The Pine Tree State Arboretum in Augusta, the capital of Maine, occupies 224 acres of open fields, deep forests, ledges, and wetlands. The state purchased the land in 1835 and farmed it to meet the needs of the state hospital for the mentally ill until 1972. In 1981 the state’s Bureau of Public Lands and the Maine Forest Service founded the Pine Tree State Arboretum on the property, with both agencies providing staff and funding. While the state agencies continue to provide support, the Arboretum is now a private nonprofit corporation governed by a board of directors.

In 1996, the staff and the board felt strongly that it was time to step back, evaluate the progress of the Arboretum, and make plans for its future. As part of this effort I collaborated with the staff and board to prepare a master plan that would establish a permanent design policy and guide the institution’s physical development over the next ten years. Specifically, the team’s task was to develop an organizing theme applicable to all existing and future collections in order to give a sense of unity and aesthetic continuity to the Arboretum, and to extend public access to all parts of the grounds.

Site Analysis

The planning team began its work by investigating the natural and cultural processes that had shaped the site so that we could then define its opportunities and limitations. Only with an intimate understanding of the land could we identify and enhance its unique qualities and link them to the surrounding region.

A series of maps was drawn up to illustrate nine characteristics of the site. Together these maps form a graphic representation of the physical factors that guided our decisions about design. Only six of the nine site characteristics analyzed for this study are included in the discussion that follows; omitted are microclimate, visual qualities, and regional characteristics.
Above: To preserve native species and teach visitors about local ecology, knowledge of existing plant communities must be thorough. Most of the land is in post-agricultural succession.

Below: Geology defines any landscape, including its soil composition and its acidity and alkalinity levels. Hydrology determines the life forms the site will support.
Above: Analysis of soil types provides information for the placement of buildings and plants.

Below: This map shows the property's high and low points and the resulting views.
Above: The placement of paths and gardens will be guided by the steepness of slopes. The map shows that gentle, rolling hills are the rule on the property, with only a few steep areas.

Below: It is the plant collections that distinguish an arboretum from a park or a nature preserve. This map shows the existing collections at the time that work on the master plan began.
Synthesis

Several features emerged from our site analysis as significant, suggesting some initial goals to guide our planning:

• preserve the existing natural communities;
• explain the stages of species succession that have followed the discontinuance of agriculture;
• emphasize the exposed bedrock at the high point of the site;
• preserve and explain the watershed system;
• maintain open agrarian views;
• manipulate microclimates for human comfort and to create zones for more delicate plants;
• provide explanatory materials about historical features;
• integrate the existing plant collections into a wider framework; and
• improve visitor circulation throughout the site.

These goals suggested an organizing theme for the Arboretum: the story of Maine’s landscape as shaped by its people, with emphasis on its agricultural and forestry traditions. But the site analysis also highlighted the Arboretum’s potential to provide vitally needed public education about Maine’s future and to illustrate the value of thinking globally, while acting locally, when confronting issues of ecological degradation and species loss. At the same time in recognition of funding and staffing restrictions, the planning team decided that the design should make use of existing site conditions and local materials as much as possible.

This drawing and the one that follows represent the two defining features of the Arboretum’s landscape, fields and forest.


**Drawing Up the Master Plan**

In this phase of the process the team incorporated all the goals and opportunities listed above into an actual plan, striving to establish a coherent design while maintaining enough flexibility for future growth. Five drawings were then made to illustrate the thematic components of the plan.

**The Agrarian Landscape and the Maine Woods**

These two drawings display the two main features, fields and forest, that define the Arboretum landscape. The challenge for the planners was to build design themes around these features and create a sense of their value.

Using the agrarian landscape, for example, we wanted to demonstrate that as agriculture declines in Maine, the Arboretum can be a model for preserving open vistas and other traditional elements of farmland. The design accomplishes this by using the linear forms of stone walls and hedgerows to complement the flowing lines of the natural topography. Old stone walls will be uncovered and new ones built, and interpretive signs will tie together such historical features as the cistern, the piggery, and the three embanked ponds. The visitor center will be relocated, enlarged and enhanced with features such as an entrance garden called the Maine Landscape Garden. It will integrate agrarian elements—an old-fashioned perennial garden, a grape arbor, and a sinuous stone wall—into a design based on the gardens of typical farmhouses.

The other design theme focuses on the Maine woods and wetlands. The forest is central to the state’s identity, and it is imperative that commercial use of the forest be balanced by environmental stewardship. For that reason, the team emphasized public education in considering how to illustrate this theme. The cistern will be a central gathering place for outdoor education, its walls refitted with a level surface for amphitheatre-style seating. Native shrubs will line the outer perimeter, and an attractive rustic shelter will provide weather protection. A series of outdoor classrooms will
surround the cistern, with displays on ecology, resource utilization, and woodlot management.

A woodland walk will take visitors through the major forest communities. Clearings in each plant community will provide seating and interpretive displays about forest succession, native species, wildlife habitats, and other topics. A wetland boardwalk winding through the watershed system will feature interpretive devices, including maps and text panels. Guided tours will also be offered.

**Plant Collections**

The planners felt that the plant collections should not simply be labeled exhibits but should also provide a link to the greater community and its history. To demonstrate a connection with the site’s agricultural past as well as with the present Maine economy, for example, the heirloom apple collection should both preserve heirloom varieties and show visitors how to establish an orchard. Accordingly, the Arboretum’s collections were divided into three major categories, each intended to have distinctive interpretive materials:

- the Maine Landscape Garden at the entrance, which will include specimens from the horticultural collections;
- the taxonomic collections and other special gardens, such as the hosta garden, the Viles Pond bird and waterfowl habitat, and the rock garden;
- the existing natural habitats, which include the post-agricultural successional communities as well as the forest and wetland communities.

*The design proposal identifies ways to use the plant collections to more meaningfully connect the Arboretum to the greater community.*
Visitor Circulation

It was decided that the trail system would serve not just to get visitors from here to there but also to reveal the land through sequential experiences, each of which affects the perception of the next one.

The plan outlined a hierarchical arrangement of paths and orientation devices that would allow visitors to feel safe while enjoying their experience. A main loop providing access to all major features will be clearly identified by width, surface treatment, and a distinctive edge. Narrower secondary paths will bring visitors directly to major features, and winding tertiary trails will offer exploration and discovery. The design of intersections and transition areas will also help to guide the visitor, with focal points such as the cistern and piggery situated so as to aid in orientation.

Developing a sense of unity was one of the most important objectives of the master plan and the overriding challenge for the Arboretum. As outlined in the summary above, the planning team addressed this challenge in several ways:

- by interweaving two thematic landscapes, fields and forest;
- by clarifying the educational mission through the selection of collections and interpretative programs;
- by establishing a circulation system that balances hierarchy and mystery;
- by designing guidelines that include the repetition of certain forms, the use of local materials, and an emphasis on local culture.

We believed that if the staff and the board applied these basic design guidelines throughout the Arboretum, they would create a facility that integrates science, design, local culture, and social activity for the betterment of the

A hierarchy of trails allows visitors to feel safe while exploring the landscape and brings order to the Arboretum's diverse display collections.
surrounding community and the greater world, and that leads visitors to an understanding of natural processes in a way that connects them to what is happening on a global scale. At the same time, the Arboretum would help Maine residents maintain the natural beauty of their native landscape and define the parameters of a sustainable economy. Perhaps most important, it would be a place to experience the renewal and peace that come from visiting a beautiful landscape.

Postscript

In the nine years since the master plan was completed, it has provided a long-range vision for the Arboretum’s staff and board members. It has proven flexible enough to allow the staff to respond to new opportunities—creating a new program for home schoolers; installing a native plants garden; and completing a large new addition to the visitor center in recognition of the desire for more educational programs. The staff continues to work with limited funds but is nevertheless now updating the plan in response to new challenges and opportunities.

The plan weaves a central theme throughout the landscape, achieving unity in orderly circulation, by repeating forms and materials, and establishing a uniform palette of materials for signs, furniture, and paths.

Since completing her certificate in landscape design in 1999, Pamela Griffin has worked in Maine for landscape architectural firms; researched and wrote a cultural landscape report for historic trails in Camden Hills State Park; conducted a survey of Maine’s cultural landscapes; and designed several outdoor classrooms. She recently completed a master’s degree in biology with a thesis on plant ecology at the University of Southern Maine, Portland, and plans to enter the growing field of ecological design and mapping.