parks *MR*  
Mitra Pedoeem, Chief, Park Development Division *Mit*

**FROM:** Patricia McManus, Section Supervisor, Park Development Division *pm*  
Kimberly Paniati, Project Manager, Park Development Division (301-495-2465) *KP*

**SUBJECT:** Facility Plan for Brookside Gardens Plant Propagation Area

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**STAFF RECOMMENDATION:** APPROVE the Recommended Facility Plan, including the cost estimate, with the following condition:

- 1) Obtain approval of the stormwater management concept plan from the Montgomery County Department of Permitting Services during the final design phase of the project.

Note: The facility plan is presented at this time, in order to meet the schedule for inclusion of the project in the FY15-20 Department of Parks Capital Improvements Program.

**PROJECT DESCRIPTION**

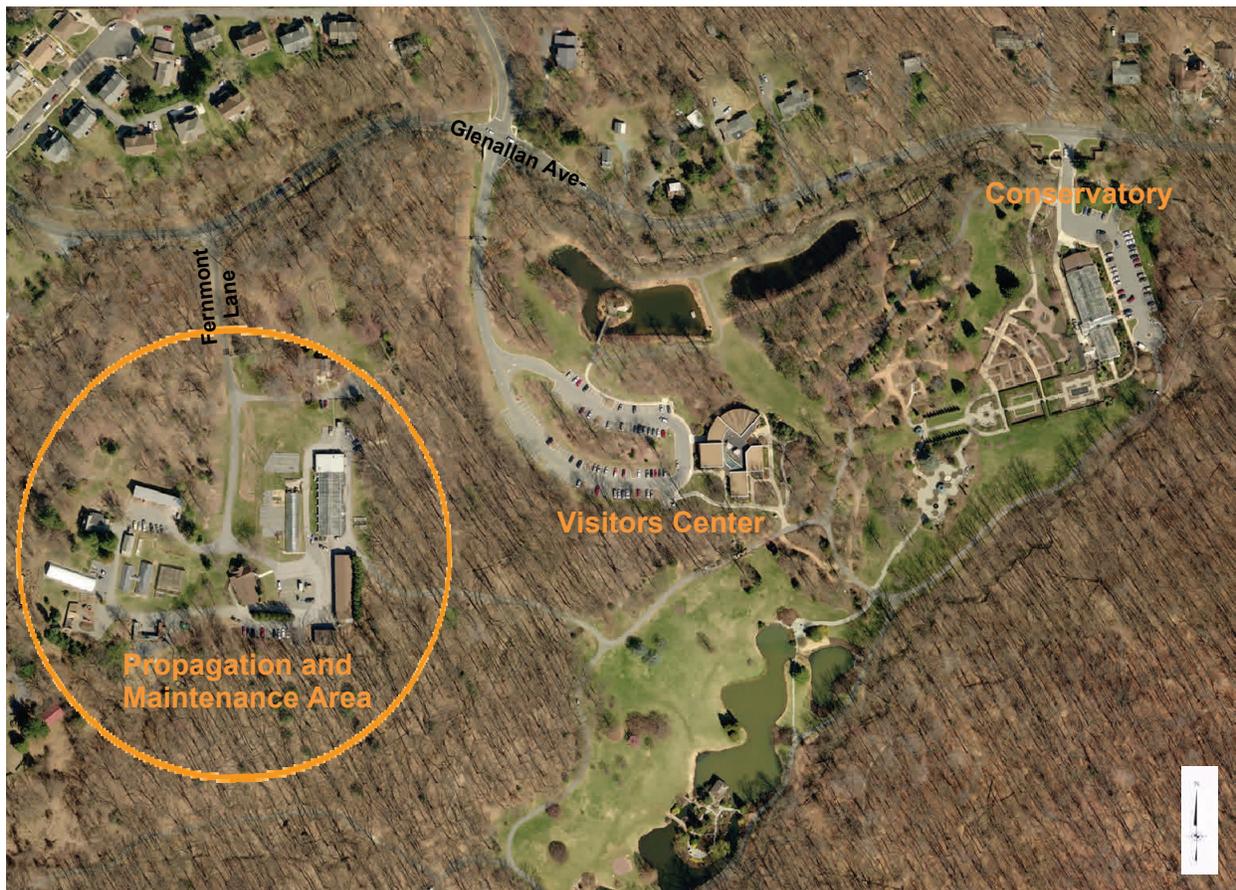
**Introduction**

Brookside Gardens and the Montgomery Parks Foundation have been offered a \$1 million private donation towards the construction of a new plant production greenhouse, provided the Department of Parks can acquire the remaining funding for design and construction of the greenhouse and supporting infrastructure and complete the project within a short time period. The greenhouse is needed and is recommended as part of the next phase for implementation in the 2005 Master Plan for Brookside Gardens. The Department of Parks wishes to make every effort to accept this generous gift. The purpose of this project is to prepare a facility plan with an accurate cost estimate for a plant production greenhouse with a headhouse function (for work areas and storage) at the Brookside Gardens Propagation and Maintenance Area and to consolidate existing outdoor growing areas near the greenhouses to improve operational efficiency.

Brookside Gardens is located within the 500-acre Wheaton Regional Park in the Kensington-Wheaton planning area. The facility provides a popular cultural destination known for plant collections, seasonal plant displays, scenic landscapes, and horticulture education services and welcomes over 400,000 visitors of all ages each year. The Gardens encompass 50 acres of which 35 are open to the public and 15 are service and natural areas. Brookside Gardens is bounded by Wheaton Regional Park on three sides, with Brookside Nature Center to the east and mature woodlands from the park to the south and west sides. Regional transportation routes nearby include Georgia Avenue, Randolph Road and Kemp Mill Road. The north side of the property is bounded by a narrow residential street, Glenallan Avenue, which provides access to both public and service



*Vicinity Plan*



*Project Location*

areas of the Gardens. The Propagation and Maintenance Area is located on high ground at the western side of the Gardens and is accessed from Glenallan Avenue via Fernmont Lane.

### **Project Funding and Timing**

The facility planning study was funded with \$60,000 from the private donor and \$35,000 from the Department of Parks Capital Improvements Program in the Facility Planning Non-Local PDF. The Montgomery Parks Foundation accepted the donor gift and awarded a contract to a team of design consultants led by Rhodeside & Harwell, Inc. The project was initiated in February 2013 and was expedited in order to meet the timeline required for inclusion in the FY15-20 Capital Improvements Program. The facility plan provides design development documents, an assessment of the regulatory feasibility of the project, and a detailed cost estimate.

### **Facility Planning Process**

The facility planning process for this project included the following steps:

1. Review and analyze existing site conditions, project background information and site survey.
2. Review the master plan recommendations for the propagation and maintenance area based on existing conditions, future needs, current technologies and permitting requirements.
3. Refine the program of requirements and master plan layout as necessary with optimal placement of all facilities.
4. Develop phasing recommendations for the propagation and maintenance area that would enable continuity of operations during each phase of construction, and define a first phase that includes the plant production greenhouse and supporting infrastructure.
5. Discuss alternatives and technical issues with internal stakeholder groups and develop plan.
6. Present program of requirements and recommended first phase concept plan to the community.
7. Coordinate regulatory and utility requirements for stormwater management and forest conservation with appropriate regulatory agencies and utility companies.
8. Prepare recommended plan and cost estimate.
9. Present facility plan recommendations and costs to the Montgomery County Planning Board for approval.
10. If approved, submit project in FY15-20 Capital Improvements Program for approval by the Montgomery County Council to fund final design and construction.

## **MASTER PLAN RECOMMENDATIONS**

### **Brookside Gardens Master Plan**

The Brookside Gardens Master Plan was approved by the Montgomery County Planning Board in 2001, providing a long-term vision for the renewal of Brookside Gardens. The Master Plan was amended in 2004 and made minor adjustments to recommendations for the Visitor's Center, Conservatory and the overall phasing strategy. The amendments were approved in



March 2005, although most of the pertinent information regarding the Propagation and Maintenance Area is included in the original 2001 Master Plan and Appendix documents.

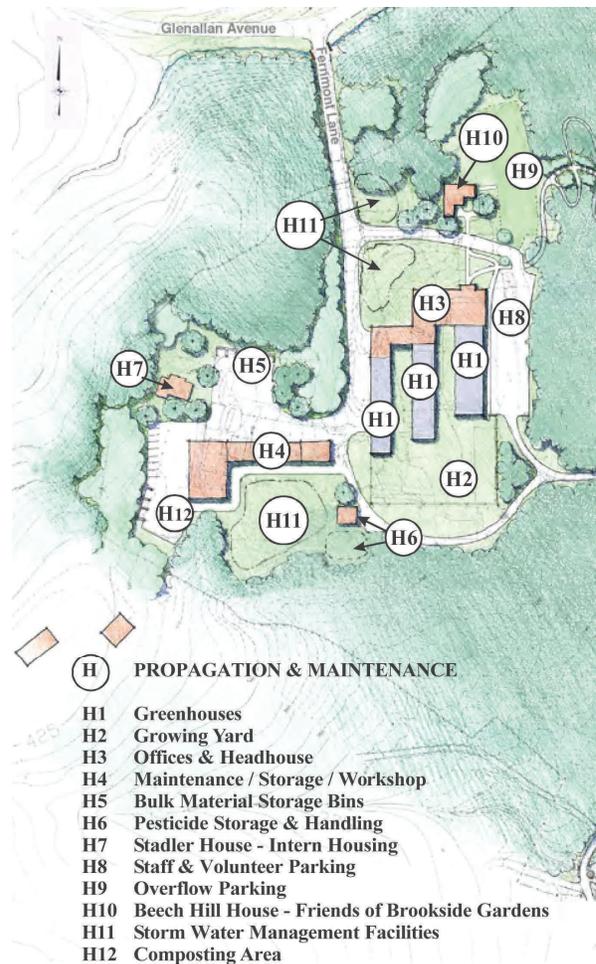
The master plan identified fifteen phases of development for implementation. Phases I, II and IV are nearly completed and are in the final design or construction stages of implementation. Phase III needs to be part of a larger future stream restoration project that would address runoff and treatment of impervious surfaces in developed areas upstream of the site. Improvements to the Propagation and Maintenance Area are identified as Phases V, VI and VII of the plan. The intent of developing improvements for the Propagation and Maintenance Area in three phases was to sustain propagation activities and continuity of operations during the entire phasing sequence for the service areas. The Master Plan Amendment describes proposed work for Phase V on page 11 as follows:

*Phase V includes demolition of the maintenance vehicle storage building, lath house, sun pit greenhouses, Quonset Greenhouse, Sycamore House; the widening of Fernmont Lane; construction of an office and head house and two new greenhouses.*

Improvements to the Propagation and Maintenance Area were recommended as the next phases for implementation of the master plan, in order to support future new facilities such as the Wetland Garden and new Conservatory. The Master Plan recommends replacement and expansion of greenhouses, consolidation and expansion of office space and relocation and

expansion of materials and equipment storage facilities. Recommendations from pages 17 and 18 of the 2001 Master Plan are summarized below. Sizes of existing and proposed future facilities were referenced from page 19 of the 2001 Master Plan Appendix document.

- Construct new headhouse and office building of approximately 10,000 square feet connected to three new greenhouses (includes two new structures and replacement of existing Fritz Greenhouse). This building will house staff currently located in the Fritz Greenhouse, Beech Hill House and Sycamore House. The building will provide space for volunteers and a common area for staff and volunteer meetings with flexibility for future needs. It will also provide a headhouse to allow for staging of plant production within the greenhouses.
- New greenhouses (total of 17,000 square feet) will replace the existing obsolete greenhouses, lath house, sunpits and cold frames currently used by propagation staff.
- Demolish Sycamore House and relocate the outdoor growing yard, similar in size to the existing yard (existing yard is 10,200 square feet) in this location for proximity to the greenhouses. This area will be fully fenced and fitted with growing benches, racks for hanging baskets and other equipment required for efficient propagation.
- Provide a staff parking area for 50 cars and a 50 car overflow visitor parking area for heavy attendance days. All new paved areas should be constructed using permeable materials and other sustainable site design techniques.
- Relocate maintenance and storage areas to the western area of the site to allow these functions to be screened from public view. Provide consolidated storage and maintenance facilities.
- Provide a new pesticide storage facility convenient to both propagation and garden maintenance operations in compliance with current state and county regulations.
- Maintain the existing composting area and add two additional bulk material storage bins to the existing facilities.



**Brookside Gardens Master Plan:  
Propagation and Maintenance Area**

- Renovate Beech Hill House as a home for the Friends of Brookside Gardens.
- Renovate Stadler House for use as intern housing.

## **PROGRAM OF REQUIREMENTS**

The project team set out to define a first phase program of requirements based on guidance from the master plan that would include a plant production greenhouse and support facilities to utilize the donor's gift in the most effective manner, while also enabling continuity of operations over the short and long term. The first phase of renovation for the Propagation and Maintenance Area should be able to stand alone as a complete project in the event that future funding for additional phases of development is delayed.

The proposed project includes removal or relocation of existing facilities; utility work; stormwater management; a new plant production greenhouse; a headhouse function for the new greenhouse; nearby outdoor growing areas; a vehicle loading area; vehicular/maintenance access to the greenhouse and headhouse; and staff parking. The following program elements are proposed:

### Greenhouse

- Glass greenhouse structure with galvanized steel structural framework, aluminum roof and side glazing systems, on a concrete floor slab with 32 inch high insulated knee wall panels. This type of greenhouse is durable, low maintenance, and maximizes the life span of the structure.
- Approximately 12,000 total square feet of growing area, gutter connected open roof design, two ranges approximately 36 feet wide by 160 feet long with 16 foot high sidewalls to gutter height
- Six separate climate zones created with four interior gable partition walls to grow plants for specialized crop production needs. Partition walls are full length below the gutter.
- Growing bays are 10 feet wide
- Glazing – 4mm clear tempered glass
- Passage, sliding and overhead doors in locations, heights and widths to efficiently accommodate moving large plants, pots and materials into and out of the structure
- Automatic shade/heat retention blanket systems per zone
- Automatic open roof vent operating equipment per zone
- Automatic 48" continuous side wall vent operating equipment per zone
- Horizontal air flow circulation fans per zone
- Standard galvanized steel and aluminum floating aisle rolling plant benches
- Growing structures, including some for overhead basket production
- Perimeter/Overhead radiant hot water heating system, complete with boilers
- Greenhouse Environmental Control System
- Growing lamps for roughly half the growing area
- Overhead mist system and under bench heating system in the propagation zone
- Fertilizer delivery system
- Water reclamation and recycling from roof and floor of greenhouse
- Vehicle access to entrances and outside of structure for maintenance and moving of plants and supplies

### Headhouse

- Part of the greenhouse construction, constructed in the same manner, located in the first two bays of the facility. These bays would be 12 feet wide each.

- Headhouse is approximately 1,730 square feet, 24 feet deep by 72 feet wide (width of two greenhouse ranges)
- Roof material is 8mm twin wall opaque polycarbonate, includes interior walls separated from growing areas
- Ventilated potting room with four benches/work stations
- Pot storage area
- Two large work sinks with heavy-use soil traps, hot and cold water
- Phones linked into the security system and temperature alarms
- Utility room with slop sink
- Mechanical room with boilers, etc.
- Back-up generator
- Refrigerated seed storage
- Space for walk-in bulb cooler
- Soil mixing area
- Soil storage area (for bags on pallets)
- Soil bins for various mixes
- Storage areas for tools and equipment, kerosene burners, handcarts
- Trash cans and recyclable green compost collection bins

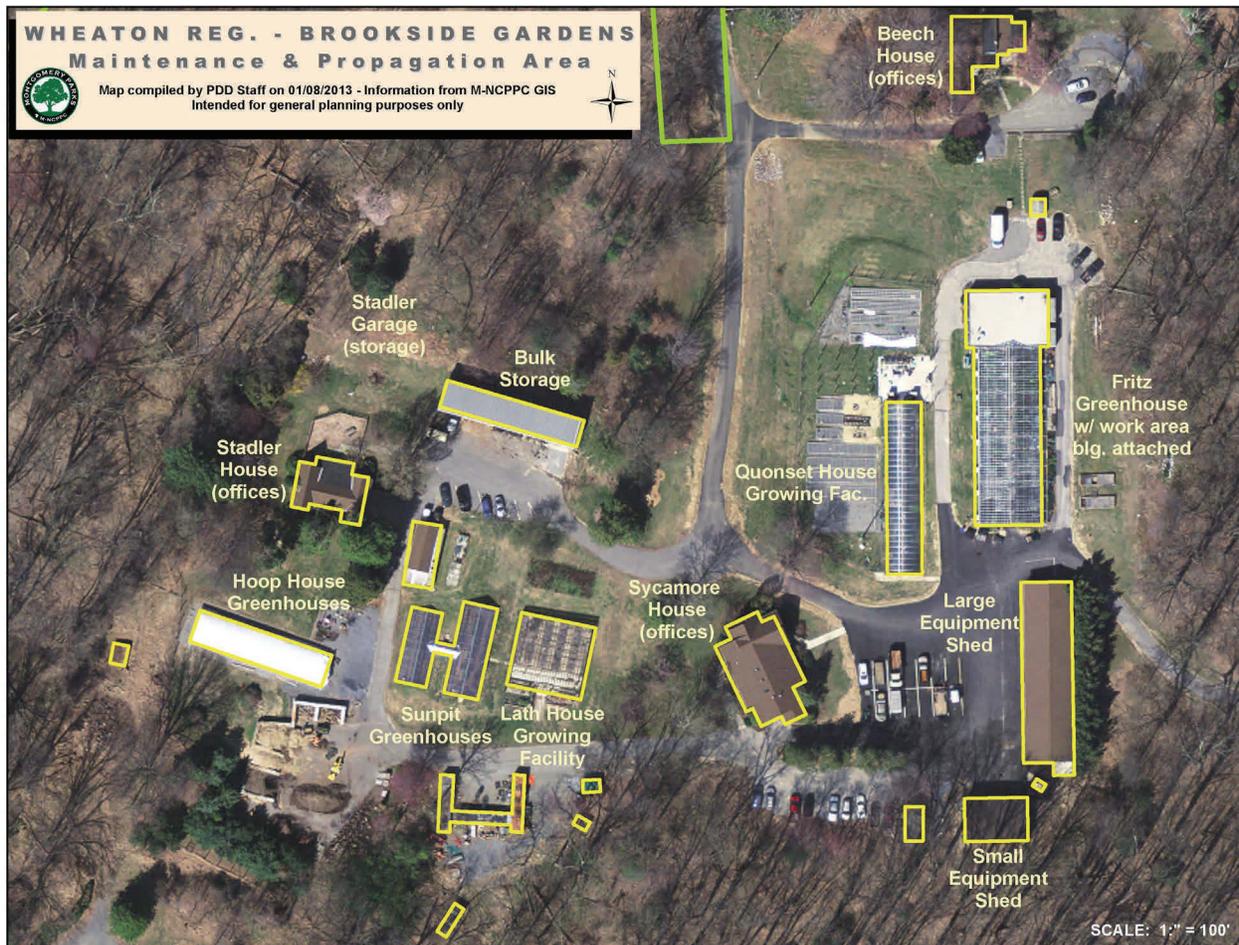
#### Additional Requirements and Supporting Infrastructure

- Service drive and loading area in close proximity to greenhouses and headhouse
- Outdoor level growing area with raised plant tables (replace existing paved area of approximately 10,200 square feet and re-use existing tables)
- Outdoor level surface directly adjacent to the greenhouse for accessible parking spaces, service parking, storage, and staging areas
- Irrigation system and underground cistern to reclaim non-potable water from roof and floor of greenhouse for re-use
- Supplemental watering system using domestic potable water for greenhouse and outdoor growing areas, may be combination of hose bibs and automated irrigation system
- Accessible parking and pedestrian circulation in compliance with the Americans with Disabilities Act Guidelines
- Removal and replacement of 13 staff parking spaces
- Removal of existing paved areas, Quonset Greenhouse, lath house, sunpits and hoop house
- Removal and relocation of existing utilities to provide service to existing and new structures (gas, water, storm drainage, sanitary sewer, electric, telecommunications)
- Stormwater management facilities
- Interior and exterior lighting
- Fire alarm system
- Telecommunications service
- Security system

## **FACILITY PLAN STUDY**

### **Existing Conditions**

The Propagation and Maintenance Area is located on high ground at the western side of the Gardens and is visually buffered from the Gardens by a wooded hillside. This area is accessed from Glenallan Avenue via Fernmont Lane, and there is another access point from the main



**Existing Conditions**

paved path loop within the Gardens. Both access points are closed to visitors.

The Propagation and Maintenance Area was once the site of the Stadler family nursery and includes a number of small structures left from the former homestead and nursery operation. The area includes structures and outdoor areas dedicated to plant production, operations, and maintenance for the Gardens, as well as some staff parking. Many of the structures are in need of renovation, are small and not of sufficient size to accommodate all office and work needs. A summary of existing facilities is outlined below.

- Beech Hill House – former private residence used for offices (2,200 sf)
- Stadler House – former private residence used for offices and work areas (1,650 sf)
- Stadler Garage – gas heated, custodial storage (800 sf)
- Sycamore House – offices, workroom, showers, storage (3,000 sf)
- Fritz Greenhouse – glass house built in 1976, heating/cooling controls lack flexibility for year-round plant display growing, no provisions for shading/cooling, lacks high bay section for tall plant material, includes headhouse with boiler and mechanical equipment as well as workroom, storage and garage functions (5,040 sf)
- Outdoor Growing Area – outside Fritz greenhouse (1,200 sf)
- Outdoor Plant Production Area – (9,000 sf)
- Quonset Greenhouse – polycarbonate greenhouse, shading material applied/removed

- manually, overhead gas space heaters (2,880 sf)
- Pesticide Shed – heated, ventilated (100 sf)
- Storage Shed – for nursery production (96 sf)
- Storage Shed – for turf equipment
- Equipment Sheds (north and south) – two unheated block structures (5,750 sf) for equipment storage, soil mixing area, garden maintenance and service use
- Lath House and Cold Frames – open frame shade structure (2,500 sf) and three nearby cold frames (6'x12' each)
- Hoop House – polyethylene film cover, unconditioned (2,304 sf)
- Sunpit Greenhouses – two polycarbonate greenhouses with cinderblock walls (total 2,400 sf.) There is a third sunpit which is poorly ventilated and in deep shade that is no longer used.
- Machine Shop – wood frame structure (800 sf)
- Bulk Material Storage Bins
- Metal Shipping Containers – storage for light show materials
- Compost Area (6,840 sf)
- Parking – 45 spaces
- Waste containers
- Fuel storage – gas tanks with pump

The M-NCPPC also owns the Armstrong property, which includes a house and barn just south of the Propagation and Maintenance Area. This property is vacant and could provide some opportunity for maintenance functions, such as materials storage or housing for interns. It is included in the current study area for evaluation, but was not considered during the original master planning project.

The existing Propagation and Maintenance Area does not meet the current and future needs of Brookside Gardens for the reasons summarized below:

- Outdated and deteriorating facilities
- Insufficient weather-controlled plant propagation area
- Fragmented working, staffing and storage areas
- Disconnected indoor/outdoor growing and operational areas
- Inefficient circulation and parking patterns
- Limited support/working space around the headhouse
- Inefficient energy use
- No stormwater management

### **Master Plan Evaluation and Alternatives Considered**

Initial tasks for this project included evaluating the existing conditions of the Propagation and Maintenance Area, reviewing and confirming future programmatic needs identified by Brookside Gardens staff, and evaluating the existing master plan layout for optimal placement of facilities. Optimal placement of facilities would include an evaluation of the best light conditions for plant production and growing facilities, consideration of proximity to like facilities for operational efficiency, and consideration of traffic flow, deliveries and loading.

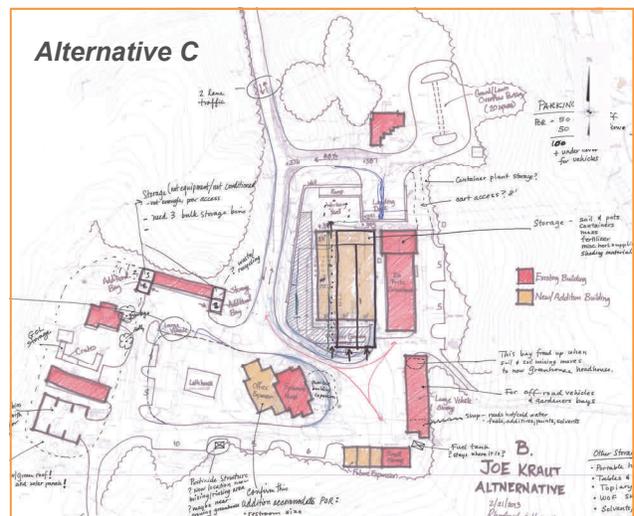
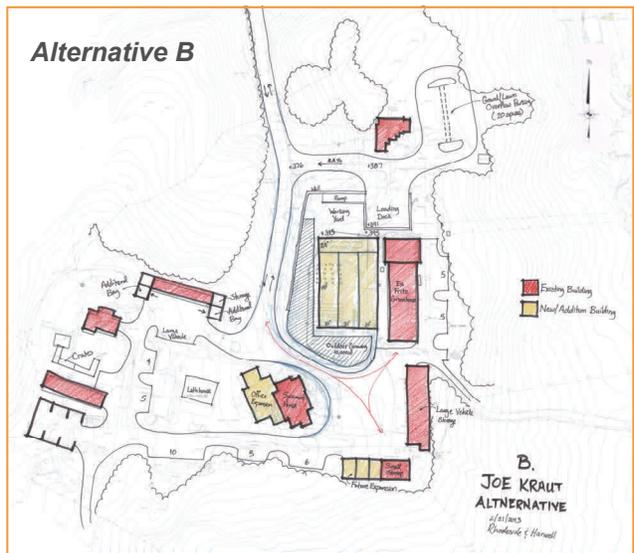
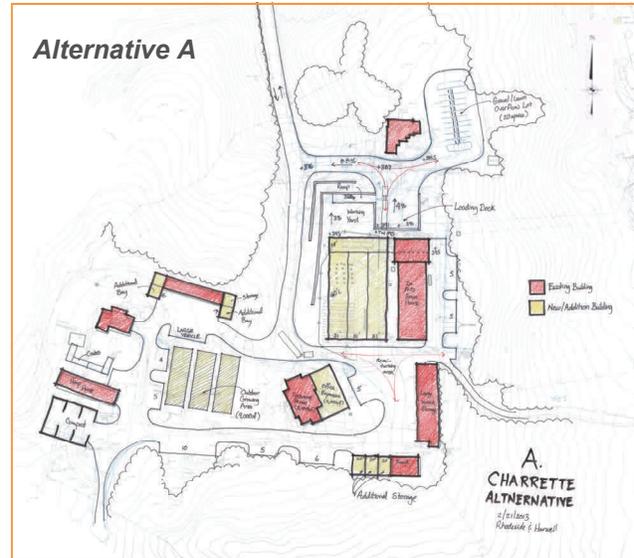
The original master plan envisioned removal and replacement of all facilities. Given the budget parameters for this project, staff evaluated how changes might occur incrementally over time with smaller capital allocations. Several existing facilities were deemed to be in good condition

and could be preserved and continue to be used, including the Sycamore House as office space, the bulk storage structure, small and large equipment sheds, and the Fritz Greenhouse. Several areas were considered for the location of the new greenhouse and outdoor growing areas based on light conditions, and the general location recommended in the original master plan was confirmed to be the best location.

Once the location for the new greenhouse was confirmed, several alternative configurations were examined. Greenhouse technology has changed since the master plan was completed and no longer requires open ventilation space between greenhouse structures as shown on the original plan. Alternative A proposed a new greenhouse west of the Fritz Greenhouse to match the length of the existing greenhouse. This would allow simple replacement of the Fritz Greenhouse in the future by expanding the new greenhouse along the same design module with no modifications required to roadways and other permanent infrastructure. A formal loading dock was also proposed to the north of the greenhouses. In this concept, the outdoor growing area was located remotely and west of the Sycamore House. This was not desirable or efficient for operations and would require staff to travel back and forth between indoor and outdoor plant production facilities.

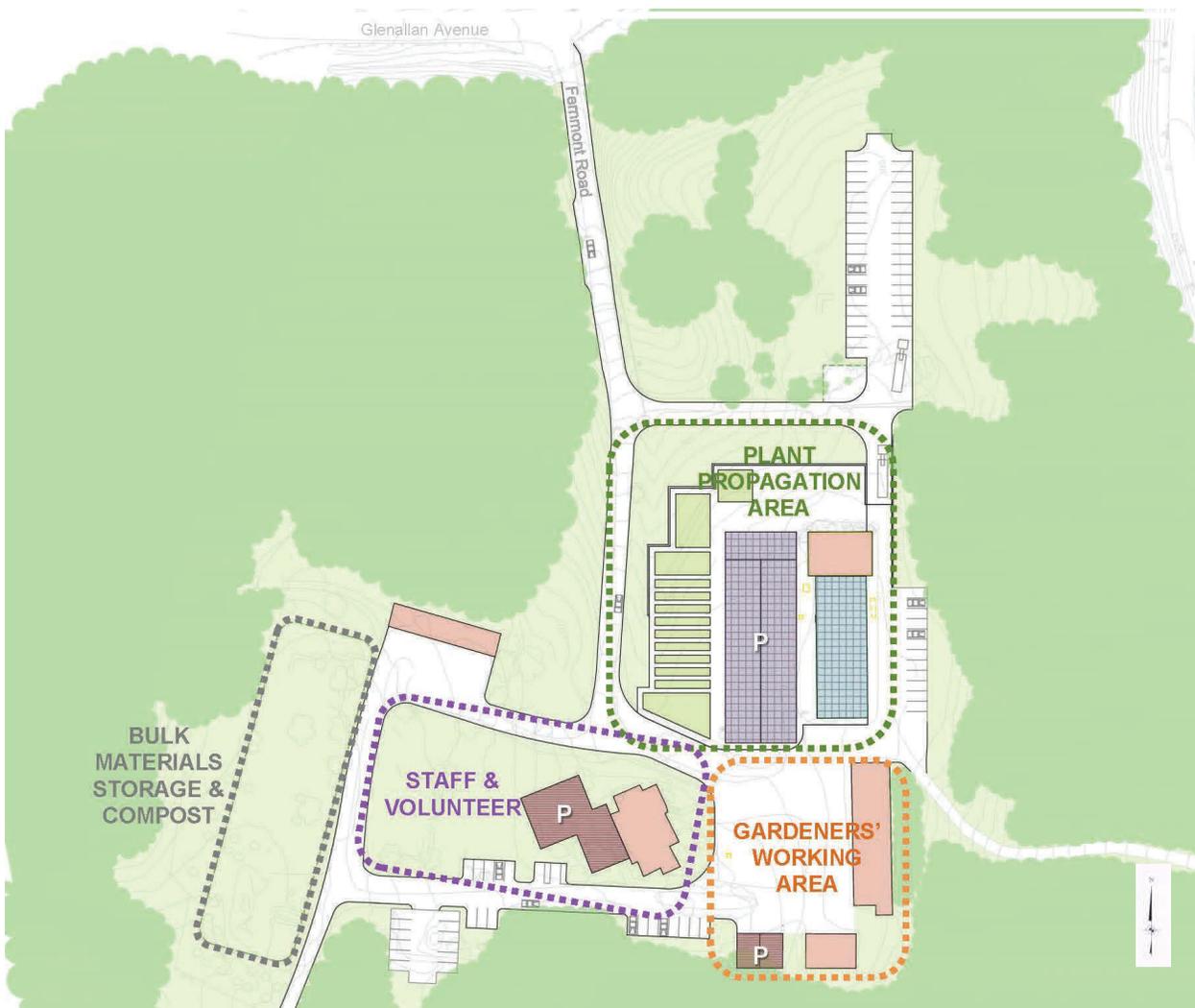
Alternative B shortened the length of the new greenhouse from Alternative A in order to provide space for outdoor growing in close proximity to the south and west of the new greenhouse. Due to existing slopes and the configuration of the space, this concept could not achieve all of the required outdoor growing space.

Alternative C proposed providing a longer, narrower new greenhouse. This concept was able to achieve the required indoor and outdoor growing space in an efficient configuration by providing retaining walls



along the service drive edge of the outdoor growing space. In examining grades, it was also determined that the existing grades were too steep to achieve a formal grade-separated loading dock at the north end of the greenhouses.

In order to better utilize existing structures and consolidate like functions for operating efficiency, the diagram below utilizes Alternative C for the plant propagation area and proposes four functional areas for the maintenance area: a consolidated plant propagation area for indoor and outdoor plants; a gardener's working area for storage of equipment, vehicles and tools; consolidated office space, meeting rooms and outdoor space for staff and volunteers, centrally located and immediately visible upon entering the facility; and a bulk materials storage area located furthest from public view. These functional areas work well and can largely utilize existing vehicle circulation patterns. The most significant modification from the master plan is the idea of utilizing and expanding the existing Sycamore House to consolidate future staff offices, rather than locating them directly adjacent to the greenhouses.



***Master Plan Refinement: Propagation and Maintenance Area***

## Community Outreach

The overall master plan for Brookside Gardens, existing conditions, program of requirements, and recommended plan for the plant propagation area were presented to the community in a public meeting on April 24, 2013. The attendees consisted mostly of neighbors. In general, the plan seemed to be well received and supported.

Residents on Wallace Street indicated that the forest surrounding the service hill has thinned over time and visibility to the service area has increased, especially at night (when lights are on) and during winter months. They requested supplemental evergreen screening, and Brookside staff intends to address this. There were also questions about whether it was necessary to remove the existing plant production facilities and which other facilities would be removed over time. Attendees asked whether the project could proceed if the public funding was not obtained and wanted to know what they could do to help support the project.

## Agency Coordination and Regulatory Approvals

The following is a summary of agency coordination performed for this project:

- Montgomery County Department of Permitting Services (DPS) - The proposed stormwater management concept includes a combination of pervious paving, microbioretention, and rainwater collection and re-use. Park staff held a pre-application meeting with DPS staff on April 30, 2013 to review the proposed stormwater management concept. DPS indicated that there have been very few projects proposing reuse of stormwater under the new regulations, and that DPS would look favorably upon this approach. The stormwater management concept will be submitted to DPS for approval during the final design phase of the project.
- M-NCPPC Department of Planning – There is an approved Natural Resources Inventory/ Forest Stand Delineation (NRI/FSD) and Final Forest Conservation Plan (FCP #95001) which covers the entire fenced limits of Brookside Gardens. The proposed project will disturb less than 5,000 square feet of forest. There will be disturbance to the calculated critical root zone area of a large specimen tree along the service drive near Beech Hill House. Park staff conducted an investigation of the actual location of roots from this tree with an air spade and has determined that there are no roots from this tree within the project limits of disturbance. Park staff met with Department of Planning staff on May 20, 2013 and was directed to submit a forest conservation plan amendment and tree variance during the final design phase of the project. It would be reviewed at the staff level and would not require Planning Board review and approval.
- Montgomery County Fire & Rescue Service – Office of the Fire Marshal – On April 26, 2013, Park staff met with staff from the Fire Code Enforcement Section to discuss how the proposed project could meet requirements for fire and rescue access. Staff was directed to widen sections of the existing access road on park property to 20 feet to provide emergency vehicle access and staging. The access road will be widened between the entrance gate to the Propagation and Maintenance Area and the proposed driveway leading to the loading area for the greenhouse. Two fire hydrants located to the west of the Fritz Greenhouse will be adequate to serve the new greenhouse and headhouse. Park staff was also asked to confirm that the turning radius from Glenallan Avenue onto Fernmont Lane is adequate for fire truck access. The Montgomery County

Department of Transportation recently replaced a culvert in this location.

- PEPCO and Washington Gas – RHL Engineering Company, Inc, a mechanical and electrical engineering firm, performed an assessment of how to relocate existing electrical infrastructure (poles, transformer, and underground service) and provide service to the new facility. The proposed work is shown in RHL’s plan titled Electrical Improvements for Brookside Gardens Greenhouse and is included in Attachment A. The gas line that serves the existing greenhouse will be routed from the meter located just outside the existing headhouse to the new headhouse. During final design, PEPCO and Washington Gas coordination will be required for these adjustments to the existing service.
- Washington Suburban Sanitary Commission (WSSC) – In 2009, a project was completed to provide upgraded water service to all of Brookside Gardens. An irrigation submeter was installed near the headhouse, as well as two fire hydrants. These facilities provide adequate water for irrigation, fire suppression, and potable water. No increased service is anticipated. During final design, WSSC coordination will include fire flow tests to demonstrate adequate fire hydrant flow, and a service connection permit will be required to modify the existing irrigation lines.

### Recommended Facility Plan

The Recommended Facility Plan for the plant propagation area incorporates innovative sustainable practices to serve as a model growing facility. The proposed greenhouse incorporates, to the extent practical, state of the art technologies for energy and water efficiency, including structural design and ventilation controls, heating and shading systems, lighting systems and controls, electronics and equipment, water capture, filtration and re-use, efficient plumbing and irrigation systems, and material composting, recycling and reuse. The recommended plan improves existing circulation patterns, allows for the removal of existing obsolete and energy inefficient growing facilities, and improves operational efficiency for Brookside staff and volunteers. Attachment A includes the proposed facility plan drawings.

The Recommended Facility Plan includes the following elements:

- New state of the art glass greenhouse (as described in the program of requirements) with approximately 12,000 square feet of growing area and six separate climate zones;
- New headhouse attached to greenhouse (as described in the program of requirements), approximately 1,700 square feet in size;
- Outdoor level plant growing area and work area in proximity to the greenhouse and headhouse,



**Recommended Facility Plan**

minimum 10,200 square feet to replace existing area, including stone dust paving for entire area, raised tables to grow and store plants, and space for large container plants, topiary and hanging baskets;

- Retaining wall with guardrails, up to 10 feet height, backfilled to create level outdoor growing area;
- New and widened asphalt service driveways, 20 feet wide, including loading and unloading area and turn-around space for large delivery trucks and directional signage;
- Plant storage area in proximity to loading area;
- Thirteen relocated staff parking spaces constructed of permeable paving;
- One paved concrete van-accessible parking space with accessible concrete pedestrian route to greenhouses and headhouse;
- Concrete paved vehicle access route, 13 feet wide, around entire outside of greenhouses for maintenance of building and to accommodate deliveries to and from all doors of greenhouses;
- Underground cistern and filtration system below outdoor plant growing area to capture gray water from greenhouse roof and floor for re-use;
- Stormwater management facilities to meet local requirements, including planted bioretention area and previously mentioned cistern and permeable paving;
- Removal and relocation of existing utilities to provide service to existing and new structures (gas, water, storm drainage, sanitary sewer, electric, telecommunications);
- Irrigation systems for re-use of gray water from cistern and for supplemental watering using potable water;
- Interior and exterior lighting;
- Mechanical, electrical and plumbing systems, fire alarm, telecommunications service, and security system; and
- Required furnishings and equipment for headhouse, greenhouse and outdoor growing areas.



*Recommended Facility Plan*

## Sustainability

Brookside Gardens has a strong commitment to incorporate sustainability throughout every aspect of the gardens. The Department of Parks plans to utilize the Brookside Gardens campus as a pilot for Leadership in Energy and Environmental Design for Existing Buildings (LEED-EB) Certification. This facility plan is in keeping with this goal on multiple levels. The master plan recommendations have been reconsidered to ensure that structures with a useful life span are retained. The proposed facilities are located within previously disturbed areas and protect the existing forest. The rainwater re-use component will reduce the use of potable, treated water and reduce costs for WSSC fees. Staff intends to offer structures (Quonset) and various components that are in reasonable condition for reuse, and other materials that cannot be reused will be recycled. The improved growing space will result in improved plant health in keeping with principles of integrated pest management. Finally, the proposed greenhouse structure is a state-of-the-art facility which takes advantage of natural ventilation principles to reduce energy costs.



*Open Roof System*



*Greenhouse Interior*

## COST ESTIMATE

The total project budget recommended for design and construction of the plant propagation area at Brookside Gardens is \$3,274,600. Of this cost, \$1,000,000 is anticipated to be provided by the donor. The table below summarizes projected costs. Several reputable greenhouse vendors were contacted to establish costs for the greenhouse, and staff assumes that the greenhouse portion of the project would be procured through a design-build contract.

Staff does not project any increase to annual operating budget costs as a result of this project. The new plant production facilities will replace existing growing facilities that are in poor condition, require ongoing maintenance, and are energy inefficient. There is likely to be some increase in utility costs created by this project, as this facility has larger areas of conditioned space than the facilities it replaces. However, this is likely to be offset by efficiencies gained in working conditions for Brookside staff and volunteers, as well as lifecycle maintenance costs.

ITEM NO.	ITEM	TOTAL COST
1	Site Preparation & Erosion/Sediment Control	\$43,900
2	Demolition & Clearing – utilities, structures	\$105,500
3	Earthwork – grading, fill	\$73,200
4	Site Utilities, Stormwater Management, Cistern	\$291,500
5	Paving: Vehicular and Pedestrian	\$169,900
6	Site Retaining Walls, Guardrails & Barriers	\$107,000
7	Greenhouse & Headhouse – includes slab, structure, all utilities and furnishings	\$1,544,400
8	Landscaping	\$17,800
*	<b>NET CONSTRUCTION SUBTOTAL</b>	\$2,353,200
9	Insurance (1%), Overhead & Profit (6%), Bond (1%)	\$188,300
10	Contingency (20%)	\$470,600
11	Final Design Fees (15% net cost, excluding greenhouse)	\$121,300
12	Staff Chargebacks for Design (3%)	\$70,600
13	Staff Chargebacks for Construction Management & Inspection (3%)	\$70,600
**	<b>TOTAL DESIGN &amp; CONSTRUCTION COST</b>	\$3,274,600

## CONCLUSION

Staff recommends approval of the Recommended Facility Plan and the associated cost estimate. This is a rare opportunity to leverage a significant donation towards a much needed maintenance facility that is also recommended as the next phase for implementation in the 2005 Master Plan for Brookside Gardens. The proposed project will help improve efficiency in operations, and the project lives up to the reputation of Brookside Gardens as a forward thinking and sustainable facility that is designed for the enjoyment of current and future generations.

## ATTACHMENTS

Attachment A: Facility Plan Drawings