

# **BIRMINGHAM BOTANICAL GARDENS**

## **MASTER PLAN**

FIRST SOLUTIONS PRESENTATION  
20 NOVEMBER 2008

### **PROCESS**

On 20 November 2008, Oasis Design Group presented the first round of conceptual solutions for areas they were tasked with studying for the current Birmingham Botanical Gardens (BBG) master plan. Detailed information about the design team's tasks, and the guiding philosophy behind and main objectives for the master plan, can be read in an executive summary of the Program, or in the full Program.

This presentation followed initial site visits by the design team in January 2008. In July 2008, a Sustainability Workshop was held, along with a presentation of the Site Analysis, which described the design team's initial findings about the areas to be considered for re-design. You can view notes from the Sustainability Workshop [here](#), Site Analysis Diagrams [here](#), Site Analysis notes [here](#), and a map of Garden Opportunities [here](#).

In August 2008, a design charrette was held at the offices of Biohabitats, Inc., in Baltimore, MD, mainly to develop treatment options for stormwater management, but also to begin to develop conceptual designs in other areas identified in the Garden Opportunities diagram. This "first-look" at solutions is the next phase in the design process.

Importantly, design solutions are directed by the Program and informed both by the Sustainability Workshop and the Site Analysis.

### **INTRODUCTION**

The narrative below follows the order of images shown in the November solutions presentation which can be seen in PDF format [here](#). The presentation was led by Oasis Design Group principle Scott Scarfone and project manager Will Hart; Michael Lightheiser from Biohabitats, Inc. presented topics relative to stormwater management and habitat development.

At this stage of the design process, it is helpful to bear in mind that the solutions are conceptual in nature and are intended to convey only general ideas about:

- ✓ the relative size of spaces and elements;
- ✓ functionality;
- ✓ relationships between and among spaces and elements;
- ✓ spatial organization methods;
- ✓ basic patterns of circulation (pedestrian and vehicle movement);
- ✓ garden axes (organizational lines), and;
- ✓ views.

Those familiar with reading these types of plans, sometimes referred to as “bubble diagrams” or “functional diagrams”, understand that the conceptual nature of the information presented, as well as the relative large scale of the diagrams, is inappropriate for showing details relative to style, texture, type and color of elements (including structures), materials, objects and surfaces, precise size of elements and plant selection. Refinement and further development of each area is required, based on feedback gathered from the presentation and will be shown in future design phases.

Future phases in the master plan will also begin to identify the relative cost of proposed elements, as well as an idealized time-frame and proper prioritization for construction (although this is somewhat flexible and dependent on availability of funding). A far-reaching master plan such as this will take many years to fully fund, staff and implement.

## **INDIVIDUAL SHEET DESCRIPTIONS**

### SHEET 1: GARDEN OPPORTUNITIES

Shows areas within BBG that the design team is studying. Areas outlined in green show both existing gardens/spaces to be re-designed and currently uncultivated areas which may be developed into new features or gardens. Blue areas indicate potential locations to support de-centralized maintenance functions. Most of these areas are discussed in more detail in the sheets that follow.

Reasons for re-designing existing gardens and features include non- or poor functionality, drainage issues, non-compliance with ADA, the Americans with Disabilities Act (lack of barrier-free accessibility), new programmatic opportunities, and major disrepair precluding simple renovation.

Note that the Japanese Gardens are not part of this design, having been addressed separately in a renovation plan completed in 2007 by ZEN Associates, a design-build landscape architecture firm specializing in Japanese Gardens. You can view this renovation plan [here](#).

### SHEETS 2 & 3: ADDITIONAL OPPORTUNITIES

Due to a typographical error, these plans should be labeled “ADA Garden Access Concept”.

Following detailed data gathered in the site analysis, these sheets indicate potential idealized barrier-free routes. A spur-type system is shown in red (SHEET 2), and a loop-type system is shown in purple (SHEET 3).

In short, ADA does not require every path or surface to be barrier-free, but rather emphasizes the experiential nature of accessibility relative to special features or elements. For example, we will need to provide a barrier-free experience in the Barber Alabama Woodlands, including access to and across the boardwalk (a special feature) in the lower end of this garden, but not necessarily through or along every path in the woodland.

Significant modifications to existing paths, including the construction of a number of ADA-compliant ramps, will be necessary to achieve our goals. Further study about the type, number, extent, and cost of these modifications will lead us to more detailed solutions, and ultimately to the selection of either a spur- or loop-based path system.

### SHEET 4: ADDITIONAL OPPORTUNITIES

Depicting the BBG site from a satellite image, this sheet acknowledges that there is on-going, small-scale work at BBG occurring simultaneous to the master plan, but impacting and informing it minimally, if at all. For example, a re-design of certain elements in the Ireland Old-Fashioned Rose Garden is underway, as is the design of vegetated swales in the Fern Glade to ease runoff problems.

This sheet requires labels for clarity and they will be added for the next presentation. In addition, several of the icons need to be slightly re-positioned to more precisely indicate work areas.

SHEET 5: CONSERVATORY AND MAINTENANCE FACILITIES

With a satellite image, shows the rough boundary of this area.

SHEET 6: EXISTING CONSERVATORY AND MAINTENANCE FACILITIES

Shows several photographs of existing maintenance facilities, indicating wasted space between and adjacent to production greenhouses, expanses of concrete with drain inlets (directing stormwater into subsurface pipes and, eventually, into the Barber Alabama Woodlands), lath storage houses, and the storage garage. Most of the production houses and the garage date from the early 1960s.

SHEET 7: CONSERVATORY AND MAINTENANCE FACILITIES CONCEPT

Colored shapes depict the conceptual layout of re-designed features and elements. Black arrows depict circulation; the largest arrows indicate circulation routes that can accommodate vehicles (including, around the production greenhouses, vehicles as large as fire and rescue equipment). Not all possible circulation routes are indicated.

This concept starts with several major changes:

- Two new, 40x40' display houses are added, one at each end of the existing conservatory (discussed in more detail at SHEET 12).
- The following existing elements are to be entirely or substantially removed: Grape Myrtle Garden, Enabling Garden, glass production houses, potting shed (including staff offices), public restrooms and showers, garage (including staff break room), material storage bins, lath houses, and concrete and asphalt roadways (storage and parking), a number of existing trees.

Elements are added as follows:

- Expanded production houses are re-grouped as an entire unit and moved further west of the conservatory (opening up an important space between the two).
- A new potting shed (headhouse) lies just south of the new production houses.
- Ample areas around the production houses and potting shed are left for "lay down space", where plants awaiting installation can be staged or grown-on in full sun outside of the production houses.
- New staff offices are placed further west, adjacent to an area reserved for bioswales (to allow infiltration of stormwater emanating from above).
- A larger garage for storing maintenance vehicles, tools, equipment and supplies is located to the north. Staff restrooms, including showers, lockers and a break room are located in these facilities.
- New lath houses are located to the northeast of the garage.
- New public restrooms are placed adjacent to the center house of the conservatory; a new space for public rentals lies immediately to the west. These two structures may or may not be unified.

- A new “Persian Garden” lies to the south of the restroom/public building(s). It is envisioned that this space will be an important event and activity areas, and will be reservable by the public.
- An expanded Bruno Vegetable Garden lies to the north; it is three times larger than the existing vegetable garden.
- An expanded Herb Terrace lies further north, possibly incorporating rustic limestone columns , “ruins”, from the old Jefferson County Courthouse (potentially to be donated).
- The existing Thompson Enthusiasts Garden, virtually unchanged, lies just to the east.

Elements are moved to other areas on the site as follows:

- Enabling Garden (to be incorporated in the Plant Adventure Zone, adjacent to the Garden Center).
- Staff and volunteer parking, and material storage bins (shown on SHEET 16).

The new design accomplishes a number of important goals:

- Plant-growing functions are integrated and the “seed-to-finished plant” growing process is streamlined.
- Increased plant production space incorporates new gutter-connected greenhouses to save space and allow for greater internal flexibility. Cisterns to collect runoff from glass roofs will be located beneath the production houses insofar as subsurface soil conditions allow. Water will be used for irrigation, powered by a small solar pump.
- Green spaces (gardens) surround the conservatory and provide a more complete continuity of visitor experiences.
- New gardens enhance connections to existing gardens and new conservatory houses. (Note: the black arrow drawn through the Persian and Vegetable gardens should have been drawn to line up with the central walk through the Hess Camellia Garden – immediately north of the Herb Terrace – enhancing that major axis. The arrow should not indicate a connection to the rose gardens to the south. The next phase will show these corrections.)
- Separation and clarification of functions will permit isolating the visiting public from staff-only maintenance areas. This improves the visitor experience and also increases visitor and worker safety.
- New spaces increase opportunities for public rentals: Persian Garden and adjacent building.
- The elevation of the new garage and storage structure (relative to areas further west) may be suitable for earth-sheltered construction and/or a “green roof”, with additional garden space on top.
- A new, centralized, power plant will primarily use clean natural gas-fired boilers for climate control in all buildings and glass houses, with additional power provided by geothermal sources (as subsurface soil conditions permit).
- Additional solar collectors may be incorporated on new buildings to augment electric power.

SHEET 8: CONSERVATORY AND MAINTENANCE FACILITY: COMPARABLE EXAMPLES: PRODUCTION GREENHOUSES

Shows gutter-connected greenhouse ranges and subsurface cistern application.

SHEET 9: CONSERVATORY AND MAINTENANCE FACILITY: COMPARABLE EXAMPLES: PERSIAN AND VEGETABLE GARDENS

Shows several examples of Persian-style gardens (ranging from lushly- to sparsely planted) and a Persian rug depicting a typical garden layout.

SHEET 10: CONSERVATORY ENTRANCE

With a satellite image, shows the rough boundary of this area.

SHEET 11: EXISTING CONSERVATORY ENTRANCE

Shows various photographs of existing conditions including the Water Clock (the clock, non-operable since c. 1990 and damaged irreparably; the water, non-operable since 2002), the lack of a flat surface at the entrance proper, and the non-ADA compliant entrance ramps.

SHEET 12: CONSERVATORY ENTRANCE CONCEPT

Colored shapes depict the conceptual layout of re-designed features and elements. Black arrows depict circulation; the largest arrows indicate circulation routes that can accommodate vehicles (including, at the perimeter, vehicles as large as fire and rescue equipment). Not all possible circulation routes are indicated.

This concept starts with several major changes:

- Two new, 40x40' display houses are added, one at each end of the existing conservatory.
- The three existing conservatory houses are completely renovated including: new environmental control systems (heating, fogging, venting controls, heat-retention blankets), glazing (glass and sealants), and exhibits (including internal paving, plantings, irrigation, signage, etc.). While programming for the renovated conservatory, including the new houses, is ongoing, it is envisioned that the central house will be a tropical rainforest (including tropical plants important to commerce), the medium-sized house to the south will display desert fauna from around the world, the medium-sized house to the north will display seasonal and special exhibits (including poinsettias and Easter lilies), the small house to the north will contain a permanent orchid exhibit, and the small house to the south will be a flexible space accommodating additional exhibits and/or public rentals.
- The following existing elements are to be entirely or substantially removed: Crape Myrtle Garden (the collection will be re-distributed throughout remaining areas), Enabling Garden, Water Clock and several crape myrtles in the "circle" around the Formal Garden.

Elements are added as follows:

- A large, flat, entrance terrace is located at the center of the conservatory complex and is tended by a large, central staircase, and flanked by simple evergreen and deciduous hedges (and possibly a water feature).
- Smaller terraces are located outside of each end house.
- Flat, grassy areas are located adjacent to each side terrace and the central terrace.

The new design accomplishes a number of important goals:

- The central terrace is suitable for staging concerts, exhibits and other activities. All power and sound system connections can be built-in nearby.
- Side terraces allow space for sitting, viewing and small gatherings or activities during events.
- Grassy areas allow overflow space and room for seasonal color plantings (including the All-America Selections Display Gardens).
- A simple evergreen hedge enhances the definition between the lower Formal Garden and spaces adjacent to the conservatory above.
- The existing Enthusiasts' and Forman Gardens are preserved with virtually no changes.

- Barrier-free accessibility to all conservatory houses is provided through a ramp located at the south-most end house, and from there either through the houses, or along the flat terraces in front.
- The new conservatory house to the south terminates the cross-axis through the Dunn Formal Rose Garden.

SHEET 13: CONSERVATORY ENTRANCE: COMPARABLE EXAMPLES

Shows several photographs of terraces, central staircases, formal parterres and seasonal color plantings in association with conservatory entrances.

SHEET 14: REAR SERVICE ENTRANCE AND PARKING

With a satellite image, shows the rough boundary of this area.

SHEET 15: EXISTING REAR SERVICE ENTRY AND PARKING

Shows various photographs of existing conditions including the service entry off Cahaba Road, loosely-defined (and unsecured) crushed stone parking areas, internal roadways (where vehicles and pedestrians have major conflicts) and the flat, grassy area which was the site of the former caretaker's house.

SHEET 16: REAR SERVICE ENTRANCE AND PARKING CONCEPT

Colored shapes depict the conceptual layout of re-designed features and elements. Black arrows depict circulation. Not all possible circulation routes are indicated.

This concept starts with several major changes:

- The service road is slightly re-aligned (the entrance at Cahaba Road remains in the same location).
- Bioswales are integrated to retain stormwater runoff from new surfaces and areas uphill.
- The following existing elements are to be entirely or substantially removed: crushed stone parking areas, a number of major trees.

Elements are added as follows:

- Two delineated parking areas with a total of 40 stalls are located to the north of the service road.
- A new walk connects the parking areas to staff offices to the east (shown on SHEET 7.) Note: this walk may be unnecessary as the existing walk in the Ireland Iris Garden is mere feet away.
- Storage bins for bulk materials are located to the west.
- Bioswales flank the parking areas and service road.
- New, dense tree plantings are added to re-forest the area.

The new design accomplishes a number of important goals:

- The relocation of the storage bins reduces the number of large vehicles entering The Gardens proper, and the number of vehicular/pedestrian conflicts on internal roadways.
- The relocated and delineated parking areas reduce the number of staff and volunteer cars entering The Gardens proper, and the number of vehicular/pedestrian conflicts.
- The service drive and parking areas can be secured (with gates and fencing) to control vehicles entering the site and access to the parking areas.
- To the north of the storage bins, the existing service road can be connected (and a section between the Ireland Iris and Jemison Lily Gardens can be eliminated).

- Bioswales allow stormwater runoff from paved surfaces to infiltrate.
- The existing Southern Living Garden, to the south, remains virtually unchanged.

SHEET 17: REAR SERVICE ENTRANCE AND PARKING CONCEPT: COMPARABLE EXAMPLES

Shows photographs of possible applications of non-paved parking surfaces, and bioswales and bioretention islands adjacent to parking areas.

SHEET 18: ENTRANCE DRIVE

With a satellite image, shows the rough boundary of this area.

SHEET 19: EXISTING ENTRANCE DRIVE

Shows photographs of various existing conditions including the concrete-lined Sonat Lake in the foreground, the large water oaks framing it, and the strong views of the Queens' Gates, Formal Garden and Conservatory beyond.

SHEET 20: ENTRANCE DRIVE CONCEPT

Colored shapes depict the conceptual layout of re-designed features and elements. Black arrows depict circulation; the largest arrows indicate circulation routes that can accommodate vehicles. Not all possible circulation routes are indicated. Blue lines indicate water flow.

This concepts starts with several major changes:

- The entrance drive is slightly re-aligned, just beyond the Queens' Gates.
- The service road to the north (joining an internal roadway) is re-aligned.
- The Blount Plaza and drop-off area is re-designed (discussed in more detail at SHEET 24).
- The following existing elements are to be entirely or substantially removed: Sonat Lake, the berm separating parking from Sonat Lake, the Wisteria Arbor.

Elements are moved to other areas on the site as follows:

- Donor Wall now on the Wisteria Arbor wall will be moved into a re-designed Blount Plaza.

Elements are added as follows:

- A wet meadow and hummock habitat for plants native to these conditions.
- Barrier-free pedestrian circulation links to the plaza and parking areas, including boardwalks, bridges and/or an overlook platform over the wet meadows.
- Additional parking in the location of the existing berm (see also SHEET 24).

The new design accomplishes a number of important goals:

- Parking is increased.
- The stream which existed prior to Sonat Lake is, in essence, restored.
- Stormwater retention is facilitated with the addition of wet meadow areas, designed to flood during rain and runoff events, and dry out during drier times.
- Drainage ties into an existing overflow inlet.
- The large, existing water oaks are shown as remaining.
- A habitat is created for sun-loving plants amenable to wet meadows and streamside locations.
- With new paths, visitors are encouraged to safely walk into and through this new area.

- The visual identity and living collections philosophy of BBG is beautifully and dramatically established from the start of the visitor experience: garden areas featuring native plants and habitats, and garden areas featuring more highly-structured design and planting areas.
- Ample space is left for entrance monumentation (signage, seasonal color) and potential tie-ins to local sidewalks.
- Note: a fence separating the entrance area from “internal” garden spaces to the north of the main boardwalks, as well as securing the service road, is not shown on this sheet, but will be drawn in a future phase. There will be no pedestrian circulation into these internal gardens from this area.

SHEET 21: ENTRANCE DRIVE CONCEPT: COMPARABLE EXAMPLES

Shows several photographs of wet meadow habitat areas in conjunction with roads and bridges, as well as a “local model” from Coosa County.

SHEET 22: VISITOR PARKING

With a satellite image, shows the rough boundary of this area.

SHEET 23: EXISTING VISITOR PARKING

Shows photographs of various existing conditions, including parking stalls for the disabled, raised parking islands and the berm adjacent to Sonat Lake.

SHEET 24: VISITOR PARKING CONCEPT

Colored shapes depict the conceptual layout of re-designed features and elements. Black arrows depict circulation; the largest arrows indicate circulation routes that can accommodate vehicles. Not all possible circulation routes are indicated.

This concepts starts with several major changes:

- The lower Blount Plaza is completely re-designed following conceptual plans developed by Nimrod Long & Associates’ landscape Joel Eliason, and architect John Carraway.
- The following existing elements are to be entirely or substantially removed: the berm separating parking from Sonat Lake, the Wisteria Arbor, all existing asphalt parking areas, significant numbers of existing trees along Lane Park Road and in the parking area, the eastern edge of the Barber Alabama Woodlands (where it abuts new parking areas).

Elements are added as follows:

- A large, circular orientation area at the easternmost edge of the Blount Plaza.
- A new, large drop-off area.
- Barrier-free surfaces and slopes throughout the plaza.
- Parking stalls for the disabled as close to the Garden Center and Plaza entrance as possible.
- An expanded entrance garden for the Garden Center.
- Bioswales throughout the proposed parking areas.

Elements are moved to other areas on the site as follows:

- Donor Wall now on the Wisteria Arbor wall will be moved into a re-designed Blount Plaza.

The new design accomplishes a number of important goals:



- A new Blount Plaza better orients visitors and enables easier visitor counts; stormwater drainage in this space is corrected and circulation is made barrier-free.
- Increases existing parking from 210 stalls (plus 5 bus stalls) to 310 spaces (plus 5 bus stalls). The numbers indicated on the plan also include 28 internal parking spaces from the ZEN Associates Renovation Plan for the Japanese Gardens, and 40 staff and volunteer spaces shown at SHEET 16. The latter two are not shown on this sheet.
- All stormwater runoff from parking areas is either retained in bioswales (which permit infiltration) or is re-directed to the swampy area in the Barber Alabama Woodlands.
- Parking lot islands are densely replanted.
- Clarifies the distinction between the entrance to the Garden Center and the entrance into the gardens proper.
- Permits better visibility of our facilities, and increased driver safety, along Lane Park Road.
- Provides circulation links to the garden areas created along the entrance drive.
- Allows both pedestrian and service vehicle connections to the Japanese Gardens (area shown within dotted oval requires more thought as to precisely how this will work).

SHEET 25: VISITOR PARKING: COMPARABLE EXAMPLES

Shows application of bioswales/bioretention plantings and permeable paving in and near parking areas.

SHEET 26: UPPER BLOUNT PLAZA

With a satellite image, shows the rough boundary of this area.

SHEET 27: EXISTING UPPER BLOUNT PLAZA

Shows photographs of various existing conditions, including the raised octagonal planter, poorly defined entrance to the Dunn Formal Rose Garden, *Granite Garden* sculpture/fountain, and expanse of paving.

SHEET 28: UPPER BLOUNT PLAZA CONCEPT

Colored shapes depict the conceptual layout of re-designed features and elements. Black arrows depict circulation; not all possible circulation routes are indicated.

This concepts starts with several major changes:

- The lower Blount Plaza is completely re-designed following conceptual plans developed by Nimrod Long & Associates' landscape Joel Eliason, and architect John Carraway.
- The following existing elements are to be entirely or substantially removed: paving and trees in the Blount Plaza; the "grassy knoll"; the existing brick overlook and ramp into the Dunn Formal Rose Garden; the wooden "map shelter".

Elements are added as follows:

- Beginning at the *Granite Garden* sculpture/fountain, this important element receives a solid green backdrop, like a grouping of small trees or a tall hedge. (Note: the drawing makes the width of the plaza itself appear to be quite narrow; this is merely an artifact of the rendering, not the actual width.)
- Immediately to the northwest, the café dining area is expanded.
- Further northwest, the service area behind the Garden Center's catering kitchen and auditorium is enlarged (nibbling away slightly at the edge of the Barber Alabama Woodlands).
- To the west, vending machines are accommodated.

- Further west, a pergola or trellised area for shaded seating is provided.
- A transitional terrace (which could incorporate lawn and groundcovers, as well as paving) is located further north.
- A new overlook at the entrance to the Dunn Formal Rose Garden is provided.
- Access to the rose garden is via a staircase, to the east of the overlook, and a barrier-free ramp to the west.

The new design accomplishes a number of important goals:

- Significant existing trees (a large ginkgo and the “Moon Tree”, an American sycamore) are preserved.
- The octagonal planter, Barber Alabama Woodlands entrance and adjacent plantings remain.
- The major cross-axis through the Dunn Formal Rose Garden is emphasized through the creation of the new overlook and flanking stairs/ramp, and terminated by the pergola/trellis sitting area.
- A hedge completes the “outdoor room” concept for the rose garden.
- The transitional terrace emphasizes the importance of this space relative to the rose garden, and organizes it effectively.
- Outdoor dining space is increased.
- Service areas at the Garden Center are increased.
- Disparate elements in this area are unified.

SHEET 29: HABITAT GARDENS

With a satellite image, shows the rough boundary of this area.

SHEET 30: HABITAT GARDENS EXISTING CONDITIONS

Shows photographs of various existing conditions including severely eroded streambanks and portions of the existing Bog Gardens.

SHEET 31: HABITAT GARDENS CONCEPT

Colored shapes depict the conceptual layout of re-designed features and elements. Black arrows depict circulation; the largest arrows indicate circulation routes that can accommodate vehicles. Not all possible circulation routes are indicated.

This concepts starts with several major changes:

- The asphalt service/access road is re-routed below the crest of the hill near the Kaul Wildflower Garden.
- A “plunge pool” is added where the stream drops out of the Kaul Wildflower Garden. This important featured allows energy from the swiftly-flowing stream to dissipate.
- The existing degraded stream corridor is restored.
- The following existing elements are to be entirely or substantially removed: existing Bog Gardens and boardwalk, a number of substantial trees, the existing bridge between the Bog and Camellia Gardens.

Elements are added as follows:

- A series of “Alabama Habitat Gardens” depicting southeastern native plants and displays of their preferred habitats. (Several initial ideas for these habitats are shown, although these choices are not finalized at this stage of the design process.)

- Wetland areas along the stream are created to accommodate stormwater flows.
- New paths and boardwalks, barrier-free as needed, are added through the displays. (Note that as in SHEET 20, a path is incorrectly shown connecting this area to the Entrance, and the perimeter fence is not shown. These errors will be corrected in a future drawing.)
- A new building is located to terminate the axis which begins at the Garden Center and goes through the Hill and Formal Gardens. The building would function as an outdoor education center and/or a rentable space for small groups, possibly featuring restrooms with water conserving features. It may be possible to build this structure into the slope and create a “green roof”.
- An education terrace is located behind the new building.
- A small parking area is planned adjacent to the building, possibly with a secured entrance off Lane Park Road (not shown on the plan).
- A barrier-free overlook is sited adjacent to the terrace to command views of the quarry in the Kaul Wildflower Garden.

The new design accomplishes a number of important goals:

- New areas will be created for *ex situ* conservation of selected Alabama endemic plants.
- The highly degraded and erosion-prone stream corridor will be restored.
- The rubber liner “bogs” will be turned into more naturally sustainable wetland habitats.
- The existing and adjacent Kaul Wildflower, Enthusiasts’ and Forman Gardens remain virtually unchanged.
- Much of the proposed “habitat gardens” will be created from presently-uncultivated areas, largely populated with invasive exotic plants including Chinese privet and mimosa.
- The most important garden axis – uniting architecture and landscape – will be enhanced and terminated.
- A more user-friendly area will be created for field trips and outdoor education.

SHEET 32: HABITAT GARDENS: COMPARABLE EXAMPLES: WOODLAND STREAM AND RIPARIAN HABITATS

Shows photographs of “local models” of stream and streamside wetland habitats.

SHEET 33: HABITAT GARDENS: STREAM RESTORATION POTENTIAL

Shows before and after photographs of an actual stream restoration from the same vantage point, over about seven years.

SHEET 34: HABITAT GARDENS: STREAM RESTORATION STRATEGIES

Shows photographs of applications of different stream restoration strategies which are used to dissipate energy of flowing water and to armor and protect streambanks.

SHEET 35: HABITAT GARDENS: ALABAMA HABITATS

Shows photographs of different and unique Alabama habitats, potentially to interpret in the proposed Habitat Gardens.