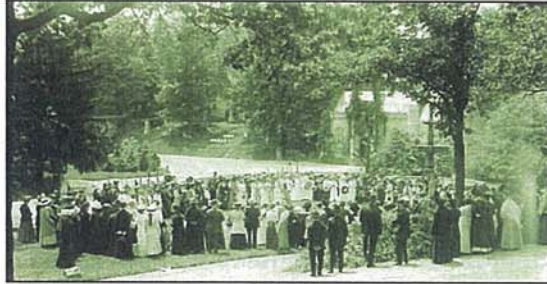


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CHAPTER VI: MOUNT HOPE CEMETERY LANDSCAPE PRESERVATION TREATMENT & MANAGEMENT

A. LANDSCAPE PRESERVATION TREATMENT ALTERNATIVES & SELECTION

Given the discussion of issues set forth in the existing conditions and analysis chapters, progress has been made with several positive results in the Mount Hope Cemetery landscape. In general, the landscape exhibits a continued distinctiveness of landscape units and their character-defining features. A number of mature specimen trees remain in relatively good condition, and important individual trees and tree stands also remain. The Friends of Mount Hope Cemetery (FOMH) have contributed to the great progress in maintaining the historic resources of the cemetery through the Adopt-A-Plot program and significant preservation and rehabilitation work on the gatehouse, chapel, and fountain. Additionally, the amount of historic research and study of the cemetery by others has contributed to the rich body of scholarly knowledge about this special place.

Conversely, the cemetery landscape offers challenges to consider when planning a landscape preservation treatment. These current challenges include:

- Unsustainable slope management
- Prevalence of invasive species
- Declining specimen trees and historic tree canopy
- Abandoned and altered circulation systems
- Difficulty mowing between monuments
- Deterioration of individual features, such as the Florentine fountain, large monuments, and cemetery structures such as mausoleums
- Need for continued income from burials
- Limited staffing and financial resources

Together, the positive aspects and the current challenges within the cemetery landscape influence the recommendations set forth in landscape preservation treatment.

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The question of landscape character is important to define and focus as landscape interventions are contemplated. The landscape character of the cemetery today draws on the uniqueness of the geology and topography, collection of specimen trees, tree groves and clusters, and the winding circulation system that was developed to retain the character of the natural topography and enhance cemetery use. The historic treatment of the landscape is identified and pictured in previous chapters as a tended, picturesque landscape. Today, much of the unique character of the cemetery landscape remains intact, while the issues listed above signal aspects of deterioration and limitations of current care. However, the question of future character remains—what character should be targeted for the Mount Hope Cemetery landscape of tomorrow? Philosophically, there is an acceptance of evolution over time to the present. Yet, ongoing stewardship is supported by the recommendations set forth herein. Cemetery visitors and those buried in the landscape deserve a level of respect that is not conveyed when the landscape and its special character is allowed to deteriorate.

As Mount Hope Cemetery is a historic landscape, national preservation standards are addressed as intervention alternatives are explored. Options set forth in federal guidance for preservation of a historic property include a range of interventions from Preservation, which is a baseline in stewardship for any intervention, to more intensive Restoration or Reconstruction and also to Rehabilitation, which addresses current uses while carrying out preservation treatment. For cultural landscapes, the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes (Guidelines)*, *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques*, and *National Park Service Director's Order #28: Cultural Resource Management* identify and define these preservation treatments that can be applied to any historic property.¹ This Federal preservation guidance sets forth four approaches to the preservation treatment of cultural landscapes: Preservation, Restoration, Rehabilitation, and Reconstruction. These treatments propose different levels of intensity of intervention and activity within a landscape.

This chapter provides an exploration of landscape preservation treatment alternatives and formulates an approach to treatment for the Mount Hope Cemetery landscape. The proposed treatment draws on the history of the cemetery as an evolved landscape to accommodate burials, mourners, visitors, and ongoing maintenance. Previous chapters explored the landscape history, current conditions, landscape typologies, and historic integrity. The collection of historic photographs, plans, and other research and drawings document the overall landscape character, character-defining features, and discernible details through time. The landscape treatment seeks to manage the historic cemetery as an evolved landscape and allow for ongoing change. The proposed landscape features discussed in this approach can be compatible and well-integrated additions. The treatment also identifies areas for continued interment in order to provide an ongoing income stream in a manner appropriate for a nationally recognized historic resource. Working from the multiple bases presented in the history, evolution, existing conditions, analysis, and future needs, this chapter provides an exploration of cultural landscape

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preservation treatment alternatives including Preservation, Restoration, Rehabilitation, and Reconstruction. Interpretation of the historic landscape is also addressed as it relates to preservation treatment.

When considering treatment alternatives, the baseline intent is to identify and protect remaining historic character and features within the landscape. To address the preservation treatment of the Mount Hope Cemetery cultural landscape, the amount and detail of available documentation, the understanding of the evolution from the 19th century to today and an understanding of current landscape use and its value to the surrounding community are important aspects for consideration. The level of landscape continuity and change over time is a further consideration in terms of the ability to link historic landscape character to treatment options within the existing landscape. Anticipated public access, safety, financial resources, sustainability, and maintenance capabilities are also considered. To serve as a reference, applicable preservation treatment options are quoted from the *Guidelines* and summarized as follows.

Preservation

*Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction.*²

Preservation is the most modest intervention approach, in which stabilization and repair is emphasized. It is an appropriate stewardship and sustainability choice when combinations of the following situations are present: many elements are intact; interpretive goals can be met within the existing conditions; and financial resources and/or staffing are limited. Preservation can also be viewed as a provisional treatment until the acquisition of additional documentation to allow for restoration or reconstruction, or until resources are garnered to commence a more ambitious intervention. Preservation treatment emphasizes the goals of conserving, retaining, and maintaining the historic fabric and underlies the other three, more intensive preservation treatment approaches. Preservation safeguards the historic landscape resources by applying an appropriate stewardship approach. Preservation can and should be applied as an initial and underlying approach that values the historic places and carries out stewardship actions on its behalf. Mount Hope Cemetery retains a high level of historic integrity with the character of numerous features dating from the historic period extant in the landscape today. Given the historic significance and value, and existing conditions of the cemetery landscape, Preservation is warranted and appropriate. Because of the need to accommodate active burials into the future and improve areas in decline with many character-defining features, specific areas may be targeted for more intensive interventions than Preservation alone.

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Restoration

Restoration is defined as the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time, by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period.³

In contrast to Preservation, which focuses on safeguarding what remains, Restoration is dependent on high levels of documentation for a clear restoration target date to undertake an intervention with limited speculation. Restoration treatment first seeks to stabilize and repair all historic features present during the period of significance. Secondly, a Restoration treatment reinstates lost character by fully renewing degraded aspects and features of the cultural landscape. The treatment may also require the removal of features added after the time period designated for restoration. Restoration aims to recapture the overall character and details of an entire landscape or may seek to restore a selected landscape unit, detail, or group of elements. Restoration of overall landscape character, spatial organization, land uses, land patterns and visual relationships can be applied without restoration to precise details of all elements. In some cases restoration of every detail to an earlier time is not possible due to lack of specificity of documentation, projected staffing, and/or available financial resources. While the intensity of a Restoration approach can vary, it generally requires a substantial intervention. This intervention is usually focused on elements of the original landscape that remain but are in a deteriorated state that is beyond simple repair. Because of the continued use of Mount Hope Cemetery, an overall Restoration is not a suitable treatment for the landscape but could address specific documented features where evidence remains.

Rehabilitation

Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alteration, and additions while preserving those portions or features that convey its historical, cultural, or architectural values.⁴

The third treatment approach, Rehabilitation, incorporates preservation values with contemporary uses and issues of maintainability and sustainability. Rehabilitation treatment emphasizes compatibility with historic resources and respect for safeguarding remaining historic character and elements. Rehabilitation philosophy combines respect for the historic resources with integration of contemporary uses, maintenance, code compliance, security, and other relevant concerns. The treatment is frequently applied to public landscapes with high use and to formerly private landscapes that are opened for public access. An overall Rehabilitation approach for the Mount Hope Cemetery landscape is highly appropriate to address historic integrity, current conditions and desires for a higher degree of landscape maintainability. Aspects of historic recapture and contemporary use, maintainability, and sustainability can be accommodated through a Rehabilitation treatment approach.

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Reconstruction

Reconstruction is defined as the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.⁵

Reconstruction of a lost or significantly degraded landscape in its original location is not often undertaken. A Reconstruction treatment may be the most appropriate approach in a museum setting when documentation is complete, adequate resources are available, and interpretive goals direct full recapture. In large landscapes a missing element or detail, such as a particular feature like a fountain or pond or a unique furnishing like a bench is sometimes reconstructed. This approach is uncommon because detailed documentation is required to construct an exact replica with limited speculation. However, partial reconstruction could occur to a limited extent given incomplete documentation with only some detailed data for specific features. Because the majority of historic landscape features remain in Mount Hope Cemetery today, a Reconstruction treatment is not appropriate. It is important to note that, given the current landscape use, future goals, and level of available historical documentation, an overall treatment approach of Reconstruction is not appropriate for Mount Hope Cemetery; however reconstruction of individual features is appropriate and should be undertaken as historical documentation and resources allow.

Landscape Treatment Selection: Preservation

Based on this discussion, broad Preservation with an underlying respect for and stewardship of individual historic landscape features and character is the most appropriate approach for Mount Hope Cemetery. This is a conserve, repair and replace approach, rather than a more intensive intervention. However, where deterioration warrants, targeted Rehabilitation and Restoration of specific features and problem areas is appropriate. The selected landscape treatment focuses on stabilization of this historic landscape while accommodating ongoing use of the cemetery. Given the current character of the landscape and available resources and City of Rochester and FOMH capabilities, limited intervention with a light hand is appropriate for this cultural landscape.

Another important aspect of Preservation is recognition through historic designation. Today Mount Hope Cemetery is listed on the National Register of Historic Places as a part of the Mount Hope-Highland Historic District. The next step to enhance the quality and prestige of historic designation would be to develop an individual property National Register listing. The cultural landscape report research can be mined for the required statements of significance and property description with the landscape, its character and integrity in the foreground of those discussions. Defining the important place of Mount Hope within the development of picturesque rural lawn cemeteries may form the basis to assert the national significance of this

(How)

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important public landscape. Securing an individual listing at national significance is an important precursor towards National Historic Landmark (NHL) listing. In order to be considered for NHL listing, a resource must “possess exceptional value or quality in illustrating or interpreting the heritage of the United States”, and must display a “high degree of integrity”.⁶ NHL listing requires a theme study for the national historic context of historic early cemeteries in order to judge the national significance of Mount Hope Cemetery against related properties. A NHL resource must be one of the most important examples of its type, and this case must be made for Mount Hope Cemetery in order to pursue NHL designation. <

All landscape preservation treatments strive to protect and safeguard extant historic features. In applying Rehabilitation in specific areas, contemporary features, uses and accommodations for ongoing burial, maintenance, service, and safety are addressed while the historic landscape is respected. Where thorough documentation exists, Restoration can be undertaken for missing or deteriorated historic features. The recommended Mount Hope Cemetery preservation treatment, management, and interpretation approaches and initiatives are explored in the following narrative.

B. INTRODUCTION TO LANDSCAPE TREATMENT

The landscape treatment recommendations are organized according to landscape typologies as introduced and analyzed in previous chapters. The distinct Mount Hope Cemetery landscape typologies provide a framework for treatment and management, which facilitates better understanding of landscape character and issues. Preservation treatment recommendations target the specifics of each landscape type. The following recommendations provide broad guidance on management strategies for the various landscape types as well as specific projects that can be undertaken to enhance the character, interpretation, use, functionality, maintainability, and quality of user experiences at Mount Hope Cemetery. Selected landscape treatments are also outlined on the *Landscape Treatment Selected Elements Plan, LT*. This treatment plan uses color to highlight target areas that are the focus of preservation, stabilization, maintenance and initiatives like invasive species suppression, among others. The plan is included at the end of this chapter as an 11-inch by 17-inch fold-out.

The process of analyzing the Mount Hope Cemetery landscape revealed important aspects of the cemetery character and how it is defined. In terms of typology definition, three main factors impact landscape character as well as visitor experience and management approaches throughout the cemetery: slope gradient; vegetation cover including tree canopy and ground plane; and monument density. Individual character-defining landscape features that comprise these factors include topography, tree density, ground vegetation, landscape structures, notably burial markers and monuments, and circulation. Various combinations of these features create a range of small-scale landscapes within the broader, picturesque Mount Hope Cemetery

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landscape. For example, a steeply inclined pedestrian path lined by steep hillsides, dense overhead canopy and thick undergrowth is observably dissimilar to a level drive edged by steeper slopes with open turf grass and a more open canopy. These variations not only create an array of visual and sensory experiences for cemetery visitors, but they also require different management strategies. Definition of landscape types forms a basis for landscape preservation interventions and ongoing management strategies. It can also aid in projecting annual maintenance staffing needs by landscape type. The following landscape preservation discussion defines a series of recommendations that directly relate to the identified landscape typologies and features and their correlation to each other and the overall landscape.

Treatment recommendations for the Mount Hope Cemetery cultural landscape focus on Preservation as a baseline to support management and interpretation with specific areas targeted for Rehabilitation and Restoration. Much of the historic landscape remains intact and the landscape conveys a high degree of integrity. Furthermore, the existing landscape character can suitably accommodate current and future uses of the cemetery. These conditions, combined with the level of available resources to improve and maintain the landscape, indicate that Preservation is the most appropriate treatment intervention. Rehabilitation and Restoration efforts can be directed where appropriate to allow for ongoing interments, cremation and scatter gardens as well as enhanced understanding and interpretation of historic features.

The present cemetery landscape has evolved over more than a century, and exhibits much character that is to be retained. The objective of preservation treatment is first to respect and steward what remains and second to repair, stabilize, and conserve current landscape resources. Observed issues of degradation will be addressed in repair and stabilization actions.

Following on these baseline actions, adding back lost elements, like the loop road around the fountain, are valid considerations. Each aspect of the cemetery landscape is addressed, by issues and type, in the following sections to include gardens, ground plane, steep slopes, individual trees, woodlands, circulation and access, furnishings and basic monument conservation. These sections addressing the physical landscape are augmented by sections on wayfinding and interpretation, landscape maintenance and potential areas for additional burials.

C. MOUNT HOPE CEMETERY GARDENS

Garden areas are a potential addition to the Mount Hope Cemetery landscape. Evidence indicates that historically the cemetery had more flowering shrubs and focal urns or plantings at specific locations. In terms of philosophy, these gardens would be modern additions that add interest to the landscape. From the visitor experience perspective, Heritage Landscapes suggests that planted urns, small garden beds or larger beds of shrubs and flowering perennials and/or annuals be located at drive intersections throughout Mount Hope Cemetery. These types of focal plantings would replace the current planters and mark prominent intersections in the

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landscape. The *Landscape Treatment Selected Elements, LT* shows 18 potential garden or urn locations at intersections, highlighted in purple.

The size of these features and their ongoing care needs to be carefully considered. Round gardens of about 8 feet across would be a manageable size for flower plantings, perhaps with a center of perennials and an edge of flowering annuals. For a larger area, around 20 feet across, or for filling a triangle at an intersection, the use of mid-size flowering shrubs would provide mass. A dependable older shrub is Annabelle hydrangea (*Hydrangea arborescens* 'Annabelle'); another widely used traditional shrub is Weeping Forsythia (*Forsythia sieboldi suspense*). Coralberry (*Symphoricarpos orbiculatus*) and deciduous holly hybrids (*Ilex vericillata cultivars*) can also be used to good effect as durable, low care options. Larger flowering shrubs, such as common lilac hybrids (*Syringa cultivars*) and mock orange (*Philadelphus coronarius*) may have had a place in the cemetery landscape in the past and could be added back in selected locations. In terms of horticultural selections, these gardens could use historic plants, or may favor modern cultivars. As they would be added elements to the cemetery, the approach to planting is not restricted.

Cemetery gardens recommendations include:

- Consider size and ongoing care of new plantings
- Utilize planted urns and garden beds as focal plantings at drive intersections
- Create small gardens with perennials edged with flowering annuals
- Create larger beds with flowering shrubs
- Select either historically used plant materials or modern cultivars to recapture former character of cemetery plantings

D. MOUNT HOPE CEMETERY GROUND PLANE VEGETATION

Today, the cemetery exhibits an abundance of mown turf. In areas with high tree and/or monument density maintaining a turf ground plane is challenging, regardless of slope gradient. Trees and monuments create vertical obstacles in the ground plane that are difficult to mow around without causing damage to the resources. Effectively, alternate ground covers should be considered for these areas. Establishing ground covers that do not require mowing can help remedy several issues; first, it can improve the character of the cemetery ground plane in areas where turf cannot grow or where it is difficult to maintain; second, it decreases the level of work required to maintain the cemetery grounds; and third, it helps protect monuments from damage commonly caused by mowers. Some groundcovers that would likely do well in a variety of conditions include creeping phlox (*Phlox subulata*), periwinkle (*Vinca minor*), low-growing Veronica (*Veronica repens*), and sedum massing (*Sedum* varieties, *Sedum acre* is particularly vigorous in areas of sunlight).⁷ Additionally, the use of a short, no-mow fescue turf may also be worthy of testing inside family plots or in areas of dense monuments. Prairie Nursery provides a

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mixture of short-growing fine fescue grasses that reach about 6 inches in height. Establishing this low grass cover in specific areas may be a sustainable option. In areas with dense tree canopy, but more open or limited monuments, it may be possible to establish meadow or no-mow turf to support a more diverse landscape.

Cemetery ground plane vegetation recommendations include:

- Limit use of mown turf on steep slopes and in areas with high tree and/or monument density
- Plant alternative, no-mow ground covers in areas with vertical obstacles
- Test short, no-mow fescue turf in family plots or in areas of dense monuments
- Consider meadow or no-mow turf in open areas with dense tree canopy and limited monuments

E. MOUNT HOPE CEMETERY STEEP SLOPES

The hill, slope, and valley topography of the cemetery is distinctive and makes a strong contribution to overall landscape character, experience, and management. As presented in the previous chapter, the cemetery landscape can be categorized into slopes measuring 1-9% grades, 10-32% grades and 33% and above. The first category, which represents some 22 acres or 27% of the landscape, is relatively flat to gently sloping and defines areas that could be accessible to handicapped visitors. The second category encompasses about 42 acres or 52% of the vegetated landscape. Slopes up to 32%, covering some 79% of the vegetated landscape acreage, are ground planes that are below a 3:1 gradient. In terms of treatment and ongoing management, slope gradients are closely related to other factors, most prominently vegetation and burial monuments. The maximum mowable slope is recommended at 3:1. In general, the first two slope groups show ground plane turf that can be effectively maintained with standard mowers. Slopes above 33%, which represent some 16 acres or 19% of the landscape, are too steep for normal mowing. Currently, vegetation on the steepest slopes is primarily woodland with considerable invasive species. In these steep areas, alternative ground plane treatments should be considered. Three approaches are worth testing:

- Meadow of native grasses and wildflowers
- No-mow turf of short, fine fescue grasses
- Healthy woodlands with invasive species suppressed and young native tree growth fostered (Addressed in the Woodland Section below)

One historic period photograph shows steep hillsides in Mount Hope Cemetery planted with a mixed grass and wildflower meadow, while other views show open, tended woodlands. (See Figures II.17 and II.7.) Despite the prevalence of these vegetation types historically, no meadows are present in the landscape today.

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Implementing meadow cover or low- or no-mow turf is an appropriate approach to manage slopes too steep to maintain in traditional turf. In order to determine a specific meadow mix or no-mow turf mix that will thrive in the cemetery and be compatible with the landscape character, a visually inconspicuous slope should be planted as a test area.

Seeding or planting desired meadow or low- or no-mow turf areas is a process of changing the plant growth in a selected area. The work begins with removing and/or suppressing the current vegetation in order to establish the desired vegetation. Seasonal timing of this process is important to retain soils and limit disturbance. Establishment involves suppressing undesirable weed species for as much as three years. For grasses and wildflowers, planting plugs or seeding onto open soils are both options. By selecting and establishing appropriate plants, this new open, stable slope will add to cemetery landscape character.

While both low- or no-mow grasses and meadow cover reduce maintenance, each offers a different appearance and habitat value. No-mow grasses typically do not provide habitat enhancement. In contrast, meadow areas contribute to habitat value drawing field and woodland edge birds and butterflies. Meadow care, once established, will be light with inspection and species control as needed with mowing once every two years. Mowing is used to suppress woody species which sprout from seed annually. Recent research indicates that biannual mowing also supports butterfly habitat, as cocoons remain on standing stems, overwintering to open in the following spring. The preferred meadow management care regimes will be determined by the target species and habitat conditions desired. The proposed meadow grasses and wildflower species are recommended as a mixture.

→ Native Grass Seed: Fresh, clean, dry, new seed, mixed species potentially the following list:

- 50 percent *Schizachyrium scoparium* (Little Bluestem)
- 30 percent *Sorghastrum nutans* (Indiangrass)
- 20 percent *Panicum virgatum* (Switchgrass)
- Use 60 percent Native Grass Seed

→ Wildflower Seed: clean, dry, new seed, mixed species potentially the following list:

- 20 percent *Asclepias tuberosa* (Butterfly weed)
- 15 percent *Aster laevis* (Smooth Blue Aster)
- 15 percent *Echinacea purpurea* (Purple coneflower)
- 15 percent *Eupatorium coelestinum* (Mist Flower)
- 15 percent *Monarda fistulosa* (Wild Bergamont)
- 10 percent *Rudbeckia hirta* (Black Eyed Susan)
- 10 percent *Solidago nemoralis* (Gray Goldenrod)
- Use 40 percent Wildflower Seed

100%

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The above listing notes native wildflowers of the mid-Atlantic region. This list or one more fine-tuned to the Mount Hope Cemetery soil and climatic conditions can be developed; obtaining seed from local and regional sources is desired. The objective is to mix native grasses and wildflowers for the meadow areas. All listed wildflowers are perennials, though often annuals are used in the initial seeding and over-seeded for the first few years to provide bloom and more importantly to fill gaps in bare soil that could be targets for undesirable species.

As planting projects are scoped, scheduled seed availability needs to be arranged. In one project, a local wildflower expert gathered harvested seed near the project site and managed seeding and growing of plugs. Alternatively, a good source for seeds and plant plugs for meadow areas is Ernst Conservation Seeds, LLP, 9006 Mercer Pike, Meadville, PA 16335; phone 800-873-3321 or 814-336-2404; fax 814-336-5191, website <http://www.ernstseed.com>. If areas to be planted need a quick cover, it may be desirable to substitute seeds for some native grass plugs. Plugs have an advantage in quicker growth, but are more costly and require hand planting. There are several sources that could supply the needed seed or young plugs of preferred meadow plant materials. Plants can be contract grown in three to four months. If the use of plugs is chosen, contract growing can be arranged with a conservation plant grower to ensure plant availability when the project goes forward.

In summary, cemetery steep slopes recommendations include:

- Consider alternative ground plane treatments in steep areas, including meadow, no-mow turf, and healthy woodlands
- Use historic prevalence of vegetation types to guides treatment
- Consider factors such as habitat value when selecting ground plane treatment
- Implement a meadow test area, utilizing a mix of meadow grasses and wildflower
- Remove and suppress vegetation in areas to be planted with meadow or no-mow turf
- Select and establish desired plants on steep slopes

F. MOUNT HOPE CEMETERY INDIVIDUAL TREE MANAGEMENT

The collection of native and planted trees in Mount Hope Cemetery is a prominent resource that strongly contributes to the landscape character and unique sense of place. The tree inventory documented the location and condition of 2,191 free-standing trees. While the inventory is a listing of individual trees and their existing conditions, it is also a powerful landscape management resource to guide management of trees throughout the cemetery landscape. The inventory concluded that 91% of the trees inventoried are in good to fair condition and may not require immediate maintenance. Of the remaining trees, 100 have potentially hazardous conditions, 55 of which are considered high priority removals and 45 of which are considered hazard prunes.

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As presented in Chapter IV, tree maintenance recommendations were based on a static view of the inventory and were prioritized based on the USDA Forest Service Community Tree Risk Rating System. The tree inventory database, including recommended maintenance, has been provided to the Forestry Division of the City of Rochester, NY for the purposes of executing maintenance operations in accordance with their policies and procedures. The treatment recommendations for the cemetery provided within this chapter should also be considered for inclusion into the Urban Forest Master Plan for the City of Rochester. While the cemetery possesses its own unique character and quality and requires management strategies different from street and park trees, the trees within the cemetery are also an integral component to the larger urban forest structure of the City of Rochester. The Urban Forest Master Plan for the City of Rochester identifies Mount Hope Cemetery as an arboretum with many unique specimen trees but does not specifically address treatment recommendations in the context of the historic cultural landscape. The document also notes that the lack of funding has allowed tree management to become remedial and subsequently tree health has declined.

The treatment recommendations for the Mount Hope Cemetery cultural landscape focus on preservation as a baseline. While the inventory of existing trees in Mount Hope Cemetery provides a unique sense of place and landscape character it should be recognized that trees are not static objects. Trees are alive; they grow and respond to environmental factors and mechanical damage, then eventually die. There are many factors at play which place the urban forest at risk, and many of these factors are outside of the control of the City. Urban forests undergo significant change with the growth, development, and succession of their biological components over time. However, the development of urban forest resources occurs in the context of much more powerful and rapid human-induced forces for change. Coupling the relatively slow biological processes with the swift human forces for change makes the management of the urban forest particularly complex and challenging. The expansion and development of urban areas over time bring important changes in vegetation and other resources. New developments in transportation and/or industry technologies can bring considerable change to the function and management of urban lands. Changes in neighborhood residents can also prompt different approaches to the management of forests in residential areas and open spaces. Further, the introduction of exotic plants and animals through transportation and trade can have profound influences on the urban forest.⁸ Chestnut Blight (*Cryphonectria parasitica*), Dutch Elm Disease (*Ophiostoma*), Oak Wilt (*Ceratocystis fagacearum*), Sirex Woodwasp (*Sirex noctilio*), Emerald Ash Borer (*Agrilus planipennis*) and Asian Longhorned Beetle (*Anoplophora glabripennis*) have placed entire tree populations at risk and almost eliminated others. Global climate change has and will continue to alter the composition of our urban and natural forests. It is important to recognize that change will occur, and planning and embracing change should occur, rather than attempting to control it. The management recommendations recognize that it may not be possible to maintain the same forest structure (plant species) as was present during the period of significance; however, the visual and emotional experience created by the trees can be sustained.

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The management of the tree resources contains two distinct strategies—a maintenance component for the care of existing trees and a planting strategy to renew over time and therefore maintain the unique visual character and sense of place that the tree canopy provides into the future. It is strongly recommended that a site specific Urban Forest Master Plan for the cemetery be developed to address these two strategies in the context of the historic cultural landscape. This Mount Hope Cemetery landscape preservation plan can serve as appending a cemetery tree management plan to the overall Rochester Urban Forest Master Plan. This document addressing cemetery trees should include the unique history of the cemetery, articulate goals in concert with the preservation recommendations within this report and establish benchmarks, policies and evaluation procedures.

The cemetery possesses unique, historic trees of great value. The Urban Forest Master Plan for the City of Rochester identifies several recommendations which are noted as “Work in Progress.” These recommendations include identification and preparation of a registry of large and historic trees, and administrative procedures for identifying and cataloging champion trees. The recently completed tree inventory assigned an historic attribute to the trees based on the criteria of tree type and correlated DBH as described in Chapter IV. Using the historic tree map presented in Chapter IV as a basis, further investigation should identify large, historic and/or champion trees in the cemetery landscape. This effort will require document research or the use of testing equipment. The site-specific tree management plan should identify the policies concerning the maintenance of the historic trees including documentation, inspection frequency and methodologies, acceptable level of maintenance and the development of criteria for determining when a tree, historic or not, should be removed. The policies regarding the historic trees within the cemetery will be different from the historic street trees as the land use surrounding and beneath these trees is different. The principle differences between the management of the historic cemetery trees and historic street trees are the acceptable levels of risk and the value the trees provide to the overall landscape. Risk is only present if a person may be injured or property may be damaged if a tree or tree part fails. For example, mechanical support means and methods and the erection of boundary fencing to restrict pedestrian access may be implemented within the cemetery to preserve a significant tree while these same cultural practices would not be practical for a historic tree located between a street and sidewalk.

Cyclical or routine maintenance policies and procedures for historic trees should be described within the site-specific Master Plan. A determination can be made as to how cyclical maintenance will be carried out, based on time, budget, risk, or a combination of these factors. A useful component within a maintenance strategy is a tree risk management plan. A tree risk management plan establishes an acceptable level of risk for the cemetery visitors and uses an empirical set of values from which maintenance recommendations can be formulated and executed. For example, trees located in more remote areas may be considered lower priority or risk than trees that may present a hazard near popular use areas. In addition to the risk the trees present to cemetery visitors, they also present a risk to the monuments. A tree risk

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management plan which utilizes the USDA Forest Service Community Tree Risk Rating System as a guideline can include additional risk factors for monuments. Inspections resulting in the pruning or removal of trees near pedestrian and vehicular routes should be undertaken to enhance the character and safety of Mount Hope Cemetery. Additionally, volunteer growth and excessive leaf litter should be cleared from pedestrian paths. When pruning or removing trees, care needs to be taken to avoid damaging other cemetery resources, particularly gravestones and monuments. Scrub trees and overgrown shrubs and vines that encroach on gravestones should be trimmed or removed as appropriate.

Future tree plantings should be carefully considered. The cemetery is a designed, maintained environment and the tree population within it is considered an urban forest. As such, it is important for urban forests to have high species diversity. Diversity can limit the impact of genus- or species-specific pests and diseases by reducing the number of susceptible trees within the population. Species diversity enables an urban forest as a whole to survive an epidemic. As individual tree species comprise a larger percentage of the whole, pest and diseases which are hosted by these trees become bolstered to a level which may place the tree population at risk. The site-specific Master Plan should establish a goal of genus-species diversity based on acceptable loss. For example Northern Red Oak currently constitutes approximately 20% of the population within the cemetery. Future plantings of Northern Red Oak should be avoided until the population of these species achieves the limit of acceptable loss for the species. This recommendation does preclude the planting of other oak species, but recognizes that Oak Wilt disease is a serious threat to red oak populations and a high percentage of the tree population could be catastrophically lost. Considering the goal of species diversity, a list of tree genus-species to avoid planting should be developed which can be benchmarked at a set level of the overall population. The establishment of the threshold levels for genus-species diversity should consider the visual impact of modifying the tree population within the cemetery and should be developed during the Master Plan process. Through routine inspections and updates to the tree inventory, the goal of species diversity can be evaluated.

In addition to species avoidance, a plant palette should be developed for the cemetery which considers the forest structure of the larger Rochester area while designed with the visual character and historical precedence of the cemetery in mind. In keeping with the theme that Mount Hope Cemetery also plays a role as an arboretum, developing a plant palette of unique tree species to include should be undertaken. The planting of rare or unique trees should be evaluated on a case by case basis in regard to the potential for pests or diseases which may impact existing trees. The proposed plant palette should focus on the visual character of the cemetery and should include trees that will achieve similar size, architecture, and canopy as was present during the period of significance.

While budgeting and staffing recommendations for the care of the cemetery trees should be carried out in great detail during the Master Plan process, the following may be considered as a starting point for these discussions. The City of Rochester historically allocated approximately

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\$12.50 of operating budget per tree according to the information provided with the Urban Forest Master Plan. This does not include capital expenditures such as equipment which may vary greatly on an annual basis. The Society of Municipal Arborists recommends an annual operating allocation of \$20 per tree as a statistical baseline and there are municipalities which allocate up to \$35 per tree annually. It is assumed that there may be another 1,300 trees within Mount Hope Cemetery located south of Grove Avenue not currently inventoried for approximately 3,500 total trees to maintain. It is also assumed that an additional 2,200 trees exist within Riverside Cemetery. Using a per tree basis can be established as a benchmark within the Master Plan once a determination to the level of care desired has been made. The budget per tree will be specific to the collection of trees being maintained and as illustrated above per tree expenditures vary greatly. During budgeting discussions it is recommended to determine annual operating expenditures on a per tree basis as a means to quickly and simplistically gauge a proposed budget against a desired benchmark.

The final determination regarding appropriate staffing for tree care should be developed during the Master Plan process. The Division of Cemeteries operates two cemeteries, Mount Hope and Riverside which comprise approximately 320 acres and potentially 5,700 trees. It is not anticipated that a separate full-time tree care supervisor or forestry technician would be required specifically for cemetery trees. It is anticipated that separate roles will be developed from the Master Plan process and each role may require different levels of staffing. A professional should be available to perform routine inspections and provide recommendations for the care of individual trees. This professional could be one of the City Forestry Technicians or a consultant assigned to the cemeteries for a few days per month during the growing season. The level of professional involvement will be dependent on the level of desired care and should remain flexible in the case an unfortunate weather event or disease or insect epidemic. An operations manager should oversee the execution of the recommendations carried out by either staff personal or hired contractors. The operations manager should be able to determine if individual recommendations require a professional arborist, contractor or existing staff to perform the work required.

The character of the vegetation and natural woodland that pre-existed the creation of Mount Hope Cemetery was an influential factor in the decision to use the site to create the picturesque cemetery grounds. When first laid out, the woodland was selectively thinned to retain as much of the naturalistic character as possible. Today, the trees of Mount Hope Cemetery continue to reflect this historic character although the natural processes of growth and decline and the spread of volunteer and invasive vegetation has altered the quality of the cemetery trees. On-going management of this important resource is an important element in the future renewal of the historic Mount Hope Cemetery landscape.

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In summary, individual tree management recommendations include:

- Include recommendations in citywide Urban Forest Master Plan
- Sustain overall character and experience created by cemetery trees
- Create site specific Urban Forest Master Plan that defines management strategies in historical context
- Investigate and document historic and/or champion trees
- Determine appropriate methods for restricting pedestrian access to significant trees
- Determine cyclical and routine maintenance procedures
- Consider future tree plantings with regard to species diversity
- Determine necessary budgeting and staffing levels

G. MOUNT HOPE CEMETERY WOODLAND MANAGEMENT

Woodland areas of tree canopy are an important resource that needs to be managed in the Mount Hope Cemetery landscape. Prior to the founding of the cemetery, the grounds were characterized by the undulating terrain and dense woodlands comprised primarily of red oak (*Quercus rubra*), white oak (*Quercus alba*), black oak (*Quercus velutina*), American chestnut (*Castanea dentata*), American beech (*Fagus grandifolia*), red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), basswood (*Tilia americana*), tuliptree (*Liriodendron tulipifera*), and white ash (*Fraxinus americana*).⁹ As the cemetery grounds were improved, the characteristic woodlands were largely retained. The tree canopy greatly contributed to the unique character of the cemetery landscape and helped define patterns of spatial and visual relationships. Today, the growth of invasive and volunteer vegetation has affected the collection of woodland trees.

In order to recapture the historic character and effect of the Mount Hope Cemetery woodlands, a phased strategy for woodland management is needed. A planned approach to manage invasive and non-native vegetation needs to be considered. In general, invasive plants should be removed from the landscape. A prime offender is Norway maple (*Acer platanoides*). Norway maple trees are allelopathic, which means that the root system releases biomolecules known as allelochemicals into the soil, inhibiting growth of other plant materials. Non-native trees that are not invasive should be managed, as they do contribute to the variety of specimens within the cemetery and are historically important. They will be retained in the cemetery landscape.

However, while native plants will generally resow, establishing themselves into the future, non-native trees often will not. However, as a result of ground disturbance over time, many native plants have difficulty resowing. As a result, as the trees decline, the intended diversity of vegetation will not persist. (In order for the diverse mix of trees that existing during the historic period to continue into the future, the desired native and non-native species will need to be replanted. A plan that establishes procedures for the long-term renewal of woodland diversity needs to be set forth.

Plan
for this

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Invasive species suppression will require a targeted multi-year campaign throughout the Mount Hope Cemetery landscape. With a planned invasive species suppression program, colonized areas of invasive plants will be removed over time although seed sources will remain in adjacent areas. Inspection and removals should be an annual effort that will suppress dense patches of undesirable plants within a few years of intensive effort. After the Norway maple and other invasives have been removed a program of inspection and more limited suppression will be needed into the future. Planning a detailed program of invasive species suppression that can be adequately staffed is an initial step.

One approach to the effort is targeting species suppression by applying tested protocols. An effective strategy for control of invasive plants is the Bradley Method which contains three basic principles. "Start in areas where the native plants are thriving and gradually clear into the more heavily invaded areas... while removing invasive plants, try to keep from disturbing the environment any more than necessary," and lastly "do not over-clear." The Bradley Method "has great promise on nature reserves with low budgets and with sensitive plant populations" as noted in a useful overview publication.¹⁰

Exotic, invasive trees and shrubs, vines and groundcovers each have effective means of control. The principal invasive species at Mount Hope Cemetery are two trees: Norway maple (*Acer platanoides*) and tree-of-heaven (*Ailanthus altissima*), and two ground covers/vines: poison ivy (*Toxicodendron radicans*) and English ivy (*Hedera helix*). Other invasive and volunteer species, such as garlic mustard, common bramble and multiflora rose, are also present to a lesser degree in specific areas. In order to completely suppress undesirable woody and herbaceous plants, manual removal, targeted burning, mowing, herbicide and biological controls may all be potentially effective means of control. Manual removal is a tried-and-true method of suppression, as plants and roots are removed by hand without toxins. This technique is often used for vines and groundcovers and is more successful with some species than others. Some plants can be suppressed through mowing at target times, like early spring when top growth absorbs most of the plant nutrients. Repeating mowing is an effective control in areas where the ground plane is readily mown and woody plants are not in the way of mowing activity. Plants with brittle roots and vigorous re-growth, like garlic mustard, require a variety of techniques and a degree of persistence with hand pulling, herbicide treatments, and propane torch burning, which are all effective to some degree.

Young woody plants of ½-inch to 1-½-inch caliper can be removed with Weed Wrench or Talon tools made for this purpose. These tools allow manual removal of plant and root mass while limiting disturbance to the root zones of the nearby plants. An effective protocol for invasive exotic tree and shrub suppression for plants larger than Weed Wrench size is a double cutting method, where the plant is cut with the top removed and cut again as close to grade as possible, followed promptly by painting herbicide, typically Glyphosate, directly on the cut trunks. Stems wet from cutting absorb the herbicide as they dry out, effectively killing the plant. Without herbicide treatment, trees will continue to resprout vigorously and will require labor intensive,

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successive cutting. Coordination between tree cutting crews and licensed pesticide/herbicide applicator should be scheduled for best results. Herbicide should be applied to the cut trunks within six hours. This cut and paint method limits herbicide migration into other areas of the landscape and is safer and more effective because it focuses only on undesirable plants, kills roots through absorption into plant tissue.

Selection of an invasive species removal technique is dependent on available personnel, funding, and proximity to non-target species. The control of specific target species needs to be carried out by researching best practices to obtain data on successful control, planning the effort and persisting with suppression until the species is under control. Invasive species control should address target species and rely on best practices and field tests to refine the most suitable approach. Hand removal of target plants using teams of people on volunteer work days has been effective in public parks and preserves. Mount Hope Cemetery could establish a "Weed Team" that works on suppression efforts several times a year. Within five years, control of target species should be well along and ongoing efforts will require a lesser level of effort. Once invasive species are removed from the woodlands, the understory should be replanted with vegetation more compatible with the historic character of the picturesque cemetery grounds.

A critical component to the invasive species management plan, particularly in regards to the removal of Norway maple, will be public relations. Removal of volunteer Norway maples within the woodland areas should be easily comprehended by most regular cemetery visitors and the general public. However, limiting the removals of Norway maple to only the woodland areas while maintaining the adjacent 'planted' Norway maples would hinder suppression of the species as the seed sources are not addressed. It is recommended that a public relations strategy be developed which includes input from the City of Rochester Division of Forestry and the New York State Department of Environmental Conservation including the Urban and Community Forestry Council.

The locations of the inventoried Norway maple, tree-of-heaven, and other invasive species are indicated on *TI-INVS, Invasive Tree Locations Plan*. Targeted areas for priority invasive species removals are outlined in green on the *Landscape Treatment Selected Elements Plan, LT*.

Cemetery woodland management recommendations include:

- Define phased strategy for woodland management
- Remove invasive plants from the landscape
- Manage non-native, non-invasive trees
- Establish procedures for long-term renewal of woodland diversity
- Suppress invasives through targeted multi-year campaign
- Apply tested protocols to determine best method for invasive plant removals
- Develop public relations strategy for management plan

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H. MOUNT HOPE CEMETERY CIRCULATION

The circuitous circulation system, laid into the topography is a character-defining element of the cemetery. The vehicular drives are predominantly asphalt covered, some with cobble below or at edges. There are also existing gravel and cobblestone drives that ideally would be retained in those materials into the future and repaired as needed. In particular, extant cobblestone drives should be stabilized and preserved. Any historic paving stones that have been removed and salvaged should be stored in a way to prevent damage. These historic paving materials can be used in future efforts to recapture and interpret the former character of cemetery drives. Other selected drive segments have been closed to vehicular traffic and remain in turf and gravel. Conditions of the cemetery vehicular drives vary today. In terms of pedestrian circulation, a very limited path system exists within the cemetery today despite the historic prevalence of narrow paths through monument areas.

The objective of preservation treatment for cemetery circulation is to retain the existing diverse system. Maintenance is required to repair drives where they are degraded and to keep drives that are closed to vehicles open for pedestrian traffic. Semi-annual inspection of drives in fall and spring is advised. A program of repair should be carried out based on the inspection findings. While spot repair can resolve specific failures, eventually poor overall condition of the drive will require a more comprehensive replacement. When asphalt is replaced, use of a secondary road mixture design with larger aggregates rather than highway grade asphalt is recommended. One method for extending asphalt paving lifespan is to perform surface repairs and topdress with a chip seal gravel finish, which yields a gravel drive surface appearance. The important element of chip seal application is to use 99% dust free small stone for the surface. If dust is present, the stone will not adhere to the asphaltic binder. If the proper application procedure is followed, after some initial use, loose gravel will be minimal.

Drive segments to be stabilized and maintained are highlighted in brown on the *Landscape Treatment Selected Elements Plan, LT*. Additionally, a drive segment north of the Florentine fountain is outlined to be constructed in gravel on its historic alignment. Using existing clues in the landscape, such as the edge stones and historic photographs, the drive can be accurately constructed in its historic location and character.

Additionally, a partial recapture of the missing network of pedestrian paths can be constructed at the level desired. A relevant issue is visitation of important graves and adequate access to reach them. It would be appropriate to develop path segments to reach these notable burial sites, and if possible, be American Disabilities Act (ADA) compliant. Simply stated the rules for such ADA paths are:

- Provide hard paving that does not move appreciably when walking or rolling over the surface
- Provide surface variation of ¼ inch or less

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- Provide widths for ease of movement, about five feet for passing, not less than 3 feet for single file
- For 5% gradient (1 foot elevation change in 20 feet) and below, no handrails are required
- For maximum 8.33% gradient (1 foot elevation change in 12 feet) and any % above 5%, handrails on both sides are required with specific clearance minimums

In general, the topography of the cemetery landscape is a barrier to handicapped access. However, small paths segments from adjacent drives may afford barrier-free access. In some situations notable graves have slopes adjacent. In these cases, steps may be needed. Heritage Landscapes has developed a clean double height railing detail for steps or ADA ramps that provides stable grab bars at two heights. This railing may be appropriate for selected locations to enhance cemetery access, such as at high traffic areas, gravesites, and paths that attract large amounts of visitors. (See Figures VI.1 and VI.2.)

Cemetery circulation recommendations include:

- Retain diverse circulation system in landscape
- Maintain existing system through an established program of inspection and repair
- Stabilize and preserve extant cobblestone drives
- Stabilize, maintain and construct drive segments as indicated on *LT*
- Partially recapture pedestrian circulation network
- Provide ADA-compliant paths to notable burial sites where possible

I. MOUNT HOPE CEMETERY MONUMENT CONSERVATION OVERVIEW

The burial monuments and gravestones found throughout Mount Hope Cemetery are an evolved pattern of objects that are integral landscape features important to the character and use of the site. The artistic stone work draws visitors and family members to the cemetery. Conservation of these features is important to the on-going use of the cemetery grounds and adds to the community value of the public landscape. Care and treatment of the monuments is related to landscape care. Maintenance efforts can impact the condition of the stone features, particularly mowing operations and treatment of the turf ground plane. In addition to taking care not to damage existing monuments, steps can be taken to conserve and protect stones that have become damaged or broken over time. The following procedures that address damaged stones and fragments have been summarized from *A Graveyard Preservation Primer*.¹¹

Documenting & Storing Damaged Stones & Fragments

Oftentimes historic cemeteries such as Mount Hope Cemetery have a number of gravestones that have become damaged or broken over time. While financial resources may not be available to repair all stones, steps can be taken to prevent further deterioration. Before moving damaged stones or stone fragments, be sure to thoroughly document their location both

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photographically and with some type of spreadsheet or inventory catalog. All stones and stone fragments that are moved need to be fully documented, inventoried, and labeled with a secure but removable identification marker. Keep stones to be stored indoors in a cool, dry location until conservation and repair can be undertaken. Simple wooden shelters can be used. The shelters do not need a covering, although if there is a possibility of falling objects damaging the stone, a covering can be used as long as air and water vapor can pass freely through the enclosure. It should also be protected from pollutants, moisture and freezing. Plastic should not be used to store stones as it does not allow water vapor to pass, which would result in condensation on the stone. The stone should fit loosely within the box and be set on a base of either clean graded sand or styrofoam. For stones that cannot be stored indoors, temporary outdoor protection can be accommodated. A simple shelter can be constructed over the stone made of wood or a wooden roof with canvas sides, which will allow water vapor to pass but will protect the stone from rain and snow. An alternative approach is to place the stone on a slightly raised wooden pallet, which will keep the stone away from ground moisture and lessen the impact of natural freeze-thaw cycles.¹²

Resetting Stones

When resetting stones, consideration needs to be given to the stability of the stone. Only stones that are determined to be sound should be reset. To begin resetting, the stone needs to be removed from the ground. To do this, the surrounding earth should be dug on one side of the stone only, preferably on the back, or un-inscribed side, leaving one side of the ground undisturbed and compacted, providing a strong base against which to reset the stone. When raising the stone from the ground, make sure not to exert pressure on it that could cause a fracture or breakage. In order to help the stone stay in place once reset, a simple foundation can be prepared. Ideally, a supportive bed should be created on which the end of the stone can rest and will allow even distribution of the weight of the stone. This will help with issues of settling and will limit shifting. One method of preparing a bed is to use dry-laid brick. No type of mortar should be used. One to two inches of sand should cover the brick, creating a cushion for the stone. The stone can then be reset against the compacted earth. Once the stone is leveled, fill half of the open bed with a mixture of sand and gravel to facilitate drainage and lessen the impact of moisture on the stone. Additional brick can be used to further stabilize the setting. The remainder of the bed should be filled with soil and tamped. The at-grade ground plane should then be graded to direct surface runoff away from the reset stone. It is important to note that stones should not be reset in concrete, cement, or mortar of any kind, which can be damaging to the historic resource.¹³ (See Figure VI.3.)

Probing

Probing is another effective method of retrieving and conserving fallen and broken gravestones that have settled and become buried under the ground plane. First cemetery staff and/or volunteers should identify locations that are likely to yield buried stones or fragments. These

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locations include obvious gaps in otherwise continuous rows of gravestones; areas across from footstones where no headstone is present and vice versa; areas directly adjacent to a standing stone fragment; and open spaces where burials were known to have taken place. In order to locate potential stones and fragments, an iron probe is carefully inserted into the ground. If the probe comes into contact with a hard object, the location should be documented and carefully dug with small hand tools to avoid damaging the surface of the stone. Once buried stones and fragments are recovered, they can be stored or repaired as appropriate.¹⁴ (See Figure VI.4.) Additionally, in areas where stones flush with the ground are known to sink below surface grade, gravestones can be carefully raised a couple of inches above the ground level and anchored in position by a suitable foundation.

Cemetery monument conservation overview includes:

- Document and store damaged stones and fragments
- Reset fallen or shifted stones
- Probe beneath the ground plane
- Follow acceptable practices to minimize damage to historic resources

J. MOUNT HOPE CEMETERY FURNISHINGS RECOMMENDATIONS

Mount Hope Cemetery currently has a range of furnishings and landscape structures that contribute to landscape character, functionality, and use. These include benches and trash receptacles as well as retaining walls, mausoleums, steps, and metal railings. The historic, existing, and projected future use and character of these landscape features need to be considered in relation to several factors, notably character and maintainability.

Currently a limited number of benches and trash receptacles are found in the Mount Hope Cemetery landscape. Installation of these features and repair of existing landscape structures would be beneficial to the landscape and its users. Benches placed in convenient and appropriate locations will help dissuade cemetery visitors from resting on grave markers and monuments, minimizing potential damage. It also promotes passive and social recreational use of Mount Hope Cemetery. Installation of trash receptacles will help deter litter, keeping the landscape well-cared for and decreasing clean-up efforts. The character of these features should be simple and compatible with the generally picturesque character of the cemetery grounds.

Retaining walls and steps have been used in the Mount Hope Cemetery landscape since its initial construction. Because the original layout of the cemetery sought to limit disturbance of the dramatically undulating ground plane, stone walls and steps were needed to help visitors negotiate the hilly terrain. Today many of these features are in a deteriorated condition, particularly the steps and handrails. Many of the simple steps have settled unevenly or become dislodged over time, while railings do not conform to contemporary standards. Projects that

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focus on wall and step repair improves the landscape condition and could attract new users to the cemetery. To repair these steps and improve user safety, the steps should be lifted and reset. The railing detail, previously cited, may be appropriate in some areas that draw a large number of visitors.

Repair of retaining walls requires an understanding of the elements and materials to be repaired. It is important that repairs are made to blend with the existing wall so that there is no discernible difference between the repaired section and existing wall. In general terms, repair work requires that the existing stone walls be partially dismantled with the locations of key stones identified so they may be replaced close to their original position. In addition to documenting the key stones, mortar samples are to be taken to determine the strength and composition of mortar for determination of the mortar to be used. Several mortar samples should be provided for color selection and tested against the existing historic mortar before the final selection is made for repair work. Stone repair work is to include provisions for drainage where appropriate to relieve hydrostatic pressure. Once samples and mock-ups are approved by an experienced mason, masonry work may proceed for repair and reconstruction. It is important that repair efforts maintain the overall stone size, coursing and joint width and depth. Similar care must be taken with deteriorated and partially collapsed concrete retaining walls in need of repair, though some sections of concrete wall may need to be entirely replaced for structural integrity. All wall repair efforts should be reviewed at regular intervals throughout the repair and reconstruction process for quality control.

A consistent approach for on-going mausoleum care should be addressed. The cemetery mausoleums are valuable features, serving as sculptural and interpretive elements in the landscape. Many of the older mausoleums have been sealed, oftentimes with cement blocks used to seal entry doors. Original stained glass windows have also been removed and openings sealed. A clear approach for the treatment of mausoleums needs to consider not only the condition and use of the structure but the historic character of the overall cemetery landscape. Exploration of methods utilized in other historic cemeteries should be undertaken and a consistent method for Mount Hope Cemetery defined.

Together the installation of simple features such as benches and trash receptacles and repair of landscape structures convey the message that the landscape is properly maintained and managed. In turn, this fosters a sense of civic pride in the public landscape, and community residents are more apt to develop a stronger sense of community value and stewardship when they see that efforts are being undertaken to improve the valuable public resource.

Cemetery furnishings recommendations include:

- Consider furnishings and structures in relation to landscape character and maintainability
- Repair stone retaining walls
- Lift and reset deteriorated steps

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- Install double railing on steps in high-visitation areas
- Define consistent method for mausoleum treatment
- Install benches and trash receptacles

K. MOUNT HOPE CEMETERY SIGNAGE, WAYFINDING & INTERPRETATION

At Mount Hope Cemetery, broad characteristics that contribute to the character and historic understanding of the property remain evident today. Specific features, including former carriage drives, historic period vegetation, and several structures also remain intact. The landscape patterns combined with the remnant historic features and the existing character provide valuable opportunities to interpret the historic landscape. Interpretation is important to the future of the cemetery to enhance use and understanding of the historic and existing landscape.

Mount Hope Cemetery is used by a range of user groups, including people visiting graves and attending memorial services; on-going cemetery interment clients; recreational joggers and walkers; local and tourist visitors participating in tours; and students at the River Campus who use the cemetery as a convenient pass-through route. Because the cemetery landscape attracts a diverse user group, signage, wayfinding, and interpretation features should address the needs of as many visitors as possible.

An attractive, durable entry sign should be developed that identifies this public landscape and provides wayfinding guidance in the form of a simple map with features noted. There can also be trail blazes in color that aid in wayfinding. Signage should be compatible with the picturesque, naturalistic landscape character. Further, a uniform design vocabulary using color, symbols and graphic presentation should be developed so that visitors can easily recognize wayfinding and interpretation signage. When considering a signage system, it is important to consider issues such as climate and vandalism. Sign materials should be able to hold up over time to the Rochester climate and should be constructed with durable materials that cannot be easily vandalized.

Interpretation is an important element for Mount Hope Cemetery. Interpretation of remnant features can be undertaken to provide an understanding of the historic landscape use and character. Features such as the network of scenic drives and paths, cobblestone paving, augmented naturalistic vegetation, glacial land formations, gazebo, fountain, gatehouse, chapel, patterns of spatial organization and visual relationships can all be interpreted within the landscape. Educational opportunities can be enhanced through interpretation of historic landscape character and features as well as with programs focusing a variety of themes including social history, cemetery landscape design, site geography and geology, forest and

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natural resources and their management, notable plant materials, and stone types, sources and their conservation.

Historically, several rustic wood features were constructed throughout the Mount Hope Cemetery landscape. These features, which included birdhouses and birdbaths, contributed to the scenic, naturalistic and park-like character of the landscape. (As seen in historic period images, Figures II.25, II.26, and II.27.) Over time the wood, probably native common red cedar (*Juniperus virginiana*), deteriorated and the features were eventually removed. While interpretation of the historic cemetery landscape can be addressed through extant features evident on site today, potential exists to reconstruct contemporary interpretations of the historic rustic features that once contributed to the character of Mount Hope Cemetery. These projects should be considered in terms of long-term goals and resources available. Construction of these features would help recapture a sense of the original park-like character and use of Mount Hope Cemetery.

Understanding of the landscape can be enhanced with interpretive features. The traditional approach to this is to develop and install wayside markers with images and text that relate to specific places. These are widely used in national parks. However, interpretive panels of this type are expensive to develop and install and are prone to vandalism. As an alternative, a marker system with an audio-visual downloadable tour could be developed. The text and images can highlight the historic uses and character of specific areas and features within the landscape. The tour can also note natural and ecological features of the landscape, particularly plant types and the process of glacial land formation. Simple markers can be placed in the landscape to indicate the stations of the tour. When implementing a marker system, a unified design vocabulary needs to be determined so they are easily identified in the landscape and work with the entry sign, blazes incised on trees and other aspects of the wayfinding and signage system. Another advantage of a digital tour is that it can start small and be augmented when resources are available. It is also easy to change over time. Once developed, a downloadable tour file with text and historic images could be made available at the public library, city, or FOMH website where users can download it directly to personal MP3 players or cell phones. Implementation of both a marker system and a PDA audio tour makes interpretation of the historic cemetery grounds available to a wider range of users.

In summary, cemetery signage, wayfinding & interpretation recommendations include:

- Address the needs of a range of user groups
- Develop attractive, durable entry sign for identity and wayfinding
- Define a uniform design vocabulary for signage that is compatible with landscape character
- Consider climate and vandalism in signage choices
- Interpret remnant features to promote understanding of landscape evolution and character

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- Consider building contemporary interpretations of missing, historic rustic features
- Develop a range of educational opportunities through interpretation
- Develop wayside markers, potentially in conjunction with audio-visual cell phone and personal device tour(s)

L. MOUNT HOPE CEMETERY ADDITIONAL BURIAL AREAS

A need for additional burial space is common throughout all cemeteries today with increasing populations and limited physical space within the bounds of a cemetery. Finding areas for additional burial space is imperative to assist the cemetery in achieving its economic and financial sustainability and operations. Currently, the majority of active burials take place in the southern, lawn section of Mount Hope Cemetery, while the northern, rural cemetery is open only to family plot holders and has limited burials.

Upon analysis of the existing cemetery landscape, several areas were identified that could incorporate additional burials if needed. Outlined on yellow on the *LT* plan, six areas in various sections of the cemetery were found to be open or relatively open with few burials. One section in the northeasternmost corner is level open lawn with no burials. Adjacent to Mount Hope Avenue, the site was formerly a cemetery residence. It should be noted that an open area also exists directly north of the entry drive and gazebo. However, this area has been purposefully maintained as an open space throughout each period of the cemetery history, serving as a visual buffer between burials and Mount Hope Avenue and the northern cemetery entrance. For this reason, it is recommended that this area remain open. Further, non-intrusive burial crypts are not recommended for this open space as they would negatively impact several mature specimen trees that date from the historic period. Other potential burial areas are in the central portion of the cemetery. The largest identified site for potential burials is along the southwest slopes. The character of this area varies with a mature Norway spruce grove, relatively open slopes with limited vegetation, and moderate slopes with more dense vegetation and older graves. While portions of this area may seem untended today, providing additional burial space would instigate the need for increased maintenance, invasive species suppression, and monument repair.

Before any additional burials are planned in these areas, research is required to determine to what degree plots in these areas have already been sold or are held by living family members. Additionally, areas should be probed for previous burial plots that have lost their grave markers. Some toppled and broken gravestones were noted in a few of these areas that may or may not correspond with the actual burial location.

An alternative to in-ground burials at Mount Hope Cemetery is a burial niche retaining wall, as shown in orange on plan *LT*. Located along the west property boundary, a burial niche retaining wall would provide hundreds of new burial spaces while serving as a functional retaining wall to

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hold the cemetery slope in place. An adjacent walk next to the wall would provide a linear mourning space in which to reflect on a loved one's life. Constructing a wall along this property edge, currently defined by dense woodland and invasive species, would eliminate invasive species as well, thus reducing maintenance efforts.

Additional burial recommendations include:

- Maintain historically open area directly north of the gazebo and gatehouse
- Conduct research and probing to determine availability of plots in areas that appear open
- Provide additional burial areas, as outlined on *LT*
- Consider construction of a burial niche retaining wall

M. MOUNT HOPE CEMETERY MAINTENANCE & STAFFING

Maintenance is a key factor with regard to the character, use, and functionality of historic cemeteries for several reasons. On a broad level, a well-cared for cemetery is a source of civic pride. It becomes a valuable resource for the surrounding community and reciprocally, it enhances the value of the community itself. Cemetery maintenance that utilizes organized clean-up events garners public support for the ongoing care of the landscape. When community members start to invest time and interest in a public space, ensuring care into the future becomes an important community objective. Additionally, public landscapes that appear well cared for are less prone to litter and vandalism.¹⁵

Because historic cemeteries such as Mount Hope Cemetery boast an array of natural, cultural and historic resources, it is important to keep in mind several key issues with regard to maintenance. One important component is the impact maintenance efforts and equipment can have on other resources, notably the gravestones and monuments. Overall maintenance efforts can be considerably improved with a few basic guidelines. Maintenance crews should never mow immediately next to gravestones and monuments. They should also avoid mowing over tree roots that protrude from the ground plane. Riding mowers should not be used in areas of densely set stones as typically the stones are too close together to safely accommodate the size of a riding mower. Commercial herbicides often contain salt or acid, which damages stones and thus should not be used near grave markers. Fertilizers can also be damaging and should be used sparingly. All mowers should be equipped with a rubber guard and a guard over the blade. This prevents small rocks, twigs, etc. from hitting stones, as well as cemetery visitors. If no-mow fescue or low-growing ground covers cannot be planted near stones in hard to mow areas, then nylon weedwhackers can be used for close trimming.¹⁶ Volunteer vegetation growing near stones should be removed and overgrown plant materials should be pruned to prevent damage. One of the most important factors with regard to maintenance regimes is to educate

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maintenance personnel on procedures unique to the historic cemetery. It will also foster a stronger sense of stewardship and pride amongst work crews.

Maintenance efforts directly relate to landscape types. Different landscape types require different skills and tools. Steep slopes measuring 33% and above are best maintained as woodland, meadow or no-mow grasses, not mown turf. These are also a good option for areas with dense tree canopy and/or dense monuments. Turf is an effective and sustainable ground plane vegetation but maintaining it in areas of dense trees and/or monuments requires small scale mowers and time consuming care, and may result in damage to tree trunks and monuments. A variety of ground plane treatments that may require less maintenance than mown turf should be tested.

In terms of level of staffing efforts to maintain the cemetery landscape, there are some full-time equivalent (FTE) per acre numbers, drawn from previous projects, which can aid in developing a staffing count specifically for landscape care.

Landscape Type	FTE / Acre
High Care Annual & Perennial Gardens with Small Fine Lawn	3 / 1
Propagation House and Nurseries	2 / 1
Medium-High Care Perennial & Shrub Gardens	1 / 1
Medium Intensity Shrub, Tree & Herbaceous Collections	1 / 3
Fine Lawn	1 / 9
General Lawn	1 / 18
Gravel Roads and Parking	1 / 25
Meadows	1 / 30
Low Intensity Tree & Shrub Collections with General Lawn	1 / 30
Managed Woodlands in Good Condition	1 / 30

It is clear from this chart that some types of vegetation cover and built elements require less care than others with gardens at the intensive end of the spectrum. At Mount Hope Cemetery the future landscape areas by type will vary from those of today. The FTE per acre for needed staffing will adjust accordingly.

Cemetery maintenance & staffing recommendations include:

- Follow basic guidelines for tasks such as mowing practices, equipment, application of herbicide, etc. to minimize impact on historic landscape features
- Vary maintenance efforts by landscape type
- Test a variety of ground plane treatments
- Develop appropriate staffing level based on provided data and adjust as landscape is renewed



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N. MOUNT HOPE CEMETERY IMPLEMENTATION PRIORITIES

Given the history of effective collaboration between FOMH and the City of Rochester at Mount Hope Cemetery, implementation efforts should extend and enrich this already fruitful partnership. Treatment implementation at the cemetery directs and broadens the respective stewardship and preservation objectives of these two groups: the stewardship of this important historic landscape on behalf of the City, and the focus on history and character championed by FOMH. Within the diverse and comprehensive cemetery landscape preservation recommendations first-step action items can be outlined in order of priority and of interest. The objective within priorities and phasing is to preserve the overall landscape character. However, implementation of specific components of these recommended landscape interventions may be influenced by available funds and staffing. Priorities for Mount Hope Cemetery are proposed to address and enhance specific character-defining features. Order of priority is based on the preservation of existing landscape features followed by the addition of other landscape features, not currently extant today. The priorities for the Mount Hope Cemetery landscape are:

- Pursue individual listing on the National Register of Historic Places and a step toward National Historic Landmark designation
- Develop site specific Urban Forest Master Plan built on the Tree Inventory
- Initiate a program for suppression of invasive species
 - Begin with a Norway maple girdling day, and formulate a maple suppression multi-year program
 - Prepare a public relations strategy
- Initiate sequential care program for specimen trees and replace lost trees in-kind
- Stabilize and maintain closed drives for pedestrian access, to include Hillside, Highland, and Dell Avenues
- Stabilize and preserve extant cobblestone drives
- Implement restoration plan near Florentine fountain to include construction of gravel drive on historic alignment
- Design specific pedestrian path segments for ADA/access to prominent, visited graves
- Plant additional gardens and place urns at drive intersections and high-profile grave sites as volunteer efforts allow
- Plant sample flowering shrub groupings using durable, low care shrubs as tests and expand if successful
- Plant modest test area- of no-mow turf and observe growth and public reaction
- Establish a test meadow wildflowers and grasses plot
- Install small-scale features to enhance landscape character, i.e. benches, birdhouses
- Develop a plan for an interpretation program and implement initial steps

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Selected priority treatments pertaining to invasive species suppression, stabilization and maintenance of circulation features, and areas for garden plantings are highlighted on *LT*. Separating treatment recommendations into priorities frames a series of manageable projects that can be completed sequentially or in parallel as resources allow.

It is important to understand that the Mount Hope Cemetery Implementation Priorities outline an approach to begin a multi-year, comprehensive preservation and renewal of the cemetery landscape. It is not intended as an exhaustive list of implementation tasks. Because available staffing and funding does not allow full implementation, the highest priority recommendations are offered for initial implementation. The above listing focuses on items that specifically pertain to the recapture of historic landscape spatial organization, vegetation, and circulation routes. It also includes initiatives that are of interest to the City of Rochester and the Friends of Mount Hope Cemetery. Implementing these elements will improve the visitor experience of Mount Hope Cemetery in a positive manner. With added interpretation, visitors will understand the setting and character of the landscape as it has evolved. These priorities also focus on improving access to select areas of the site. As recommended priority projects are implemented, additional treatment recommendations can be carried out to preserve and enhance the unique, picturesque character of Mount Hope Cemetery.

O. FRIENDS OF MOUNT HOPE CEMETERY PRIORITIES

In addition to the previously identified implementation priorities, the Friends of Mount Hope Cemetery have identified several additional projects. FOMH considers the following items priority tasks to be implemented largely through their own efforts. While the City of Rochester owns Mount Hope Cemetery, FOMH is deeply involved with the management, on-going care, and stewardship of the cultural landscape, giving them additional knowledge, experience, and in-sight into the cemetery landscape. FOMH priorities for the treatment of Mount Hope Cemetery are:

- Clean out accumulation of sediment in Sylvan Waters
- Determine significance of old barn at north end and repair as needed
- Investigate solutions to water supply for public use
- Consider replacement of current white cement post section and range markers with historically suitable, durable markers
- Place suitable barriers at areas where traffic is undesirable. Replace concrete tubs and dead tree trunks being used as barriers to automobiles
- Develop and implement plan to restore cobble road near Section D
- Consider proper method to preserve unique and historically important monuments from weather, vandalism, etc.

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- Determine location of and restore view areas, especially to Rochester skyline
- Inventory steps, note condition, prepare repair plan
- Inventory retaining walls, note condition, prepare repair plan

In general, FOMH priorities address more specific tasks than the recommended implementation priorities. The previously identified Mount Hope Cemetery Implementation Priorities offer a realistic approach to begin treatment efforts in the cemetery landscape. While priority tasks outlined by FOMH address necessary improvements, it is important to note that these items should be considered separately from the itemized listing of Implementation Priorities developed by Heritage Landscapes based on discussions held during project meetings and observation of prominent issues in the cemetery landscape.

**P. MOUNT HOPE CEMETERY LANDSCAPE PRESERVATION TREATMENT
& MANAGEMENT CONCLUSION**

At Mount Hope Cemetery, treatment and management recommendations seek to steward the rich history of the cemetery while considering cemetery values and goals today and into the future. A holistic approach to cemetery landscape care, enhancement, management, and sustainability defines a set of treatment recommendations for preservation and improved character. This approach is a broad philosophy that guides decisions about the preservation, stewardship, use, maintenance, and future efforts. Ultimately, a preservation-based treatment protects and enhances the historic landscape character and visitor experience while incorporating the need for on-going use and active burials. The overarching objective of the landscape treatment is to recapture the valued, picturesque cemetery character in a way that respects the historic character and addresses maintenance and management issues. Extant historic features continue to convey the former, scenic, sublime identity of Mount Hope Cemetery; the character and sense of place should be used to guide future efforts.

Very important of the master plan.

The selected landscape preservation treatment and management approach for Mount Hope Cemetery considers the historic and current character of the cultural landscape and its features. In summary, recommendations address several topics and challenges:

- Creation of cemetery gardens
- Treatment of cemetery ground plane vegetation
- Treatment and management of steep slopes
- Individual tree management
- Woodland management
- Stabilization, preservation, and treatment of cemetery circulation
- Monument conservation
- Inclusion of new furnishings and repair of existing furnishings

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- Approach to signage, wayfinding, and interpretation
- Identification of additional burial areas
- Target maintenance and staffing levels

From the recommendations, a list of tasks has been identified as implementation priorities. Undertaking the priority items begins the broader renewal of the cemetery landscape and will result in early, recognizable results. On-going care and full implementation of all recommendations will sustain the unique landscape character into the future and will foster understanding and appreciation of historic Mount Hope Cemetery. The outlined landscape preservation treatment and management approach honors the picturesque character, history, and physical improvement of the cemetery landscape while providing enhanced opportunities for visitor enjoyment.

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CHAPTER VI: ENDNOTES

¹ Robert R. Page, Cathy A. Gilbert, Susan A. Dolan, *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques*, Washington DC: U.S. Department of the Interior, NPS, Cultural Resource Stewardship and Partnerships, Park Historic Structures and Cultural Landscapes Program, 1998.

² Charles A. Birnbaum, with Christine Capella Peters, *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*, (Washington DC: 1996), 18.

³ Birnbaum, with Peters, *Guidelines*, 48.

⁴ Birnbaum, with Peters, *Guidelines*, 90.

⁵ Birnbaum, with Peters, *Guidelines*, 128.

⁶ National Park Service, "National Historic Landmarks Program"
<http://www.nps.gov/history/nhl/Themes/themes.htm>.

⁷ Lynette Strangstad, *A Graveyard Preservation Primer*, Walnut Creek, California: AltaMira Press, 1995: 54.

⁸ Dwyer, Nowak and Noble, *Journal of Arboriculture*, Vol. 29, No. 1, January 2003

⁹ Richard O. Reism and Frank A Gillespie, *Mount Hope: America's First Municipal Victorian Cemetery*, 10.

¹⁰ *Weed Control Methods Handbook Tools and Techniques for Use in Natural Areas*, by authors Mandy Tu, Callie Hurd, and John M. Randall, April 2001, available on the web at tncweeds.ucdavis.edu.

¹¹ Strangstad, *A Graveyard Preservation Primer*.

¹² Ibid, 51-53.

¹³ Ibid, 65-69.

¹⁴ Ibid, 71-73.

¹⁵ Ibid, 43.

¹⁶ Ibid, 48-50.

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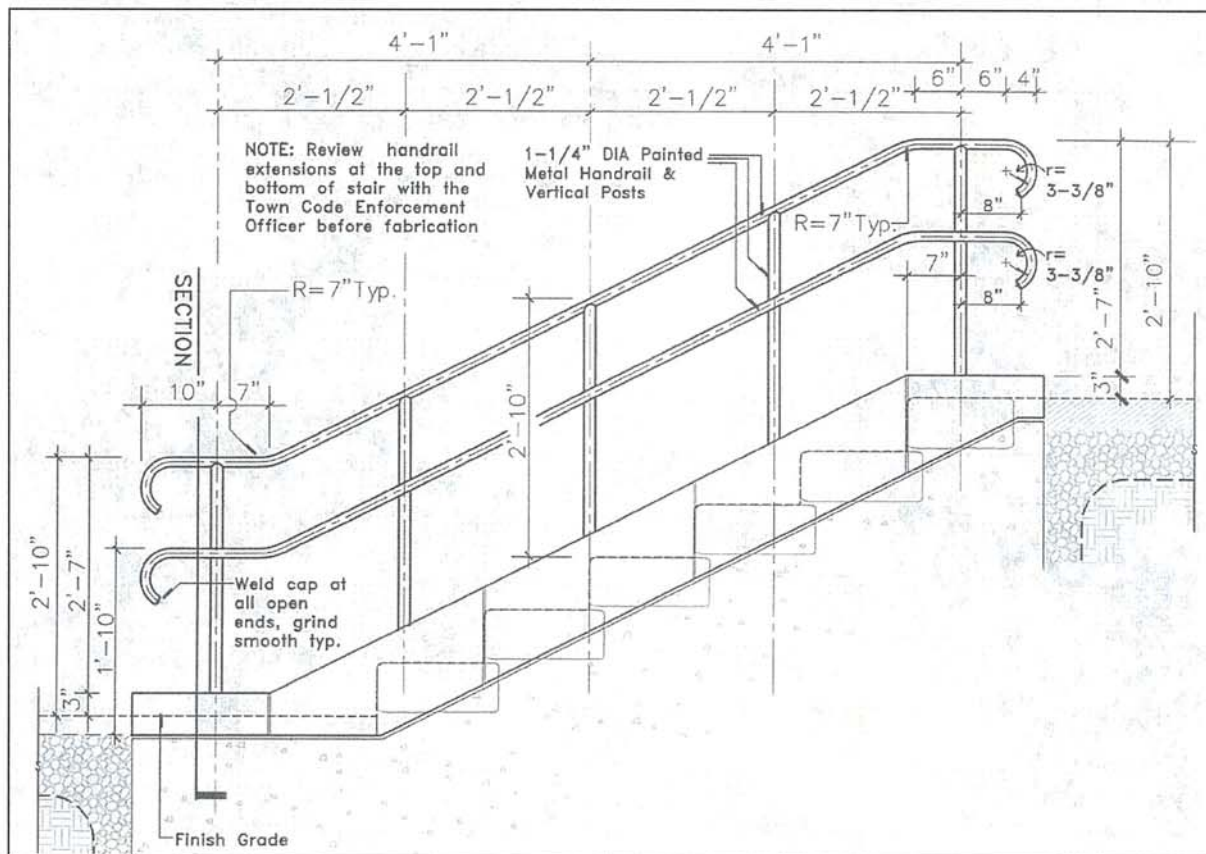


Figure VI.1. This construction detail was used to build ADA-compliant railings on steps and ramps at the Camden Garden Amphitheater and Library Grounds in Camden, Maine. It should be noted that this detail is provided as an example and is not intended for construction purposes. Courtesy Heritage Landscapes. (R-MTH-Camden-Handrail-DWG.jpg)

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Figure VI.2. This post-construction photograph depicts the double height railing as built at the Camden Garden Amphitheater and Library Grounds in Camden, Maine. The railing provides a stable grab bar at two distinct heights. It can also be used at ADA-compliant ramps. Courtesy Heritage Landscapes. (R-MTH-CAM-FG-08-18-060055.jpg)

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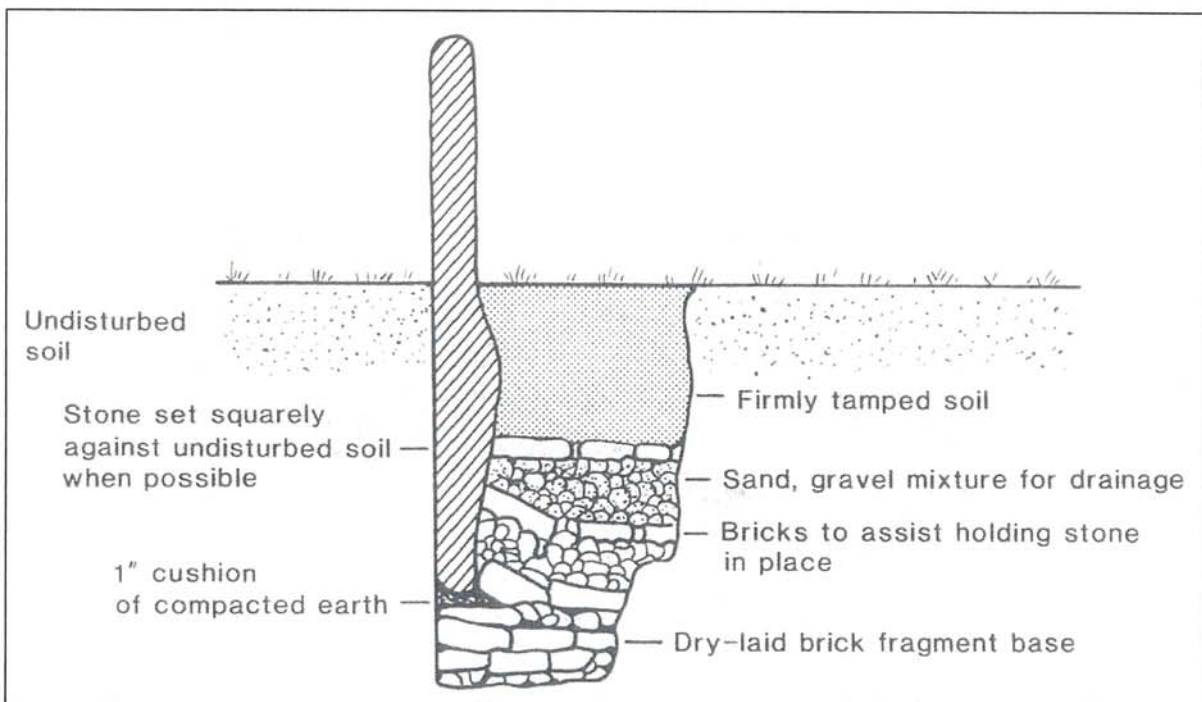


Figure VI.3. When resetting a gravestone, a supportive bed should be created on which the stone can rest. This example illustrates the use of dry-laid brick fragments, sand, gravel and soil to hold the reset stone in place. Courtesy *A Graveyard Preservation Primer*. (R-MTH-GPP-ResettingStones-68.jpg)

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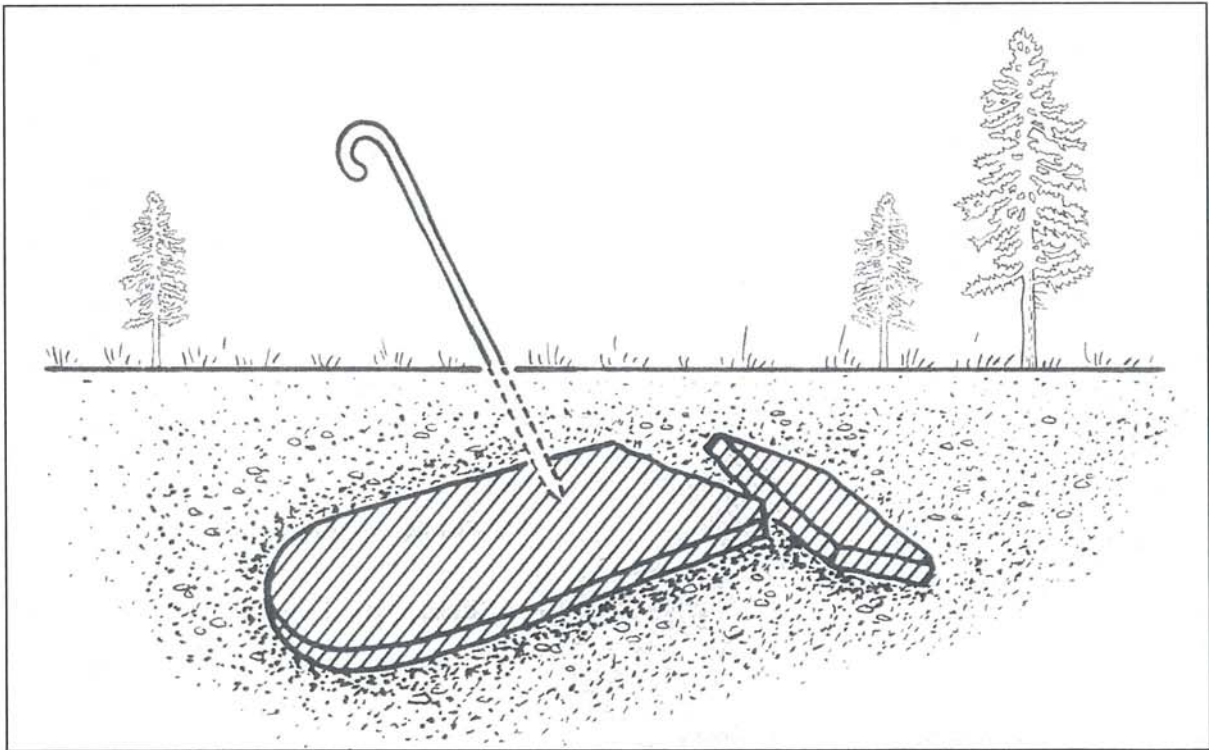


Figure VI.4. Probing is an effective method of retrieving and conserving fallen and broken gravestones that have settled and become buried under the ground plane. In order to locate potential stones and fragments, an iron probe is carefully inserted into the ground. If the probe comes into contact with a hard object, the location should be documented and carefully dug with small hand tools to avoid damaging the surface of the stone. Courtesy *A Graveyard Preservation Primer*. (R-MTH-GPP-Probe-73.jpg)



Mount Hope Cemetery

Cultural Landscape Report

Rochester, New York

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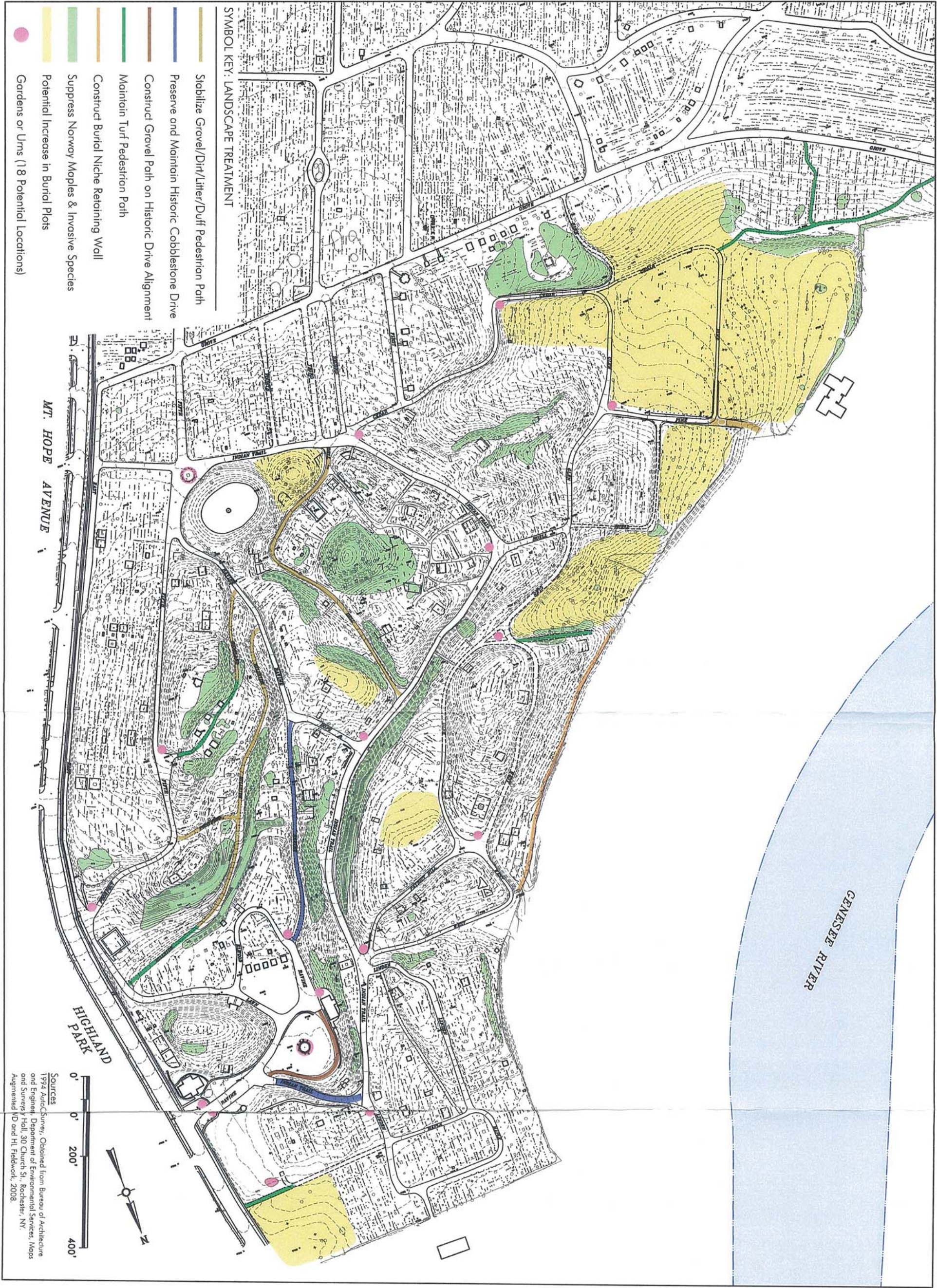
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Drawing Title:
Landscape Treatment Selected Elements

Date:
May 2009

Drawing Number:

LT



Sources:
1994 AutoCAD Survey, Obtained from Bureau of Architecture and Engineering, Department of Environmental Services, Maps and Surveys Unit, 30 Church St., Rochester, NY.
Augmented V.D. and H.L. Fieldwork, 2008.