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Evaluation and Recommendations for the Widener Wooded Path

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An independent study project report by The Alice & J. Liddon Pennock, Jr. Endowed Horticulture Intern (2019-2020)

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Evaluation and Recommendations for the Widener Wooded Path

Abstract

The Widener Wooded Path, also known as the Woodland Path, is the gateway to the Arboretum, that introduces the visitor to the beauty of the Arboretum's gardens by leading from the Widener Visitor Center to the Rose Garden. Because of this, the path should provide an initial display of the horticultural thought and skill that goes into caring for the Arboretum. The path has lost the cohesion and flow that provides a smooth and interesting transition between Widener and the gardens due to differing design decisions of previous section leaders of the area, difficult cultural conditions, and issues with pests, like deer, voles, rabbits, and chipmunks. It also lacks balance of interest through the seasons that is essential in a year-round public garden. The objective of this project is to assess the state of each of the beds selected along the path and make recommendations for edits that will address each of these issues. Recommendations include the removal or relocation of plant species that are not thriving, enhancing species that are currently successful and present in small numbers, and suggestions for new species introductions that offer interest currently lacking in the area. Rather than creating an entirely new design for these woods, this project aims to identify and enhance the strengths of what is already present, and replace or improve the weaknesses.

Disciplines

Horticulture

Comments

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Date: March 2020

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TABLE OF CONTENTS

INTRODUCTION.....	3
BACKGROUND & HISTORY.....	3
SITE CONDITIONS.....	4
INITIAL PLANT ASSESSMENT.....	4
RESEARCH.....	4
DESIGN RECOMMENDATIONS.....	5
RECOMMENDATIONS BEYOND PROJECT SCOPE.....	6
REFERENCES.....	7
ACKNOWLEDGMENTS.....	7
TABLES & FIGURES.....	8
TABLE 1: Final plant list.....	8
FIGURE 1: Google Maps view of focus areas.....	10
FIGURE 2: 1914 Map with current map overlay.....	11
FIGURES 3-4: Hand-drawn map of Bed One and first half of Bed Two.....	12
FIGURE 5: Hand-drawn map of second half of Bed Two, Three, and Four.....	13

INTRODUCTION

For the purposes of this project, the “Widener Wooded Path” refers to the paved pathway that leads from Widener Visitor Center, past Out on a Limb, and down toward the Rose Garden. The Widener Visitor Center is typically the first stop for guests, where they become oriented with the garden’s attractions and history before seeing it for themselves. For the majority of guests, the Widener Wooded Path functions as the gateway into the gardens, and represents an introduction to the horticultural displays throughout the Arboretum. Because of the important role the path and surrounding gardens play in guest experience, it is essential that it appears thoughtful and cohesive in plant choice and design, while also maintaining a woodland feel and shadowing the “East-meets-West” plant palette that has been the target theme of the area. Goals also include increasing interest from summer to fall, and adding more unique and intriguing foliar colors and textures to help brighten the deep shade of the area. This project focuses on editing the herbaceous plantings to meet these objectives along portions of the Widener Wooded Path from Widener to Out on a Limb.

Four areas have been selected for evaluation and rated by priority throughout the path. The first priority is the island bed with the *Tilia tomentosa* that sits between the two converging paths leaving Widener toward Out on a Limb, and is bordered by the stairs. Second is the bank following the southern side of the path from the front of Widener to the bench across from Out on a Limb. Third is the space between the entrance to Out on a Limb and the Bell, and fourth is the area between the Bell and the island (first) bed. Figure 1 highlights these on a map.

Currently, the path contains a disorganized variety of species. Many individuals were collected and accessioned by Arboretum staff during expeditions to multiple Asian countries, making them valuable to the Arboretum’s history and records. Because these species were collected as individuals or small groups of specimens, there is little repetition that ties all these beds along the path together, and thus creating an inconsistent and unintentional feel to the area. In addition, several of the accessioned plants have not thrived, giving them a weak or unattractive appearance that poorly represents the care we put into our collections. Overall, the path has proven difficult for maintaining herbaceous plantings due to excessively dry and rocky soil conditions and the deep shade of the lower woodland canopy.

BACKGROUND & HISTORY

The Widener Wooded Path was installed around 1998. Prior to this, the woods in this area were referred to as the Tea House Woods, named after the Japanese Tea House that was destroyed in 1954 during Hurricane Hazel. The path leading through the woods was a narrow walking path that cut across where the current path sits now, and exited the woods southwest of the Morrises’ mansion. The 1914 plan of Compton (Figure 2) shows the wood’s edge set further off the turf on the eastern edge, and split by an opening that ran east to west. Today, an outdoor classroom sits in the previous location of the Japanese Tea House (1914 Atlas).

Past horticulture intern, Kem-ok Kim, did an evaluation of a portion of my project area for her intern project in 2004-2005. In this project, Kem-ok describes the way some soils may have been altered since a portion of the site was used as a dump for the Morrises to burn or discard trash and ashes from their fireplaces (Kim, 60). This theory is supported by the 1914 Atlas, which shows a pit in the woods that occupies the area where the bell sculpture is now. The soil tests in Kem-ok’s project revealed a mildly alkaline soil for this portion of the woods, which she says is likely the result of ashes that can be found in the soil profile (Kim, 60). While my

project did not utilize soil testing in evaluating the site, the presence of *Corydalis lutea* may indicate some remaining alkalinity. This plant species has seeded itself into Bed Three, and a few other areas along the path, and prefers neutral to alkaline soils (Carroll).

Since the path's installation, the beds along it have been under the care of several horticulturists, each managing the area in their own style. Shortly after the path installation the site, especially Bed One, also became an unofficial trial site for many wild-collected species, due to its convenient proximity to the previous curator's office (Marrocco). The area around the Widener Wooded Path, and the path itself, has undergone many conflicting and differing ideologies of use before the path's installation, causing the loss of clear intention and cohesion that is seen today.

SITE CONDITIONS

The Widener Wooded Path contains harsh growing conditions. Soils in all four beds are very dry. The only exception to this is a moist spot where the end of Bed Two meets with the turf toward the southeast corner of Widener. Beds Two, Three, and Four have extremely rocky soils, making installation and successful establishment of new plantings difficult, due to lack of water retention, space for roots to grow, and limited availability of nutrients. As mentioned when examining the history of the site, it is possible that the soils in some of these beds have a more alkaline pH than many plants are capable of tolerating, which also contributes to the difficulty of competition for nutrients.

Light in Bed One is limited to deep shade from the low-lying canopy of surrounding trees. These shady conditions extend to the opposite side of the path, which is a portion of Bed Two. Bed Two has some areas of filtered sunlight around the area where the path bends, and Beds Three and Four experience a small amount of filtered sunlight.

PLANT ASSESSMENTS

The first step of the editing process was identifying the plant species that already existed. Species in each of the beds were identified, and the spaces they occupied estimated and marked on a blank BG-Base map of the area (see Figures 3-5). Accessioned species were specially marked, as these species required more consideration and consultation with other staff before being moved or removed. During this process, plants that were unsightly or unsuccessful were noted for possible transplant or removal, with plant appearance throughout all seasons taken into consideration. In addition, a list was made of species that were successful in the area's conditions with attractive foliage and/or floral display. These species were selected as desirable for establishing repetition and flow between the beds.

RESEARCH

In order to increase interest, it was necessary to seek out additional species that could be introduced to the area. Options are greatly limited by the soil and light conditions of the site. This made real-life experiences and recommendations from other horticulturists more reliable than online research. Tours and visits with professionals from Chanticleer and Mt. Cuba Center, as well as recommendations from other Morris Arboretum employees, helped build and narrow the pool of plant species.

After seeking inspiration and species recommendations at area gardens, a list was

compiled of species with desirable features that may be suitable for these conditions. The species were grouped based on primary interest: foliage or flowers. Notes were made on the cultural requirements, appearance, and time of year with greatest interest. This list was used as a pool of options that the other horticulturists at the Arboretum reviewed and provided feedback based on their knowledge and experience of the species being considered. Their commentary and additional online research were used to narrow the options to create the final plant list (Table 1).

RECOMMENDATIONS

Remove/Move Poorly Performing Species

Because the path plays such a crucial role in the visitor experience, it is important that plants in this area speak positively to the care the Arboretum puts into maintaining its plants. To leave species where they are growing unsuccessfully reflects poorly on the visitor's first impression. In evaluating the plants present in each bed, four accessioned species were found to be growing poorly, all in Bed One. Species selected for removal include *Adenophora paniculata*, due to its limp and sparse growth, and *Astilbe chinensis*, because the foliage easily becomes crisp and brown during the growing season. Two species were also selected to be moved to better sites. *Aconitum sinomontanum* needs more sunlight or the support of surrounding plants when placed in deep shade, otherwise it becomes floppy and lanky. This species should be moved to the outside of the Pennock Flower Walk, where it can get more sun and support. *Polygonatum cirrhifolium* is very small and floppy in Bed One as well, and should be moved to a site with more moisture, as this species is intolerant of drought (Royle).

Identify Successful Species & Multiply

Because the areas along the path have such difficult growing conditions, it is important to use the aspects that are currently proving strong. Several species have been selected to be distributed throughout other portions of the path based on their current success. In every bed, there is currently at least one small patch of varying species and cultivars of *Epimedium* that is growing well. *Epimedium* functions as an attractive, dense groundcover in all areas of the project site, while also having good spring floral interest. *Reineckia carnea*, *Tricyrtis dilatata*, and *Kirengeshoma palmata* have all shown promise in their ability to grow in the difficult drought and deep shade conditions of Bed One. Lastly, Bed Two contains *Amaryllis belladonna*, *Tiarella*, and *Solidago* species that are well adapted to the rocky, dry soils of Bed Two and they add interest during targeted seasons.

New Species to Introduce

As mentioned in the research discussion of this paper, new species were selected based on online research and relevant or applicable suggestions from other horticulturists and gardens. Table 1 shows the species that were selected and highlights the ones ordered for spring planting.

Design and Placement

Placement and mapping of new plantings are basic outlines and ideas. Where plants will go is dependent on numbers available from nurseries and what is possible at the time of planting. Definitive plantings in the plan include the placement of *Impatiens omeiana* and *Chelone* spp., which will be mostly concentrated along the turf-lined edge of Bed Two, as these plants require the higher soil moisture there. *Heuchera* and *Tiarella* spp. are selected to replace the *Adenophora* and *Astilbe* being removed from Bed One. This will bring colorful interest to this area during

Moonlight and Roses, which is an important event when the path is heavily used. The same *Heuchera* and *Tiarella* species will be spread into the other beds as well, to contribute to the goal of connecting the different areas of the path. Repetition will also be established using *Aconitum carmichaelii* ‘Arendsii’, *Tricyrtis* spp., *Carex* spp., *Polystichum acrostichoides*, *Aster* spp., *Cyrtomium falcatum*, and *Kirengeshoma palmata*. Other species listed in Table 1 will be placed as seen fit at the time of planting.

RECOMMENDATIONS BEYOND PROJECT SCOPE

The scope of this project only covered a small fraction of the path that stretches through the woods. Future recommendations include extending species and design choices to the remainder of the path that goes from Out on a Limb to the *Nyssa* slope. The difficult, shady, and dry conditions of the path provide an opportunity for the Arboretum to educate and engage with visitors and the community. As Chief Horticulturist, Vince Marrocco and Advisory Board Member, Nina Schneider both pointed out, many homeowners are seeking suggestions for their shade gardens. Once new plants become established, the Widener Wooded Path has potential to offer new educational opportunities through classes and signage geared toward the home gardener and professionals alike to find plants suitable for sites that are dry, shaded, and/or need late season color.

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TABLES

TABLE 1: Final plant list

Species	Common Name	Height	Season of interest	Native? (NA = North America)	Flower Power	Foliage Interest
<i>Aconitum carmichaelii</i> 'Arendsii'	Azure Monkshood	2-4'	summer	China	High	Medium
<i>Actaea pachypoda</i> 'Misty Blue'	Misty blue white baneberry	2-3'	summer	E. NA	Medium	Medium-high
<i>Aquilegia canadensis</i>	Eastern red columbine	2-3'	spring	NA	High	Medium
<i>Aster divaricatus</i>	White wood aster	2-3'	summer/fall	NA	Medium	Low
<i>Aster macrophyllus</i> 'Twilight'	Big leaf aster	2-3'	summer/fall	NA	High	Low
<i>Begonia grandis</i>	Hardy begonia	1.5-2'	late summer/fall	China	Medium	Medium
<i>Carex flacca</i> 'Blue Zinger'	Glaucous sedge	1'	summer	Europe	---	High
<i>Carex oshimensis</i>	Oshima sedge	1'	summer	Japan	---	High
<i>Chelone lyonii</i> 'Hot Lips'	Turtlehead	2-4'	late summer	NA	High	Low
<i>Chelonopsis yagiharana</i>	Japanese turtlehead	1-2'	fall	Asia	Medium	Low
<i>Cyrtomium falcatum</i>	Japanese holly fern	1-2'	summer	Asia (Japan, China)	---	High
<i>Dicentra spectabilis</i>	Bleeding-heart	2-3'	spring	Asia	High	Low
<i>Hakonechloa</i>	Hakone grass	1'	summer	Asia	---	Medium
<i>Hellebores</i> (varying cultivars)	Lenten rose	1-1.5'	spring/summer	Europe/Asia	High	Medium
<i>Heuchera</i> (varying cultivars)	Coral bells	1'	summer	NA	Medium	High

<i>Impatiens omeiana</i>	Hardy impatiens	0.75-1.5	summer	China	Medium	High
<i>Kirengeshoma palmata</i>	Yellow wax bells	3-4'	summer	Japan, Korea	Medium	Medium
<i>Podophyllum peltatum</i>	Mayapple	1-1.5'	spring	NA	Medium	High
<i>Polystichum acrostichoides</i>	Christmas fern	1-2'	summer	NA	---	Medium
<i>Salvia glabrescens</i> 'Shi-Ho'	Hairless Japanese Woodland Sedge	18"	fall	Japan	High	Low
<i>Sanguinaria canadensis</i>	Bloodroot	0.5-0.75	spring to fall	NA	Medium	High
<i>Scutellaria incana</i>	Hoary skullcap	2-3'	late summer/fall	NA	High	Low
<i>Solidago flexicaulis</i>	Broad leaf goldenrod	1-3'	fall	E. NA	Medium	Low
<i>Spigelia marilandica</i>	Indian pink	1-2'	early summer	NA	High	Low
<i>Syneilesis aconitifolia</i>	Shredded umbrella plant	1.5-3'	summer	Asia	Medium	High
<i>Tiarella</i> (varying cultivars)	Foam flower	1'	spring/summer	E. NA (T. cordifolia and triphylla), China (T. polyphylla)	Medium	Medium
<i>Uvularia grandiflora</i>	Large-flowered bellwort	1.5-2'	late spring	NA	Medium	Low
<i>Valeriana pauciflora</i>	Large-flowered valerian	1.5-3'	late spring/early summer	NA	High	Low

FIGURES

FIGURE 1: Google Maps view of focus areas



FIGURE 2: 1914 map with current map overlay



FIGURE 3: Hand-drawn map of Bed 1, at start

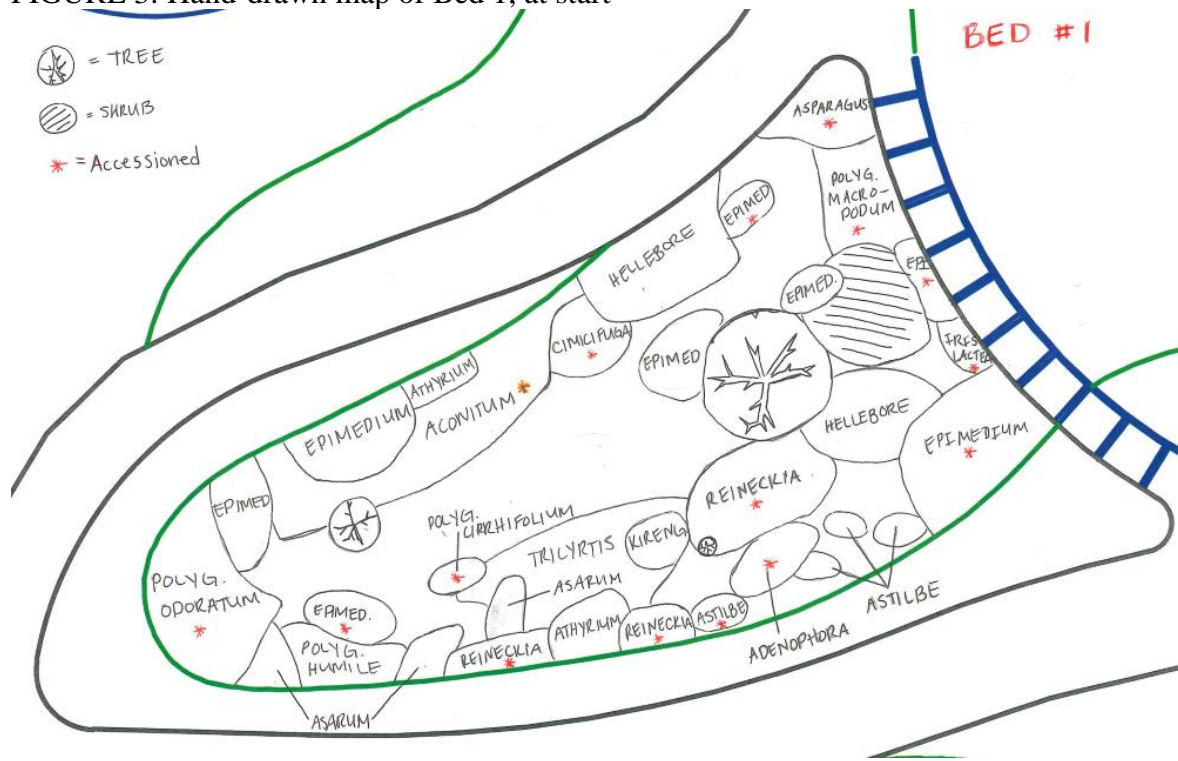


FIGURE 4: Hand-drawn map of first half of Bed 2, at start

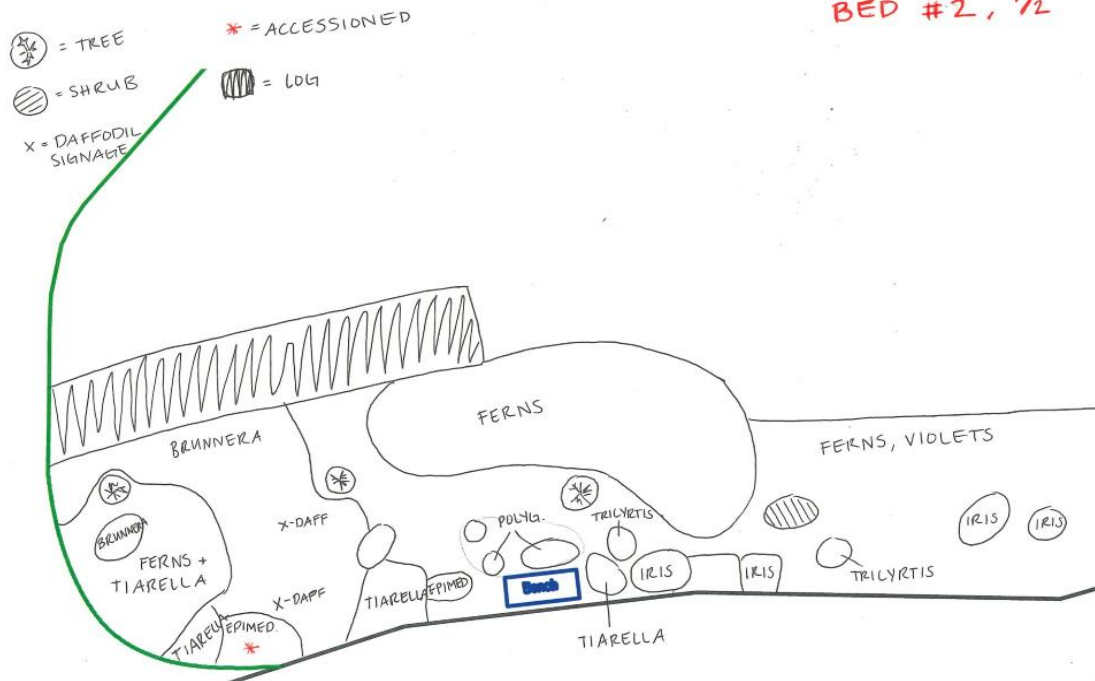


FIGURE 5: Hand-drawn map of second half of Bed 2, 3, and 4, at start

